ENGLISH AS A LINGUA FRANCA TELECOLLABORATIONS – A QUANTITATIVE AND QUALITATIVE SYNTHESIS OF RESEARCH ARTICLES PUBLISHED BETWEEN 2016 AND 2021

by

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Abstract

In response to the increased interest in telecollaboration (TC) among scholars and practitioners, evidenced, for instance, by the growing number of publications on this topic (Barbosa & Ferreira-Lopes, 2021), this dissertation attempts to fill a research gap and review the latest literature on TC. In particular, this thesis focuses on investigating English as a lingua franca (ELF) TCs, which are currently gaining popularity and have not yet been reviewed under this common denominator.

To provide an overview of English as a lingua franca telecollaborative (ELFTC) projects, this dissertation adopts a secondary research approach and draws its methodology from the Qualitative Research Synthesis (QRS) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 models, among others. In total, 38 research articles (RAs) published between 2016 and 2021, both inclusive, are thoroughly reviewed and analyzed in detail. The findings of this dissertation provide general characteristics of ELFTC projects, detail their advantages and disadvantages, and suggest which areas are already sufficiently researched and which deserve further investigation.

The findings of this thesis should be of significant value, in particular, for TC practitioners, researchers, and educators. This dissertation outlines both the good practices of ELFTC projects and a series of challenges that appear frequently and will, thus, contribute towards improving future exchanges. Moreover, it is designed to serve as a landmark study in TC research that will hopefully set future research directions, which may inspire researchers to launch numerous new investigations, thus, further expanding the TC literature. Lastly, this dissertation contributes to the study of computer-mediated learning in education in general.

Keywords: telecollaboration, English as a lingua franca, research synthesis, language teaching

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List of Acronyms and Specific Symbols and Their Full Names

AI	Artificial Intelligence
AL	Applied Linguistics
AR	Augmented Reality
ARCS	Attention, Relevance, Confidence, and Satisfaction
BASE	Bielefeld Academic Search Engine
CA	Communicative Approach
CALICO	Computer-Assisted Language Instruction Consortium
CALL	Computer-Assisted Language Learning
CEFR	Common European Framework of Reference for Languages
CF	Corrective Feedback
CLIL	Content and Language Integrated Learning
CLT	Communicative Language Teaching
CMC	Computer-Mediated Communication
COIL	Collaborative Online International Learning
COVID	Coronavirus Disease
CS(s)	Communicative Strategy(ies)
EAP	English for Academic Purposes
EFL	English as a Foreign Language
EIL	English as an International Language
ELF	English as a Lingua Franca
ELFTC(s)	English as a Lingua Franca Telecollaboration(s)
ELT	English Language Teaching
EMI	English as a Medium of Instruction
ERIC	Education Resources Information Center
ESP	English for Specific Purposes
EU	The European Union
FL(s)	Foreign Language(s)
FLA	Foreign Language Anxiety
FLE	Foreign Language Enjoyment
FLL	Foreign Language Learning

FTF	Face-to-Face
GNLE	Globally Networked Learning Environments
GT	Grounded Theory
GVC	Global Virtual Collaboration
GVT	Global Virtual Teams
HDI	Human Development Index
ICC	Intercultural Communicative Competence
ICFLE	Internet-Mediated Intercultural Foreign Language Education
ICT	Information and Communication Technology
IS	Intercultural Sensitivity
IT	Information Technology
IVC	Intercultural Virtual Collaboration
JALT	The Japan Association for Language Teaching
JASP	Jeffreys's Amazing Statistics Program
L1(s)	First Language(s) / Mother Tongue(s)
L2(s)	Second Language(s)
L3(s)	Third Language(s)
LINEE	Languages in a Network of European Excellence
LL&T	Language Learning and Technology
LLBA	Linguistics and Language Behavior Abstracts
LMS(s)	Learning Management System(s)
LRE(s)	Language-Related Episode(s)
M	Mean
Max	Maximum
Min	Minimum
MLA	The Modern Language Association of America
n	Number (of Cases)
NNS(s)	Non-Native Speaker(s)
NoM	Negotiation of Meaning
NS(s)	Native Speaker(s)
OIE	Online Intercultural Exchange

PDF	Portable Document Format
PELF	Pedagogical English as a Lingua Franca
PLF	Pedagogical Lingua Franca
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
Ps	Participants
QRS	Qualitative Research Synthesis
RA(s)	Research Article(s)
RIS	Research Information Systems
S/FL(s)	Second/Foreign Language(s)
SCMC	Synchronous Computer-Mediated Communication
SD	Standard Deviation
SLA	Second Language Acquisition
SNSE	Standard Native Speaker English
SUNY	State University of New York
SVC	Synchronous Video-Conferencing
TC(s)	Telecollaboration(s)
TESOL	Teaching English to Speakers of Other Languages
TL(s)	Target Language(s)
TOEIC	The Test of English for International Communication
UK	The United Kingdom
UN	The United Nations
USA	The United States of America
VE	Virtual Exchange
VOICE	Vienna-Oxford International Corpus of English
VR	Virtual Reality
WoS	Web of Science
WTC	Willingness to Communicate
ZPD(s)	Zone(s) of Proximal Development

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Chapter One: Introduction

In the era of digitalization and rapid technological and social advances in nearly all domains of our lives, the field of second and/or foreign language (S/FL) could not remain on the sidelines. New teaching methods are constantly being introduced to facilitate and maximize the efficiency of the S/FL learning process and to help students develop a growing number of skills and competencies that the contemporary world demands from them. Within Applied Linguistics (AL), and more precisely S/FL teaching/learning, the field that has undergone possibly the greatest transformation is computer-assisted language learning (CALL). Within this domain, telecollaboration (TC) has been practiced since the 1990s. According to one of the most commonly used definitions of TC, proposed by Belz (2003b), TC "involves the use of Internet communication tools by internationally dispersed students of language in institutionalized settings in order to promote the development of (a) foreign language (FL) linguistic competence and (b) intercultural competence" (p. 68). Similarly, citing Guth and Helm (2010), TC can be perceived as an "Internet-based intercultural exchange between people of different cultural/national backgrounds, set up in an institutional context with the aim of developing both language skills and intercultural communicative competence […] through structured tasks" (p. 14). Nowadays TC is also known as virtual exchange (VE). This thesis focuses, in particular, on one modality of TC – ELFTC. In essence, ELFTCs connect geographically distant non-native English speakers who use English as a working language and whose aim is generally FL improvement and/or cultural exchange.

Given the exponential growth of TC in recent years, this thesis attempts to fill the research gap created by the increasing number of ELFTCs by means of secondary research. Chong and Plonsky (2023) perceive secondary research as "an umbrella term that includes numerous types of literature review" (p. 1) and "a scholarly review of a body of literature on a selected topic" (p. 1). In particular, this dissertation adopts a systematic secondary research approach, in line with the recent trend in the field of AL, as outlined by Chong and Plonsky (2023) (p. 2). Thus, the aim of this study is achieved by following the QRS model, based on Grounded Theory (GT) and constant comparison model (Chong & Plonsky, 2021), the PRISMA statement (Page et al., 2021), in addition to calculating numerical data. According to the classification of Chong and Plonsky (2023), the research I carry out can be understood as a mixed review. It includes both quantitative components, such as descriptive

statistics, and qualitative elements of what Chong and Plonsky (2023) label as a practice-focused research synthesis, a practice-focused systematic literature review, and/or a qualitative research synthesis.

Due to its synthetic approach, this dissertation adds a new perspective regarding the extant literature on ELFTC and can be considered a valuable contribution to the existing body of secondary research on TC as a whole. Moreover, several ideas for future research, which stem from this thesis, can inspire future studies on TC, thus, contributing even further to enhancing the TC literature. What is more, given the advancing digitalization of education, among other fields, and the constantly growing educational demands of contemporary societies and global markets, and, thus, the increasing knowledge and number of skills required from the students, this dissertation responds and contributes to the current discussion on the role and the shape of the 21st-century education.

Primarily, this thesis outlines the characteristics of ELFTC projects and underlines their advantages and disadvantages. In particular, this dissertation synthesizes the literature on ELFTC projects published between 2016 and 2021, both inclusive. One outcome of this research is that it will serve to inform interested parties, such as S/FL teachers, TC practitioners, and researchers. Likewise, this dissertation aims to contribute towards raising awareness about ELFTC projects and their likely benefits but also warns about the potential drawbacks of such exchanges. Hence, it is expected that the knowledge offered in this dissertation will help to improve both future tandem and ELFTCs by highlighting their best practices and mistakes to be avoided. Moreover, this research intends to clarify certain assumptions, beliefs, and opinions on ELFTCs. The findings of this dissertation are also juxtaposed with the results of past syntheses, offering an intra-literature historical comparison and an overview of historical trends. Additionally, the goal of this thesis is to provide information that may help to set the agenda for future research in the field of ELFTC by outlining which areas have already been thoroughly analyzed and may not need further investigation and those which are still under-researched and deserve further interest.

This dissertation is divided into seven chapters:

(1) Chapter One: introduction;

(2) Chapter Two: presentation of state-of-the-art knowledge on TC and ELF;

(3) Chapter Three: a review of past secondary research on TC;

(4) Chapter Four: the outline of the methodology of this study;

(5) Chapter Five: results of the study;

(6) Chapter Six: discussion of the results;

(7) Chapter Seven: conclusions, limitations, and further research ideas.

This thesis ends with two lists of references – first, the 38 primary studies that have been reviewed, and second, where all the remaining studies cited in this dissertation are listed. Additionally, supplementary data is presented in 28 appendices toward the end of this dissertation.

Chapter Two: Theoretical Foundations of Telecollaboration and English as a Lingua Franca

2.1 Telecollaboration and Definitions

TC has been used by instructors and students for nearly 30 years now. Throughout its existence, various terms have been coined to refer to TC. Some of them are continuously and frequently used to date, others have been used less commonly and became obsolete or were replaced by newer terms. This section presents an overview of terms that have been used to refer to TC over the years, provides their origin and historical background, identifies the key authors, and offers sample definitions of each of the terms. The most commonly used phrases, which are synonymous with TC, were identified through a Scopus ad Web of Science database search as well as through a review of several RAs that listed multiple synonyms of TC (Barbosa & Ferreira-Lopes, 2021; Dooly & Vinagre, 2021; O'Dowd, 2018a). These terms include the following (in alphabetical order):

(1) collaborative online international learning (COIL);
(2) eTandem;
(3) eTwinning;
(4) global virtual collaboration (GVC);
(5) global virtual teams (GVT);
(6) globally networked learning environments (GNLE);
(7) intercultural virtual collaboration (IVC);
(8) internet-mediated intercultural foreign language education (ICFLE);
(9) online intercultural exchange (OIE);
(10) telecollaboration (TC);
(11) teletandem;
(12) virtual exchange (VE).

Below I present their brief historical overviews, features, and definitions.

2.1.1 Collaborative Online International Learning (COIL)

COIL was first introduced by the State University of New York (SUNY) in 2006. To date, a number of practitioners continue to use this term in the field of second language acquisition (SLA), CALL and beyond (Potter & Bragadóttir, 2019; Rubin & Guth, 2015; Vahed & Rodriguez, 2021). COIL methodology is often used to organize projects aimed at gaining subject-specific knowledge in particular domains, such as business, economy, and management (Katre, 2020; Marcillo-Gómez & Desilus, 2016; Nava-Aguirre et al., 2019),

engineering (Appiah-Kubi & Annan, 2020; Munoz-Escalona et al., 2022), maritime studies (Bauk, 2019), food and nutrition sciences (Naicker et al., 2021), or medical sciences (Potter & Bragadóttir, 2019; Vahed & Rodriguez, 2021), rather than solely to learn a language or learn about a culture. Bauk (2019) lists a number of other fields and combinations, such as "medicine and journalism, chemistry and information technologies, navigation and software testing methods/engineering" (p. 208).

Another characteristic feature of COIL is that it concerns itself almost exclusively with tertiary education. COIL projects are frequently used to substitute or supplement study abroad programs (Marcillo-Gómez & Desilus, 2016; Munoz-Escalona et al., 2022; Vahed & Rodriguez, 2021) and stimulate or facilitate international collaboration (Bauk, 2019; Jie & Pearlman, 2018; Vahed & Rodriguez, 2021). COIL exchanges offer this kind of experience to economically or physically disadvantaged students (Appiah-Kubi & Annan, 2020; Jie & Pearlman, 2018; Marcillo-Gómez & Desilus, 2016; Munoz-Escalona et al., 2022; Vahed, 2021). Additionally, they address the need of preparing students to work in multicultural and multinational workplaces (de Castro et al., 2019; Katre, 2020; Rubin, 2019). Further, the emphasis of schemes of this type is on the opportunity of jointly gaining subject-specific knowledge and international work experience, while language is the tool and the medium of communication of such undertakings. Nevertheless, the theoretical foundations of COIL projects can be considered quite similar to TCs aimed at foreign language learning (FLL) since they include, for example, experiential learning (Nava-Aguirre et al., 2019; Taras, 2019). What is more, COIL practitioners often refer to their own projects as "collaborations" (Schaefer, 2021).

Appiah-Kubi and Annan (2020) define COIL as "a pedagogy that helps to create an environment to foster the development of intercultural competence skills with the use of technology to connect classrooms in distinct geographical locations" (p. 109-110) and add that "COIL usually involves a structured collaboration between two or more faculty members who teach similar or related courses at the college level" (p. 110). de Castro et al. (2019) perceive COIL as "a pedagogical approach using digital technology to provide experiential international learning without travel abroad" (p. E1).

COIL, as a term, continues to be widely used in the contemporary literature (Inada, 2022; Katre, 2020; Misra et al., 2020; Nava-Aguirre et al., 2019; Orsini-Jones et al., 2019). According to a search in the Scopus database, the first publications devoted to COIL emerged

in 2015 and there were less than 15 of them per year until 2020. From 2020 onwards, their number increased sharply to 26 in 2020 and 51 in 2021.

2.1.2 eTandem

The term eTandem (also spelled etandem, e-tandem, or e-Tandem) began to appear in the literature in the early 2000s (Bethoux, 2006; Canga Alonso, 2006; Gamper & Knapp, 2002; Rückl, 2005). However, as Cziko (2004) points out, the International eTandem Network was already established in 1996. Cziko (2004) sees eTandem as a mode of learning which takes place between "language-learning partners located in different countries who are linked via various forms of electronic communication" (p. 25). Hence, eTandem was considered to be different from original tandem learning since there was no needed to engage learners in face-to-face encounters and, as a result, have them travel to distant locations (Cziko, 2004). In 2007, O'Rourke listed eTandem as one of the models of TC, among *Cultura* and *eTwinning* (O'Rourke, 2007). Later, eTandem was also adopted by numerous authors and continues to be used to date in the context of learning English and other languages (Andujar & Medina-López, 2019; Arellano-Soto & Parks, 2021; Bower & Kawaguchi, 2011; Hernández Alvarado et al., 2018; Kawaguchi, 2015; Renner, 2017; Resnik & Schallmoser, 2019; Strawbridge, 2021; Tian & Wang, 2010; Vinagre & Esteban, 2019). A Scopus database search shows that there were fewer than 10 studies devoted to eTandem per year between 2005 and 2012. Between 2013 and 2015, this number oscillated around 12 (11-13) while from 2016 onwards, there were more than 20 studies dedicated to eTandem annually.

2.1.3 eTwinning

eTwinning is an initiative launched by the European Commission in 2005 aiming to promote collaboration among European schools (located in Erasmus+ program participating countries) (Karasavvidis, 2005; Orfila, 2004; Papadakis, 2016).[1] Consequently, most of the publications that include this term were published after 2005 (Gajek, 2009; Karasavvidis, 2005; Papadakis, 2016; Taralova, 2010; Vuorikari et al., 2011), with a few exceptions, such as Orfila (2004). The Commission funded a platform, School Education Gateway[2] (currently being merged into European School Education Platform[3]), that serves as a core instrument

[1] https://school-education.ec.europa.eu/en/etwinning
[2] https://www.schooleducationgateway.eu/en/pub/index.htm
[3] https://school-education.ec.europa.eu/en

for connecting TC instructors and participants. The main aims of the initiative include: developing 21st-century skills, FL skills, and intercultural awareness among students; increasing the use of information and communication technology (ICT) in schools, and inclusive education (Papadakis, 2016).[4] Particularly FLL was identified as one of the most frequent aims of eTwinning projects with English being the most commonly used language in exchanges (Cinganotto, 2017). The platform also offers numerous resources for both beginner and experienced teachers.[5]

In terms of defining what eTwinning is, Galvin et al. (2006) state that "eTwinning by itself means collaborative working since at least two teachers and at least two pupils work together on the same subject" (p. 2) and "eTwinning provides a framework for training and implementing playful and authentically collaborative learning into the everyday school routine without the need for lots of resources" (p. 2). Gajek and Poszytek (2009) highlight that the goals of the eTwinning initiative and, at the same time, the European Commission's Lifelong Learning Programme, which eTwinning is a part of, are to "promote in-service teacher training, the enhancement of the teachers' and students' technical, language and intercultural skills, as well as the implementation of the European dimension in curricula" (p. 13) and introduce "students to the European reality without any restrictions, inhibitions, sense of minority or weakness" (p. 13). Papadakis (2016) refers to eTwinning as "an institutionalised collaborative learning environment as well as an educational social network within which the educational community cooperates remotely synchronously or asynchronously with the use of internet technology in order to conduct a common project" (p. 281).

According to the data provided by the European Commission, more than one million users were registered on the platform as of December 2021.[6] Further, the same source states that 130,000 eTwinning projects have been organized between 226,000 schools since the establishment of the platform in 2005. Nevertheless, the number of publications devoted to eTwinning projects is quite low in comparison to TC projects held at the tertiary education level. This could be because most researchers who publish the results of their undertakings are also university lecturers and, thus, it is easier for them to organize and

[4] https://school-education.ec.europa.eu/en/etwinning
[5] https://school-education.ec.europa.eu/en/etwinning
[6] https://education.ec.europa.eu/news/etwinning-community-of-schools-reaches-1-million-registered-users

report on such projects that take place in their usual work environment. Likewise, many schoolteachers simply do not publish papers on the projects they carry out at school because research is not part of their remit. As a result, a significant number of eTwinning projects are simply not reported on. This can lead to the incorrect conclusion that TC projects are less popular or even non-existent at the primary or secondary school level in comparison to the higher education level.

In terms of the historical frequency of the use of eTwinning as a keyword in the literature, a Scopus database keyword search provides evidence for an increasing trend. Between 2006 and 2012 fewer than 10 publications included this word somewhere in the text, while between 2013 and 2015 this number rose to between 10 and 20 per year. Each year between 2016 and 2019 around 20 studies included eTwinning somewhere in the text. From 2020 onwards this number increased to at least 30 studies per year, reaching a peak in 2021 (39 studies).

2.1.4 Global Virtual Collaboration (GVC)

GVC, like GVT, which is discussed in the following paragraph, is strongly connected to the field of business and management. The first instance of GVC can be found in Leonard (1996), yet it is only mentioned once and descriptively when referring to the publication of Knoll and Jarvenpaa (1995). Its second historic use appears in the article of Jarvenpaa and Leidner (1997) – exactly the same one described in the section on GVT below. In that paper, GVC and GVT are used interchangeably, thus, they can be considered synonyms. Consequently, the statements included in the section devoted to GVT can also be applied to GVC. A Scopus database search shows that this term gradually increased in popularity until 2016, when it reached its peak (42 studies), and continues to be used to date, although at about half that number of studies yearly.

2.1.5 Global Virtual Teams (GVT)

The term global virtual teams (GVT) was first used in the article by Knoll and Jarvenpaa (1995) where it appeared three times. Yet, the first study dedicated to the analysis of this type of a project was described by Jarvenpaa and Leidner (1997) and aimed to investigate the notion of building trust among the members of various nations in business contexts. This domain-specific connotation of this term remained clear also over the following years – GVT has been continuously used in the fields of business, economics, or management. The most cited articles that include this phrase (Gefen et al., 2003; Petter et

al., 2007; Wasko & Faraj, 2005) were published in the journals related to management. Jarvenpaa et al. (1998) describe GVT in the following way "a global virtual team is an example of a boundary less network organization form where a temporary team is assembled on an as-needed basis for the duration of a task and staffed by members from different countries" (p. 1). Similarly, Jarvenpaa and Leidner (1997) state that "when a virtual organization expands its operations internationally, virtual teams become global virtual teams with members who represent diversity in cultures and countries and where virtual interaction replaces all or much of the face-to-face interaction" (p. 1), which clearly situates GVT in the domains listed above. Also Ferreira-Lopes et al. (2021) highlight that GVT has been used in the field of business to "prepare students to communicate through technologies […] and to develop students' cultural understanding" (p. 339). Consequently, GVT seems to be defined quite differently from the terms enumerated so far (except for GVC). Nevertheless, the nature of GVT undertakings allows them to be regarded as TC projects. According to a Scopus database search, the use of this phrase has gradually been increasing, accelerating rapidly from 2000 onwards, exceeding 100 studies in 2004, appearing in about 300-400 studies per year between 2007 and 2020, and reaching just over 500 studies in 2021.

2.1.6 Globally Networked Learning Environments (GNLE)

The first instance of use of GNLE can be attributed to Palvetzian (2005) and the field of education, however, the author did not provide a definition for this concept. Starke-Meyerring (2007, October 19) referred to GNLE as "an exciting paradigm shift—an innovation in learning that is critical to the development of a global civil society" (p. 1) and later underlined their "incredible pedagogical richness and creativity" (p. 4). Starke-Meyerring (2007, October 19) also highlighted that "the development of new knowledge cultures is at the heart of globally networked learning environments" (p. 5). Craig (2014) perceived GNLEs as "interactive cyberspaces that use technology to initiate and facilitate participation and collaboration between education, research, and industry partners in a globalized context" (p. 370). According to Bégin-Caouette et al. (2015) "GNLEs teach students to adapt their communication style, avoid ethnocentric bias, and develop professional and leadership skills" (p. 2). Between 2007 and 2022 the yearly use of this term in the literature oscillated between single digits and 18 cases with no particular trends.

2.1.7 Intercultural Virtual Collaboration (IVC)

Although the exact origins of IVC remain blurred and, thus, the attribution of its coining to a specific author or authors is not possible, this term stems from the fields of business and economy. According to Xu and Behring (2014) “intercultural virtual collaboration goes beyond just information exchange to involve communication strategies that allow collaborators to manage their social identities through linguistic accommodation” (p. 2734). Ferreira-Lopes et al. (2021) refer to IVC simply as “one of the approaches to virtual mobility” (p. 339) and state that IVC combines “virtual intercultural collaboration with face-to-face sessions” (p. 339). Further, Ferreira-Lopes et al. (2021) add that IVC “allows teachers from universities located in different geographical locations to put their students to work together in virtual environments to achieve different kinds of learning outcomes, including intercultural competence, language skills, digital literacy and other related competencies” (p. 339). According to Pearl (2020), IVC “is constituted of students from two or more universities and countries that receive assignments from their respective professors in their respective educational institutions and countries” (p. 95). IVC is by far the least used keywords of all those presented in this chapter with less than five appearances per year between 2014 and 2022, with a small yet noticeable rising trend.

2.1.8 Internet-Mediated Intercultural Foreign Language Education (ICFLE)

Around the mid-2000s, ICFLE began to appear in the TC literature (Belz & Thorne, 2006; Train, 2006). Train (2006) described ICFLE simply as “a.k.a. telecollaboration” (p. 247) and “telecollaborative projects” (p. 247), which suggests that there are no differences between ICFLE and TC. ICFLE continued to be used by a relatively small number of authors throughout the first and the second decade of the new millennium (Blyth, 2018; Chapelle, 2010; Chen & Yang, 2016; O'Dowd, 2011). This trend continues to date. Presumably, the reason behind such a state of affairs is the length of the phrase and the preference of authors to use other, shorter, and more common terms instead. According to a Scopus database search, the yearly use of ICFLE is around 20 cases, varying between 11 in 2008 and 35 in 2016. Nevertheless, a closer look at the actual use of this term reveals that it is mostly used when listing the historical synonyms of TC.

2.1.9 Online Intercultural Exchange (OIE)

OIE was introduced for the first time by O’Dowd in 2007 (O'Dowd, 2007a). However, it is important to note that this term was used only twice in the whole text – in the title of that article and in its introduction. In the latter instance, O’Dowd states the following:

"online intercultural exchanges, better known today as telecollaboration" (p. 144), which clearly suggests that these two terms can be used synonymously. In the other publication, available later that year, O'Dowd (2007b) used the term OIE again, calling it "one of the most popular online activities" (p. 4). This time O'Dowd (2007b) defined OIE as "the activity of engaging language learners in interaction and collaborative project work with partners from other cultures through the use of online communication tools such as e-mail, videoconferencing and discussion forums" (p. 4). Later, he also paraphrased Belz's definition of TC from 2003, once again confirming that OIE and TC are very similar if not identical concepts. Moreover, in the context of TC and OIE, O'Dowd (2007b) pointed out that "many of these terms will be used interchangeably as (…) the quality of the activity far outweighs the significance of the particular terminology" (p. 4), as well as suggested that "practitioners are encouraged to choose for their own work the terms of reference with which they are most comfortable" (p. 4), which, once again, leads to a conclusion that OIE and TC can, in fact, be treated equally. Later in the same publication O'Dowd (2007b) compares OIE to TC by mentioning an "online communicative activity (i.e. telecollaboration or online intercultural exchange)," (p. 17) which, again, puts these two concepts on an equal footing.

OIE has been adopted and used also by some other authors in the field (Kelsen & Flowers, 2017; Lee & Markey, 2014; Schreiber, 2019). However, it has to be noted that a number of the papers that include the term OIE were included in the publications edited by O'Dowd, for instance, De Wit (2016), Helm (2016), or Nissen (2016a) in O'Dowd and Lewis (2016). In such case, it is likely that the use of OIE was agreed upon by the authors. Historically, OIE was mostly used by its inventor in his own publications, as well as in the publications of his network of colleagues who frequently cite each other (O'Dowd & Lewis, 2016; O'Dowd & O'Rourke, 2019). Yet, OIE was most often accompanied by an explanation that it refers to TC (Aristizábal & Welch, 2017; Luo & Gui, 2018; Sevilla-Pavón, 2019). It is also worth noting that a number of authors continue to use the term OIE also nowadays (Feng et al., 2021; Flowers et al., 2019; Matović, 2021; Schreiber, 2019), despite the attempt of OIE's inventor to rebrand it as "virtual exchange" since 2017. According to a Scopus search, between 2007 and 2015 the number of publications that include OIE varies greatly between five and 30 cases (in 2008 and 2015 respectively). From 2016 onwards, their number increased to more than 40 cases per year, reaching nearly 100 in 2021.

2.1.10 Telecollaboration (TC)

Telecollaboration was first introduced to the fields of foreign language education, foreign and/or second language acquisition (SLA), computer-assisted language learning (CALL), as well as computer-mediated communication (CMC) in the 1990s in the publications of, for instance, Warschauer (1996), Levy (2008), Liaw (1998), as well as Warschauer and Healey (1998). Initially, Warschauer (1995) referred to what is now called TC as "virtual connections" and "online activities & projects for networking language learners." However, TC was not fully defined until the publication of Belz (2003b) who stated that TC "involves the use of Internet communication tools by internationally dispersed students of language in institutionalized settings in order to promote the development of (a) foreign language (FL) linguistic competence and (b) intercultural competence" (p. 68). In the following years, Guth and Helm (2010) stated that TC "is generally understood to be Internet-based intercultural exchange between people of different cultural/national backgrounds, set up in an institutional context with the aim of developing both language skills and intercultural communicative competence […] through structured tasks" (p. 14). Later, O'Dowd (2015) understood TC as the "application of online communication tools to bring together classes of language learners in geographically distant locations with the aim to develop their FL skills and intercultural competence through collaborative tasks and project work" (p. 194). TC also continues to be commonly used nowadays and can be considered as the core term in the literature over the years and the one that links all the other similar initiatives and names. This is due to the fact that it is by far the most frequently used word to explain the meaning behind other similar activities (Akiyama, 2019; Ismailov, 2021; Redmond & Lock, 2006; Torres & Smith, 2018; Vurdien & Puranen, 2016). Scopus database evidences between several and around 20 publications yearly that include TC in the 1990s and between 24 and 82 of them per year in the 2000s. From 2010, this number was always greater than 80, although was rather around a hundred between 2012 and 2015 and closer or greater than 200 between 2018 and 2020. In 2021 the number of publications including TC was equal to 290.

2.1.11 Teletandem

Teletandem was coined in Brazil in 2006 (Telles & Vassalo, 2006; Vassallo & Telles, 2006) and continues to be popular, mostly in that country, also nowadays (Cavalari & Aranha, 2019; Rampazzo & Cunha, 2021; Schaefer, 2021). Telles and Vassalo (2006) define teletandem as "a new distance and computer assisted mode of learning foreign languages

in-tandem that makes extemporaneous use of oral and written production, reading and listening comprehension and webcam images of the participants" (p. 193). This particular case of a local invention of a phrase for a specific initiative constitutes a great example of how different terminologies can coexist in the literature despite the ever-increasing globalization of the world. The Scopus database lists only a handful of publications containing this keyword between 2009 and 2014, while between 2015 and 2020 this number increased slightly and oscillated between 15 and 17. In 2021, teletandem count in the Scopus database reached 25.

2.1.12 Virtual Exchange (VE)

Historically, VE is not a new term at all. Scopus database identifies 33 publications that have used this term even prior to 1996 when Warschauer (1996) coined the term telecollaboration (the first record dates back to 1949). Interestingly enough, these studies come almost exclusively from the fields of astronomy, chemistry engineering, mathematics, and physics, which suggests that from the very beginning "virtual exchange" has not been used to define the same phenomenon as some do today. From the perspective of secondary research, such as this dissertation, this is problematic as the very same term appears to have different meanings over time (including overlapping periods) depending on the field of its origin. As a result, an efficient review of the literature is made significantly more difficult. Researchers from the fields of FLL and sciences alike might encounter a vast body of research that is irrelevant for them. Nevertheless, by restricting the search to specific timeframes and providing an additional context-adding phrase, it is possible to narrow down the scope of the literature review to retrieve the applicable studies, in this case, those pertaining to FLL.

According to the Scopus database search, the first publication where "virtual exchange" and "language learning" appear together dates back to 2003 (O'Dowd, 2003). The next paper that featured the same combination appeared as much as six years later, in 2009 (Poindexter et al., 2010). The following examples are also quite infrequent: one study in 2011, two in 2013 and 2015, as well as five and seven studies in 2017 and 2018 respectively. It is only from 2019 onwards that we can find more than 10 studies yearly that include both "virtual exchange" and "language learning" as keywords somewhere in the text. Interestingly, however, the use of VE from 2019 onwards seems to grow exponentially,

reaching around 100 publications in 2021 and around 150 in 2022. Given this perspective, it seems that VE has been correlated with language learning only quite recently.

O'Dowd (2021) compares VE to TC by simply putting a conjunction "or" (p. 1) between them which clearly signals that they could be treated synonymously and constitute the same idea. Further, O'Dowd (2021) explains that VE (and TC) "are terms used to refer to the engagement of groups of learners in online intercultural interactions and collaboration projects with partners from other cultural contexts or geographical locations as an integrated part of their educational programmes" (p. 1). Similarly, Luo and Yang (2022) put VE and TC on an equal footing by providing (on p. 37) the following definition of Belz (2003a), which, in fact, is a definition of TC: "institutionalized, electronically mediated intercultural communication under the guidance of a languacultural expert (i.e., a teacher) for the purposes of foreign language learning and the development of intercultural competence" (p. 2). Likewise, Barbosa and Ferreira-Lopes (2021), citing Lenkaitis et al. (2020) and O'Dowd (2018b) state that VE is a synonym of OIE, TC, and teletandem. Helm (2018) refers to VE as an approach that "consists of sustained, technology-enabled, people-to-people education programmes or activities in which constructive communication and interaction takes place between individuals or groups who are geographically separated and/or from different cultural backgrounds, with the support of educators and facilitators" (p. 1). Further Helm (2018) adds that VE "combines the deep impact of intercultural dialogue and exchange with the broad reach of digital technology" (p. 1) and "fosters the development of what have been recognized as employability skills, such as digital competence [...] foreign language competence, communication skills, media literacy, and the ability to work in a diverse cultural context" (p. 2). Dooly and Vinagre (2021) perceive VE, among others, as "the process of communicating and collaboratively learning with peers from different locations through the use of technology" (p. 393).

2.1.13 Conclusion

Having considered and reviewed both major and minor varieties of TC since 1995, it can be concluded that although there are subtle differences among most of the terms listed above, these differences seem to be rather negligible from the broader perspective. Above all, the very nature of the projects conducted under different names are similar, if not identical. It is also worth noting that most of these terms were and still are frequently used synonymously and interchangeably in the literature (Dooly & Vinagre, 2021). Consequently,

TC, being historically the most commonly used term that was and still is repeatedly used to explain the meaning behind other comparable undertakings, was identified as the core term and will be used in this dissertation for the sake of clarity, uniformity, and better understanding.

2.2 Telecollaboration: Theoretical Background

Having established the similarities and differences between different approaches to TC, it is now worth exploring the theoretical underpinnings and roots of TC that led to its establishment with the aim of understanding how it can be beneficial to FLL.

The emergence of TC cannot be understood without framing it within the changes in the field of SLA. Garcia and Crapotta (2007) identify the work of Hymes (1976) as crucial for the departure from the understanding of language proposed by Chomsky and as the beginning of the then-novel interplay between language and culture in FLL, which laid the foundation for the Communicative Approach (CA). Garcia and Crapotta (2007) suggest that, in particular, the cultural and technological developments that took place at the turn of the millennium affected the field of FLL and led to the greater introduction of the cultural component in FL education. Likewise, Garcia and Crapotta (2007) highlight that such a change was demanded by the new national FL curricula and teaching policies, which put emphasis on the cultural component in FL teaching and learning. Garcia and Crapotta (2007) add that this necessitated, among others, the design of new approaches to FLL that would allow FL learners the opportunity to gain the newly demanded intercultural skills. The answer to this demand was TC.

In a similar vein, Lenkaitis et al. (2019) recall the findings of Huebener (1959), who suggests that students did not gain cultural knowledge from FL classes during that era. Seidl (1998) also argues that teaching a FL without the cultural component is not sufficient and will not fully prepare the learners for the situations in which they will have to use their FL in the future. Lenkaitis et al. (2019) also point out that the CA was an attempt to change the then state-of-affairs and introduce cultural elements to FL learning to make it more authentic. As Lenkaitis et al. (2019) highlight, “the awareness of the complexity of culture involved in the interaction of two languages is a key element of the communicative approach” (p. 104).

Coleman et al. (2012) also identified the CA as the root of TC and highlighted the crucial role of the researchers such as Canale (1983), Canale and Swain (1980), and, again,

Hymes (1976) in the process. In particular, Coleman et al. (2012) underline that in the FL teaching context, the CA is characterized by a stronger focus on: "the use of the target language in the classroom" (p. 163), "the development of oral skills" (p. 164) "input, interaction, and output" (p. 164), as well as "the use of authentic input materials" (p. 164).

In addition to stressing the significance of the CA for TC, Coleman et al. (2012) emphasize the impact of the "sociocultural view of mental development" (p. 164), in particular the works of Vygotsky and his sociocultural theory of cognitive development (Vygotsky & Cole, 1978). Studies devoted to TC frequently identify the research of Vygotsky as their theoretical framework, often referring to the activity theory, the Zone of Proximal Development (ZPD), and the social nature of learning (or social construction of knowledge) (Gunawardena, 2013; Marczak, 2018; Marti & Fernández, 2016; Nishio & Nakatsugawa, 2020; Viáfara González, 2020). As Fujiike (2004) explains "learning first takes place in the interaction between two people (inter psychological) before it becomes a mental process for the individual (intra psychological)" (p. 19). Consequently, according to Fujiike (2004), TC environments can support social interaction due to their interactive and collaborative nature. As Fujiike (2004) further elaborates, "[c]ollaboration can increase social interaction and social interaction can develop the construction of knowledge, which leads to improved learning outcomes" (p. 19). Similarly, Levy (2008) notes that "Vygotsky's theory supports a collaborative approach and cooperative learning" (p. 89) while McDonell (1992) concludes that Vygotsky's theory "analyses how we are embedded with one another in a social world" (p. 52). Similarly, Vinagre (2008) grounds the framework of TC in Vygotsky's theories and highlights the role of the ZPD in the construction of the new linguistic knowledge through collaborative FLL. Vinagre (2008) suggest that "interactive communication should be facilitated through the use of alternative learner-centered environments, where students can work together and help each other, either in pairs or small groups" (p. 1024). Certainly, TC settings can serve as such.

Additionally, Vinagre (2008) stresses the role of Piaget and FL learners' internal development (Piaget, 1977, 2002) in building the foundations of collaborative FLL which later evolved into TC. Vinagre (2008) explains that "construction of knowledge is individual, but learning is the result of a process which takes place through the interaction of those who are learning" (p. 1024), thus, also highlighting the collaborative nature of FLL. Vinagre (2008) then adds that the "constructivist approach to learning emphasises collaborative group work

in authentic activities" (p. 1024), a feature that is a characteristic of TC activities and projects. Several other authors have also, at least partially, based their work on Piaget's theory (Beckett et al., 2019; Bohinski & Mulé, 2016; Flowers et al., 2019; Poole & Aslin, 1999; Sevilla-Pavón & Nicolaou, 2022). Levy (2008) explains the interplay of Piaget's theory and what was yet to become TC in the following way: "people grow through play and constructive activity by alternately changing themselves and the world around them. Where computers have potential in this context is in extending our ability to transform and manipulate the world through simulation" (p. 88). He then adds that "we can learn and practise on our own in a simulated world before having to deal with an unpredictable real world environment" (p. 88), which flawlessly defines what occurs during TC projects now.

Drawing on both Piaget's and Vygotsky's theories, Vinagre (2008) concludes that "(negotiation of) interaction and collaboration within pairs or groups in order to promote language learning through problem-solving, performance of tasks, critical thinking and reflection" are the two key components of successful (tele)collaborative learning. Taskiran (2019), like Vinagre (2008), also laid the theoretical framework of a TC project on the findings of Piaget and Vygotsky, among others, highlighting the "personal construction of knowledge through social interaction" (p. 87), "the collaborative nature of learning" (p. 87), and "the importance of the social context" (p. 87) as key concepts. Levy (2008), citing Boyle (1997), concludes that the works of Piaget and Vygotsky "may be seen as either challenging or complementing one another" (p. 92-93) while Reiman (1999) suggests that there is a "natural symbiosis between the ideas of Vygotsky and Piaget" (p. 601).

2.3 Telecollaboration: Classification

Following the summary of the foundations of TC, below I present various approaches to classify TC. First, I explore the classic synchronous and asynchronous TC dichotomy, then I outline three core models of TC, namely, Cultura, eTandem, and eTwinning; and, lastly, I present less well-known attempts to classify TC.

2.3.1 Synchronous and Asynchronous Dichotomy of Telecollaboration

There are two main modes of TC – synchronous and asynchronous. TC projects can utilize either of them exclusively as well as use both of them over the course of the exchange. Below I review the key characteristics of these TC modes on the basis of the findings of multiple studies. The following descriptions focus mostly on the technical aspects as well as the similarities and differences between synchronous and asynchronous TCs and

assume that some of the initial steps related to the organization of TC projects, such as finding a suitable partner institution, are already completed.

2.3.1.1 Synchronous Telecollaboration. According to the TC literature, to take part in a synchronous TC, students need, above all, suitable devices, such as computers, smartphones, or tablets, which will enable them to connect to the Internet (Kukulska-Hulme & Pegrum, 2018; Marczak & Krajka, 2016; Woodman & Kazoullis, 2018). Once in the possession of such tools, several studies underline that it is imperative that learners are provided with a reliable and fast Internet connection to allow them for uninterrupted participation in synchronous sessions (Akiyama, 2014; Huertas-Abril, 2020; Sadler & Dooly, 2022). Next, due to the technical nature of TC projects, the TC literature specifies that TC participants need to either already have or be provided with basic ICT skills that will allow them to communicate and collaborate with the foreign partners independently or with little help (Dooly, 2008; Fuchs, 2016; Vinagre, 2017). This includes the provision of specialist training involving the use of both hardware and software. As some studies suggest, it is also advisable that the software that is going to be used by the TC participants is already preinstalled on their devices by TC instructors or support staff, unless the given software is web-based and does not require installation, which seems to be the optimal solution from the organizational perspective (Andujar, 2019; Andujar & Medina-López, 2019; Marti & Fernández, 2016). Then, as the literature emphasizes, TC instructors have to agree on one or more tools that will be used for the actual collaboration between their students (Miguela, 2007; Sardegna & Dugartsyrenova, 2021; Vinagre, 2017). With regard to synchronous activities, examples can include video-conferencing software, such as Skype (Akiyama, 2019; Carloni & Zuccala, 2018; Marti & Fernández, 2016), Zoom (Bohinski & Mulé, 2016; Eren, 2021; Lenkaitis et al., 2019), or Google Meet (Dooly & Tudini, 2022; González-Lloret, 2020; Krajka & Gabryś-Sławińska, 2022), or a myriad of websites that allow for live collaboration, such as Google Docs (Verzella & Sendur, 2019; Waldman et al., 2016), online whiteboards (Krajka, 2017; Satar & Wigham, 2017; Whyte & Cutrim Schmid, 2014), etc. Additionally, instant messaging apps, such as Facebook Messenger (Andujar & Rodriguez, 2020; Fuchs, 2020; Godwin-Jones, 2019), WhatsApp (Dooly & O'Dowd, 2018; Taskiran, 2019; Waldman et al., 2016), and alike can also be considered as platforms for synchronous communication. Similarly, file-sharing tools, such as Dropbox (Antoniadou, 2011; Shadiev et al., 2021;

Sudhershan & Bruen, 2017), serve to aid synchronous exchanges as they allow the sharing of multimedia in real-time.

As the literature on TC shows, prior to the exchange, TC instructors can also agree on a topic or as set of topics that will be used throughout the exchange. However, not following a specific topic is likewise a possibility (Dugartsyrenova & Sardegna, 2019; Miguela, 2007; Mont & Masats, 2018). Further, TC instructors have to agree on the type and number of activities that will be carried out over the course of the exchange as well as realistically plan them in accordance with the expected timeline of the project, possibly also taking into account that some TC sessions may be unexpectedly cancelled (Miguela, 2007; Mont & Masats, 2018; Pueyo, 2018). The activities should address TC instructors' ideas; students' capabilities, limited by, for instance, their age and FL proficiency; the affordances of conducting such tasks in the available classroom environment, taking into consideration the available devices and the quality of the Internet connection; the requirements of the curriculum, if applicable; as well as whether TC responds to students' interests and needs (Dugartsyrenova & Sardegna, 2019; Miguela, 2007; Mont & Masats, 2018; Pueyo, 2018).

To actually hold synchronous sessions, TC instructors (or sometimes the TC participants themselves) need to agree on the time and date that will be satisfactory for both of the sides (Akiyama, 2014; Dugartsyrenova & Sardegna, 2019; Garcia & Crapotta, 2007). Past studies on TC report that this proves to be particularly problematic when partner institutions are in different time zones but this can also be quite challenging even if they are geographically close (Garcia & Crapotta, 2007; Toscu & Erten, 2020; Yang, 2020). In both cases, internal timetables and schedules prove to be significant hurdles for finding a suitable time for TC (Canals & Mor, 2020; Helm, 2015; Olejarczuk, 2014). As observed in the literature, upon agreeing on the date and time, if there are no other problems, such as connectivity issues, learners can take part in the TC and fulfil the tasks set to them by their instructors. Next, if envisioned by the TC instructors, students may take part in the follow-up activities designed to encourage them to reflect on the exchange (Marti & Fernández, 2016; Marull & Kumar, 2020; Roarty & Hagley, 2021). This cycle is then repeated again if the design of the TC project is made up of more than one synchronous meeting. Between synchronous sessions learners might also be asked to perform other tasks, often asynchronously, which are further explored below.

2.3.1.2 Asynchronous Telecollaboration. As the literature shows, asynchronous TCs follow a similar structure to the synchronous exchanges outlined above, however, with several differences. The most important of them, which seems to be the root of the others, is the fact that asynchronous TCs do not require partner students to be working together in real-time (Bohinski & Mulé, 2016; O'Dowd, 2011; Ware & Kramsch, 2005). As a result, the technical demands of asynchronous TCs are also lower than synchronous TCs – as many studies underline, the Internet connection does not need to be as fast and the devices used do not have to be state of the art (Chen et al., 2005; O'Dowd, 2021; Schenker, 2012). Certainly, these features of asynchronous TCs are important for some less-technologically advanced countries, regions, and schools, and constitute a viable option for collaborating even if the available technological infrastructure is not of the highest quality. The TC literature also informs us that the ICT skills required to take part in asynchronous TCs are frequently lower than those required for synchronous TCs due to the lesser complexity and lower number of software programs and types of hardware that are used (Chen et al., 2005; O'Dowd, 2021). Tools used in asynchronous exchanges frequently include emails (Chun, 2015; Dunne, 2014; Eslami et al., 2015), Moodle platforms (Nissen, 2016b; O'Dowd & Ritter, 2006; Orsini-Jones & Cerveró Carrascosa, 2019), or text-based programs, for example, Google Docs, already listed above, and TC participants are often already familiar with how to use them prior to the TC project. Like synchronous TCs, asynchronous exchanges can include none or multiple core topics (Dunne, 2014; Jauregi & Melchor-Couto, 2018; Uzum et al., 2019). Correspondingly, due to the fact that in asynchronous TC sessions do not take place in real-time, they allow for collaboration between partner institutions that are geographically located far from each other and are not necessarily located in the same time zone (Altmann et al., 2022; Dooly, 2007; Hampel & de los Arcos, 2013). In a similar fashion to synchronous TCs, several studies emphasize that follow-up sessions with students should be held also in the case of asynchronous TCs (Machwate et al., 2021; Orsini-Jones et al., 2020; Pueyo, 2018) and likewise the whole cycle can be repeated.

2.3.1.3 Synchronous and Asynchronous Telecollaboration. Apart from the greater technological demands and increased complexity of synchronous tasks in comparison to the asynchronous ones, the matter of time seems to be one of the most important factors that differentiates these two TC modes. The TC literature draws attention to the fact that while synchronous collaboration can take place only after a previous arrangement between the

involved parties, asynchronous TC sessions can be carried out whenever each of the sides finds it the most suitable and comfortable (Liu et al., 2023; Waldman & Harel, 2015; Ware & Kramsch, 2005). This seems to be one of the most significant factors to take into account when a TC project is designed and is contingent upon, for instance, the size of the time difference between the partner institutions. In general, based on the findings of the studies reviewed in this section, synchronous collaboration is easier to organize and more likely to take place between institutions that are located in the same or not too distant time zones than if the partner institutions are located a long way from each other. In the latter case, TC tasks may have to be carried out mostly asynchronously due to the difficulty of holding synchronous sessions.

There is a clear tendency in the literature that points to the fact that with the arrival of technological advances and the rise of Web 2.0 tools, TC projects gradually substituted asynchronous (text-based) with synchronous (video-based) activities when possible (Avgousti, 2018; Barbosa & Ferreira-Lopes, 2021; Cunningham, 2017; O'Dowd, 2013). Moreover, an increasing number of Web 2.0 collaborative tools, such as the ones listed above, were included in TCs. This trend will be further analyzed in the following chapter.

2.3.2 Models of Telecollaboration

Apart from the synchronous – asynchronous dichotomy of TC activities, TC can also be classified on the type of the exchange, i.e., whether it is of a tandem or a lingua franca nature. The former is a collaboration between native speakers (NSs) who practice each other's mother tongues while in the latter learners use one given language to communicate, which is also not their first language (L1). Several authors in the publication of O'Dowd (2007b) outline three models of TC (there referred to as Online Intercultural Exchange, or OIE), i.e., Cultura, eTandem, and eTwinning, and these are outlined below.

2.3.2.1 Cultura Model. The Cultura model originated in the United States of America (USA) as a way to teach American students French through the contact with French native speakers and as an attempt to respond to the increasing globalization of the world by giving more attention to the often sidelined element of FL education – culture (Bauer et al., 2006). It attempts to address the perspectives of Byram (1997) and Bakhtin which highlight the importance of culture in FLL by facilitating the possibility of comparison across cultures (Bauer et al., 2006; Furstenberg et al., 2001). Furstenberg et al. (2001), who developed the Cultura model, regard it as a "[w]eb-based, cross-cultural, curricular initiative […] designed

to develop foreign language students' understanding of foreign cultural attitudes, concepts, beliefs, and ways of interacting and looking at the world" (p. 55). Bauer et al. (2006) suggest that Cultura is "a computer-mediated course that focuses on the promotion of students' understanding of the foreign culture" (p. 32). Garcia and Crapotta (2007) define Cultura as "a web-mediated model of telecommunication that, as its name suggests, focuses on the integration of culture into the language classroom" (p. 64). Authors of the Cultura model suggest certain steps to be followed when organizing such undertakings as well as propose a number of materials, aiming to facilitate the creation of alike projects by the others (Furstenberg et al., 2001).

2.3.2.2 eTandem Model. According to Cziko (2004) "tandem language learning occurs when two learners of different native languages work together to help each other learn the other language" (p. 25) while eTandem takes place when such activity is conducted online. Likewise, O'Rourke (2007) refers to eTandem simply as "tandem learning over the internet" (p. 42). Bower and Kawaguchi (2011) define eTandem as "a form of collaborative learning in which a pair of language learners team up to tutor their L1 and learn their partner's L2 [second language]" (p. 46). According to O'Rourke (2007), eTandem model of TC, unlike the Cultura model, "does not prescribe a particular structure, or even imply any particular conversational content" (p. 46), thus, allowing for more flexibility in such projects.

2.3.2.3 eTwinning Model. According to Miguela (2007), eTwinning "is essentially a network of schools and educators within the European Union which avails of the tools and platforms provided on the eTwinning portal to engage their students in collaborative crosscurricular international projects" (p. 85). Papadakis (2016) perceives eTwinning as "an institutionalised collaborative learning environment as well as an educational social network within which the educational community cooperates remotely synchronously or asynchronously with the use of internet technology in order to conduct a common project" (p. 281). Demir and Kayaoğlu (2021) inform that "eTwinning is a telecollaboration initiative which was launched in 2005 by the European Commission" (p. 1). Miguela (2007) states that in contrast to the two already mentioned models, eTwinning "does not propose a specific set of guidelines as to language use, thematic content or exchange structure" (p. 85), hence, providing the most flexibility among all of the presented models.

2.3.2.4 Telecollaborative and Transnational Models. O'Dowd (2021) proposes a different, albeit nearly identical classification in which TCs can be divided into

telecollaborative and transnational models. According to O'Dowd (2021), the former includes exchanges during which at least two languages are used and feature “focused discussion and cultural comparison tasks which are common to bilingual-bicultural exchanges” (p. 2). Later, O'Dowd (2021) mentions that TC models include also the eTandem schemes during which “students are generally required to communicate in both languages during their interactions and to act as informal linguistic tutors to their partners, providing feedback on their use of the target language” (p. 2) and “typically involve tasks where partners present aspects of their culture to each other, compare their cultural practices and perspectives; or engage in discussions based on shared texts” (p. 2). O'Dowd (2021) then sets off to explain that exchanges under the telecollaborative model “combine L2 practice with an emphasis on intercultural learning” (p. 2). On the other hand, as stated by O'Dowd (2021), the latter, transnational model, includes TCs where one language is the lingua franca and TC participants “work together to complete a project or joint outcome” (p. 2) through engaging in “discussion and comparison tasks, but also collaborative tasks” (p. 2). O'Dowd (2021) explains further that TCs following the transnational model are “characterized by tasks which focus on global topics and issues and which require students to work together to solve a problem or complete a task together, rather than focusing explicitly on differences in cultural practices or perspective” (p. 3).

Consequently, despite several attempts to classify TC by various scholars, its nature seems to be too open, fluid, and flexible to be unanimously defined. The rather positive characteristic of TC projects, i.e., the ability to design and use them according to own needs, simultaneously seems to be its weakness in terms of classification. With this specific nature of TC in mind, the following chapter presents the review of past syntheses of TC research. However, first, in response to the increasing interest in the transnational model of TC, as underlined by O'Dowd (2021), the subsequent section outlines the foundations of what O'Dowd (2021) calls the transnational model of TC and what this dissertation will further refer to as the lingua franca TC.

2.4 English as a Lingua Franca

As already outlined, in addition to synchronous and asynchronous TCs, there are also tandem and lingua franca TCs. Since English as a Lingua Franca (ELF) is one of the core subjects of this dissertation, it deserves special attention and further exploration. Below I present the key theoretical knowledge about ELF and the relevant findings that have been

amassed to date with the aim of connecting ELF to TC. Given the dynamically changing perspectives on ELF since it was first mentioned, most of the subsequent sections present information chronologically to reflect the historical progress in the understanding of ELF.To begin with, ELF has attracted the attention of researchers primarily due to the number of its users, particularly non-native speakers (NNSs) of English, and its common use worldwide. In one of the earlier studies on ELF, Seidlhofer (2005) highlighted that "English functions as a global lingua franca" (p. 339). More than a decade later, Mauranen (2017) came to the same conclusions and maintains that English continues to be the worlds' lingua franca (p. 7). In a similar vein, Lewandowska (2019) states that English plays a vital role in global communication and "[t]he promotion of English worldwide […] resulted in English becoming the new lingua franca" (p. 28). Seidlhofer (2004), citing Beneke (1991), underlined that "80 percent of verbal exchanges in which English is used as a second or foreign language do not involve any native speakers of English" (p. 209). Similarly, Seidlhofer (2005), citing Crystal (2003), stated that, at the time, most conversations in English were, in fact, held between NNSs of English (p. 339). Hülmbauer et al. (2008) emphasized that "[i]t is an indisputable fact that in the 21st century English has become a global lingua franca with non-native speakers of the language outnumbering its native speakers" (p. 25). Fiedler (2010) emphasized that "English has spread so widely around the world that its native speakers are now outnumbered by its non-native speakers" (p. 201). Likewise, Jenkins et al. (2011) stated in the early 2010s, "the majority of the world's English speakers are NNSs, and […] many of them use English mainly for lingua franca purposes" (p. 308). Similarly, among the more contemporary perspectives, Mauranen (2017) points out that globally there are more English as a foreign language users than native English speakers (p. 7) while Jenkins and Leung (2017) report that ELF "has the largest number of users of English worldwide, of whom the vast majority are nonnative speakers" (p. 1). Additionally, according to Melitz (2018), English is the top language worldwide for NNSs and is the most geographically widespread language of all (p. 3). Melitz (2018) lists several factors that contribute towards the popularity of learning English and using ELF and identifies the large number of English users globally as the key variable (p. 16). Fiedler (2010) attributed the leading position of English worldwide to "its speakers' dominance in military, economic, political and cultural spheres" (p. 201-202). As Fiedler (2010) explained, this projection of power first took place during British colonialism and was later continued with the rise of the hegemony of the USA

(p. 202). Coincidentally, the leading language of both of these countries was and still is English. Fiedler (2010) drew attention to the fact that the dominance of English also has its disadvantages, such as favoritism of thoughts presented by its native users, linguistic inequalities, and the lessening importance of other languages, a state of affairs which is advantageous to English NSs (p. 204). Seidlhofer (2004) underlined that the growth of ELF was caused primarily "by the dramatic expansion of electronic communication through the Internet" (p. 211) and its increased use in a variety of domains for multiple purposes. To understand ELF, it is worth to look at how lingua franca is understood first. Fiedler (2010) perceived the concept of lingua franca as "a language used by people who do not speak the same native language" (p. 202). Likewise, Mauranen (2017) defines lingua franca as a "vehicular language between speakers who do not share a first language" (p. 7). Kohn (2016) identifies the roots of the lingua franca approach in communicative theories, which began to appear in the literature from the 1970s, for instance, the studies of Hymes (1976) or Littlewood (1981) (p. 87). Kohn (2016) attributes the birth of the lingua franca concept to the "advances in pragmatic and psycholinguistic studies on utterance comprehension" (p. 87). Moreover, Kohn (2016) connects the growth of the lingua franca perspective to the rise of task-based learning, "immersion approaches" (p. 87), and Content and Language Integrated Learning (CLIL) (p. 87).

There has been, however, much controversy on what ELF actually is, which is evidenced, for instance, by the argument between Cogo (2012), Dewey (2013), Sewell (2013), and Sowden (2012). Fiedler (2010), citing Elder and Davies (2006), put forward that "it is widely accepted that ELF has not yet been sufficiently described and defined to present a basis for teaching and assessing English" (p. 207). Similarly, several years later, Jenkins and Leung (2017) also state that the concept of ELF is hard to be defined and measured (p. 1, 3, 5).

The first definition of ELF is, most likely, that of Firth (1996) who referred to ELF as "a 'contact language' between persons who share neither a common native tongue nor a common (national) culture, and for whom English is the chosen foreign language of communication" (p. 240). Similarly, House (1999) perceived communication in ELF as "interactions between members of two or more different linguacultures in English, for none of whom English is the mother tongue" (p. 74). Likewise, Seidlhofer (2005), defined ELF can as "communication in English between speakers with different first languages" (p. 339).

Elder and Davies (2006) proposed four definitions of ELF, one of which assumed that it is "[t]he use of English in an interaction where all the participants are NNSs and do not share the same first language" (p. 282). Fiedler (2010) perceived ELF as "a variety in its own right whose norms are established by its users instead of native speakers" (p. 204) while Jenkins et al. (2011) saw ELF as "a multilingual activity involving speakers who have come together from a range of different geographical regions" (p. 285). Jenkins et al. (2011), citing the VOICE website, also defined ELF as "an additionally acquired language system which serves as a common means of communication for speakers of different first languages" (p. 283). Cogo (2012) explained that ELF "is spoken as a contact language by speakers from varying linguacultural backgrounds, where both the community of speakers and the location can be changing" (p. 98). Similarly, Seidlhofer (2013) defined ELF as "any use of English among speakers of different first languages for whom English is the communicative medium of choice, and often the only option" (p. 7). Lastly, Jenkins and Leung (2017) perceive ELF as the use of "English […] as a contact language among speakers of different first languages" (p. 1) and "the use of English in intercultural communication among English users from any part of the world" (p. 2).

The first and, at the same time, the dominant classification of ELF in the literature seems to be that of Kachru (1992). Kachru (1992) argued that ELF can be classified based on the belonging of English users to a particular group of countries (Jenkins & Leung, 2017) (p. 2). Kachru (1992) enumerated three such groups, i.e., the inner, outer, and expanding circles (Jenkins & Leung, 2017) (p. 2). The first of them, i.e., the inner circle, comprises the members of English-speaking countries for whom English is the native language (Jenkins & Leung, 2017) (p. 2). The second, i.e., the outer circle, concerns the populations of the countries historically colonized by the British and where English is commonly used in everyday life nowadays (Jenkins & Leung, 2017) (p. 2). The third circle of Kachru (1992), i.e., the expanding circle, encompasses the populations of the nations where English is studied as a FL and is often used for various purposes, such as communication, with the exception of the countries that already belong to the previously mentioned two circles (Jenkins & Leung, 2017) (p. 2). Kachru (1992) made an important distinction between the members of nations that set the rules guiding English, i.e., the inner circle and, to a lesser extent, the outer circle, and the members of countries who rely on guidelines set by the populations of the inner and outer circles, i.e., the expanding circle (Jenkins & Leung, 2017) (p. 2). Jenkins and Leung (2017) (p.

2) agree with the above classification proposed by Kachru (1992) while Hülmbauer et al. (2008) suggested its reassessment in the context of ELF, particularly since it "ignores the emergent nature of ELF" (p. 28). Notably, Jenkins and Leung (2017) point out that the number of members of the expanding circle, i.e., the NNSs of English, significantly exceeds the populations of the remaining circles (p. 2). Mauranen (2017) offers a different look on ELF, suggesting that there are two main understandings of ELF in which NSs are either considered to be a part of the ELF community or are excluded from it on the grounds that English is their mother tongue (p. 8). According to Mauranen (2017), in any of these cases, however, it is the NNSs of English that form the ELF population (p. 8). Mauranen (2017) also proposes a different categorization of ELF into three domains, i.e., "the macro, the meso and the micro […] based on the scale of a social unit" (p. 8). Mauranen (2017) specifies that the macro domain refers to "the linguistic and the societal" (p. 9) aspects of ELF, the meso category pertains to the "language use in social interaction" (p. 12), while the micro level encompasses "[t]he cognitive and the interactional" (p. 15) dimensions of ELF.

As far as the theoretical foundations of ELF are concerned, Seidlhofer (2005) placed it under the label of World Englishes, parallelly to notions such as English as a global or world language (p. 339). Similarly, Jenkins and Leung (2017) state that the ELF frameworks are largely based on the findings in the area of World Englishes (p. 3). Likewise, according to an earlier study of Jenkins et al. (2011), "ELF is part of the global Englishes paradigm, according to which most speakers of English are non-native speakers" (p. 283). Additionally, Jenkins et al. (2011) highlighted that "ELF is underpinned by theories of language contact and evolution" (p. 284) rather than "theories of L1 interference and fossilization" (p. 284) used in English as a Foreign Language (EFL). Additionally, Fiedler (2010) enumerated several terms that were commonly used as synonyms of ELF, which also are helpful in establishing its roots, i.e., "English as an International Language (EIL), World English, English as a Global Language, World Standard (Spoken) English, Euro-English, Lingua Franca English" (p. 205).

ELF research has evolved substantially over the years.[7] Jenkins et al. (2011) reported that interest in ELF had been rather sparse in the 1980s and the 1990s, however, increased exponentially in the 2000s (p. 282). Similarly, Jenkins et al. (2011) and Jenkins and Leung (2017) noted that ELF research grew significantly in the 2000s. Notably, Jenkins et al. (2011)

[7] Importantly, some of the ideas presented here come from early publications on ELF and our understanding of it has changed since then.

stated that research on ELF around that time was “a relatively recent activity” (p. 281) that “has grown dramatically in a very short time” (p. 308), “continues to gather pace” (p. 309), and was “a phenomenon […] still in the making” (p. 308). Chen et al. (2020) highlight that ELF research grew exponentially from the 2000s onwards, resulting in a vast body of research available now (p. 63). Notably, more than two decades after the first studies on ELF, Chen et al. (2020) report that “ELF research started relatively recently” (p. 63) and “was only discussed occasionally in the last century” (p. 63), thus, underlining the novelty of the ELF field and the related research. Similarly, Cogo (2012) noted that around the early 2010s ELF was “a relatively new and highly dynamic field […] [where] things develop fast” (p. 104). More recently, Mauranen (2017) identifies the existence of two generations of ELF – the first one spanning from approximately 1995 to 2020, and the second one envisioned to last approximately from 2020 to 2025 (p. 20).

Early studies on ELF, such as Seidlhofer (2004), Seidlhofer (2005), Hülmbauer et al. (2008), and Jenkins et al. (2011), agreed that ELF research concentrated mainly on lexicogrammar, phonology, pragmatics, pronunciation, and vocabulary. In particular, Cogo (2012) stated also that early research on ELF had focused on language forms and the related “language practices, motivations, and processes” (p. 99). Cogo (2012) drew attention to the fact that early ELF research had primarily observed “speakers’ ability to change their speech patterns to make themselves more understandable to their interlocutors” (p. 99), “the forms that emerge in ELF interaction in specific communities” (p. 99), and “the pragmatic strategies speakers draw on as they collaboratively engage in communication” (p. 99). Moreover, Fiedler (2010), Jenkins et al. (2011), and Cogo (2012) noted that findings of early ELF research were mostly based on information from various corpora (p. 206). Additionally, Seidlhofer (2004) and Jenkins et al. (2011) inform us that in the first decade of ELF research (2000 – 2010) publications focused mostly on oral ELF interactions while according to Jenkins et al. (2011) and Chen et al. (2020), the second decade of ELF research (2010 – 2020) analyzed primarily written ELF communication.

2.4.1 Characteristics of English as a Lingua Franca

As far as the areas where ELF is used are concerned, Fiedler (2010) emphasized that “[t]he privileged position of the English language is ubiquitous in a large number of domains” (p. 203). In general, Cogo (2012) stated that ELF can be used in settings that are “virtual and transient in nature” (p. 97). Jenkins et al. (2011) identified that ELF research focused on

areas including “business, education […], tourism, politics, technology and the media” (p. 297), however, the field of linguistics was the most prominent. Melitz (2018) identifies multiple specific areas where English is used as a lingua franca, for instance, aviation (p. 3), international business and trade (p. 11-15), maritime industry (p. 3-4), news (p. 4), publishing industry (p. 8-10), science (p. 4), sports (p. 4), television (p. 6-7), and the Internet (p. 7). Moreover, Melitz (2018) highlights that English is the lingua franca of multiple international organizations, such as the United Nations (UN), the European Union (EU), and alike (p. 4). Similarly, Mauranen (2017) identifies commerce, government, tertiary education, tourism, and the media, among others, as the key fields where English is used as a lingua franca (p. 7). In particular, Fiedler (2010), citing Carli and Ammon (2008), underlined that “English has become the dominant language in science and that scholars are forced to use it if they want to be acknowledged in their fields” (p. 203).

Notably, Fiedler (2010) pointed out the existence of various ELFs around the world, for instance, in Asia and Europe, each of which were based on distinct cultural foundations and L1s of their users (p. 210). Similarly, Jenkins et al. (2011) identified two main regions where ELF research was produced, i.e., Europe and Asia (p. 293).

There is a number of variables according to which ELF can be characterized. Chen et al. (2020) regard ELF “as a dynamic, fluid and variable phenomenon“ (p. 63). Similarly, Jenkins and Leung (2017) state that ELF is “often characterized by ad hoc, nonce, and hybrid forms” (p. 2) and is decidedly changeable and flexible. Moreover, Jenkins and Leung (2017) identify variability as the most important characteristic of ELF (p. 3). Likewise, Cogo (2012) put forward that the nature of ELF is particularly “fluid” (p. 99) and “variable” (p. 99). In a similar vein, Hülmbauer et al. (2008) highlighted that ELF is truly dynamic, “constantly emergent, constantly ‘under construction’” (p. 33). Moreover, Hülmbauer et al. (2008) noted that ELF users, the language they use, and the reasons behind its use are continuously altering (p. 33). Lastly, Cogo (2012), citing Seidlhofer (2007), recognized the term “community of practice” (p. 98) as one that accurately reflects the “fluidity, variability, and creativity” (p. 98) of particular sets of ELF speakers.

An interplay of ELF and interculturality and/or multilingualism is frequently reported on in the literature. Concerning the former, Hülmbauer et al. (2008) perceived English as the “most prevalent language for intercultural communication” (p. 26) while Fiedler (2010) put forward that ELF is among “fair and democratic approaches to international communication”

(p. 213). What is more, Baker (2015) stated that "ELF is by definition intercultural in nature since ELF communication is typically defined as involving speakers from different linguacultures" (p. 43). Further, Baker (2018) underlines the existing relationship and many similarities between research on ELF and intercultural interactions (p. 25, 27). In particular, Baker (2018) identifies the "post-structuralist perspective" (p. 25) on communication, "language, identity, community and culture" (p. 33), and the shared research agenda, reflected in topics including "culture and community, identity and intercultural communicative competence/awareness" (p. 25) as the links connecting ELF and cross-cultural research strands. Likewise, Baker (2018) observes that both ELF and intercultural literature analyze "multilingual and multicultural communication in which diversity, complexity and fluidity are the norm" (p. 33). Similarly, Hülmbauer et al. (2008) highlighted that a unique characteristic of ELF is that "it is evolving within a multilingual context" (p. 29) and is affected by different languages "at all linguistic levels (phonological, lexicogrammatical and pragmatic)" (p. 29). Moreover, Hülmbauer et al. (2008) suggested that ELF constitutes one of many aspects of their "multilingual repertoire" (p. 29) and, depending on the circumstances, additional languages are frequently used in communication in conjunction with ELF (p. 29). Further, Hülmbauer et al. (2008) argue that ELF helps to preserve multilingual diversity, which is evidenced by its harmonious parallel use with other FLs (p. 29).

ELF is often associated with its rejection of NSs norms. Towards the end of the previous millennium, Graddol (1997) recognized the imbalance in the impact on language norms between NSs and NNSs and suggested that "those who speak English as a second or foreign language […] will determine its world future" (p. 10). Accordingly, Seidlhofer (2005) justified research on ELF on the grounds that the rules of English use were primarily set by NSs, despite the fact that they constituted the minority of users of this language, and underlined the need to boost the status of ELF in the literature (p. 339-340). In one of the earlier studies on ELF, Seidlhofer (2004) argued that "while the majority of the world's English users are now to be found in countries where it is a foreign language, control over the norms of the language still rests with speakers for whom it is the first language" (p. 209). However, later in the same text, Seidlhofer (2004) came to a different conclusion, i.e., that, at the time, ELF was "being shaped […] at least as much by its nonnative speakers as its native speakers" (p. 211), which was reiterated in the study of Seidlhofer (2005) in a nearly

identical form, i.e., “English is being shaped at least as much by its non-native speakers as by its native speakers” (p. 339). Moreover, Seidlhofer (2004) argued that “ELF has taken on a life of its own, independent to a considerable degree of the norms established by its native users” (p. 212) and noted, citing Melchers and Shaw (2003), that “[n]onstandard, unedited English is becoming more and more visible” (p. 212). Seidlhofer (2004) also emphasized that “virtually all SLA research operates with a native-speaker model and tends to construct nonnative speakers as defective communicators” (p. 213), however, later she suggested that this perspective might change in the future. In line with the first perspective of Seidlhofer (2004) presented above, Hülmbauer et al. (2008) reported that at the time of writing their publication there were many more NNSs of English than NSs and, as a result, this opened the debate on the role of NSs in the process of establishing the language norms (p. 25). Likewise, Hülmbauer et al. (2008) suggested that “ELF users are not dependent on native-speaker norms but are capable of cooperatively developing norms of their own” (p. 28). Hülmbauer et al. (2008) also emphasized that “ELF cannot be regarded bad or deficient English – it is just different in form from native speaker English and serves different functions” (p. 32). Similarly to the above authors, Fiedler (2010) perceived ELF as “a variety in its own right” (p. 201) and stated that in ELF it is the NNSs, rather than the NSs, who set the rules that guide it. Fiedler (2010) explained that in ELF NNSs are free to use English however they want to and are not restricted by the rules set by the NSs (p. 201). Moreover, Fiedler (2010) highlighted that in ELF settings NNSs “can be self-confident members of their community of non-native speakers of English” (p. 207). Also, Fiedler (2010) noted that ELF is “oriented towards intelligibility and communicative efficiency instead of native speaker prestige” (p. 206). Additionally, in a similar tone, Cogo (2012) highlighted that “ELF is about awareness and choice—making students aware of different ways of speaking English, of language variability and change—and about offering choice to them” (p. 104) and noted that using ELF “in certain situations […] may even be more appropriate” (p. 104). Likewise, Kohn (2016), citing Seidlhofer (2013), argues that ELF users do not need to always follow the norms set by NSs in English to effectively interact with others and underlines that departures from the set linguistic norms are, in fact, frequent in everyday communication (p. 89). Also, Kohn (2016), citing Dewey (2012) and Hall et al. (2013), rationalizes the use of ELF over the traditional varieties of English, established by NSs (p. 88-89). In a similar vein, Lewandowska (2019) notes that the global role of English has changed and that English is “no longer a singular

property of it[s] native speakers" (p. 37). Kohn (2020b) argues that "ELF communication tends to be creatively rich and successful despite frequent deviations from SNSE[8] norms" (p. 5) and raises a question of whether it should be expected from FL learners to adhere to NSs norms if ELF users can collaborate effectively without them. Lastly, Kohn (2020b) suggests that ELF is more about "liberating speaker-learners" (p. 11) and establishing "their own 'MY English'" (p. 11) than refusing to follow the norms set by the NSs (p. 11).

2.4.2 Communication in English as a Lingua Franca

Communication in ELF settings constitutes a significant area of interest of ELF research. Notably, Lewandowska (2019) argues that being able to successfully communicate with others is the most important goal of ELF users (p. 33). With regard to ELF settings, Hülmbauer et al. (2008) suggested that ELF "communication process is based on collaboration in which all the interlocutors are continuously and actively involved" (p. 32). Moreover, Hülmbauer et al. (2008) emphasized that "ELF does not […] lack the potential to be effective for all the communicative purposes" (p. 32). Cogo (2012) also underlined that ELF "[r]esearch has found that speakers adapt and blend English innovatively and creatively in order to co-construct meaning and ensure understanding" (p. 99). Kohn (2016) adds that ELF users tend to base their communication on the amassed linguistic input and "creatively exploit and extend the English they were taught" (p. 88), thus, personalizing their linguistic repertoires.

Cogo (2012) underlined that "ELF communication normally occurs in highly variable socio/linguacultural groups or networks, where the people taking part come from numerous linguacultural backgrounds" (p. 98). Further, Cogo (2012) added that "communication in ELF transcends conventional regions and borders" (p. 98). In a similar vein, Hülmbauer et al. (2008) suggested that ELF is "a flexible communicative means interacting with other languages and integrated into a larger framework of multilingualism" (p. 25), particularly in the European context. Additionally, Fiedler (2010) argued that "ELF is directed towards balanced communication and cultural diversity and, therefore, is a step towards communicative fairness" (p. 213). Lastly, Cogo (2012) noted that the distinct cultural and linguistic backgrounds of ELF users constitute their advantage, which allows them to successfully communicate and understand each other (p. 103).

[8] Standard native speaker English.

Lewandowska (2019) underlines the significance of communicative strategies (CSs) in ELF contexts, emphasizing that they allow speakers to understand each other effectively (p. 27). Lewandowska (2019) notes that ELF users use various CSs when communicating in ELF, such as "avoidance, compensation, and stalling without easily observable differences" (p. 27), and, as a result, can overcome miscommunications they encounter effortlessly. Here, Lewandowska (2019) argues that choosing appropriate CSs is crucial in teaching ELF and students' linguistic development (p. 27). Moreover, Lewandowska (2019) reports that repetition and paraphrasing are frequently observed in ELF communication (p. 34). Lewandowska (2019) suggests that this is because these two strategies allow speakers to handle miscommunications that occur in ELF discourse (p. 34). What is more, Lewandowska (2019) notes that ELF speakers frequently use multiple CSs in their interactions and, as a result, recommends exposing FL learners to several CSs, aiming to allow students to find the CSs that suit them best (p. 27). Lewandowska (2019) argues that FL learners should be informed about their existence and ways to implement such strategies, and encouraged to use them in their own ELF communication (p. 27). In a similar vein, Kohn (2016) highlights that multiple CSs, for example, "paraphrasing, […], co-construction, negotiation of meaning, or resolving misunderstandings" (p. 88), have to be implemented by FL learners, or ELF users, to effectively interact with others.

Moreover, Hülmbauer et al. (2008) suggested that in ELF "innovative linguistic forms, L1 influence or code-switching are no longer regarded negatively as errors or deficiencies but positively as differences which emerge as motivated by communicative requirement" (p. 29-30). Likewise, Lewandowska (2019) points out that "code-switching, […] coining new words and foreignising mother-tongue words" (p. 34) are frequently observed phenomena in ELF communication. Lewandowska (2019) notes that all of them play a much greater role in ELF than in EFL contexts and argues that using "bilingual or even plurilingual resources is something desired in the lingua franca context, contrary of [*sic*] employing such techniques in using English as a foreign language, which is considered a mistake" (p. 34).

Lewandowska (2019) emphasizes that familiarizing ELF users with avoidance strategies is not advisable since they cannot benefit ELF communication in any way (p. 33). In addition, Lewandowska (2019), reports that breaks in ELF communication are quite frequent and allow speakers to, for instance, contemplate about their next move in the conversation, to gain time to consider a potential solution to the encountered problem, or to deliberate on

the subsequent utterance (p. 34). As far as earlier ELF studies are concerned, Cogo (2012) also suggested that ELF users "do not avoid idiomatic language, instead they use expressions they are more familiar with or create idiomatic expressions that are more appropriate and understandable in their contexts" (p. 99). What is more, Seidlhofer (2004) identified proficiency in the target language (TL) as one of the crucial factors that warrant the success of ELF communication (p. 222). Additionally, Lewandowska (2019), citing Pitzl (2005), reports that "ELF users tend to present a high level of cooperation aimed at sustaining meaningful communication" (p. 33).

Overall, however, Jenkins and Leung (2017) emphasize that ELF communication is "highly successful" (p. 3), in spite of numerous issues that can occur when using it.

2.4.3 Teaching English as a Lingua Franca

In response to the call of Seidlhofer (2005) to investigate the "implications for the teaching and learning of the language" (p. 340) of ELF, this section contains the findings related to teaching ELF that the literature offers.

To begin with, Fiedler (2010) enumerated several obstacles to implementing ELF, for instance, "traditions in foreign language learning and teaching, the heterogeneity of lingua franca communication and psychological reservations" (p. 201). On another note, Kohn (2016) argues that the lingua franca approach should be perceived on equal terms with the traditional FL teaching approach, which relies on norms provided by the NSs, rather than as a contradictory or opposing view (p. 89). Moreover, Kohn (2016) states that the coexistence of lingua franca and traditional approaches to FL teaching is backed by socio-constructivist theories (p. 90).

Seidlhofer (2004) stated that any conclusions pertaining to English teaching were unknown at the time (p. 224). Nevertheless, Seidlhofer (2004) assumed that teaching ELF might differ to some extent from using and teaching English as a native language, for instance, necessitating the reevaluation of curricula as well as teaching and assessment methods (p. 225-228). Similarly, Hülmbauer et al. (2008) suggested that the outcomes of ELF research demand the reexamination of FL teaching and the departure from language standards set by the NSs (p. 32). In a similar vein, Cogo (2012) highlighted that "internationalization of English has inevitable consequences not only for the way it is used but also the way it is conceptualized, and implications for the way it is taught" (p. 97). Fiedler (2010) is not as radical as Hülmbauer et al. (2008) and Cogo (2012) but does point out that

"some of the results of ELF research should be reflected in foreign language teaching" (p. 214), particularly because "[l]earners have to be prepared for […] real-world needs" (p. 214), such as communication with other NNSs. In a similar manner, Jenkins et al. (2011), citing Widdowson (2004), noted, from a positive viewpoint, that ELF research, published at the time, provided novel and often contradictory perspectives on FL teaching, especially in terms of "language syllabus, teaching materials, approaches and methods, language assessment and ultimately the knowledge base of language teachers" (p. 305). Moreover, Jenkins et al. (2011) argued that teaching English as a FL needs to include "the possibility of incorporating a multi-norm, multi-method approach, one in which linguistic diversity is acknowledged and better understood" (p. 306), which can be realized through ELF. Notably, based on the results of several studies, Jenkins et al. (2011) suggested that the ELF approach to FL teaching and learning is particularly suitable for young learners (p. 307). Further, Jenkins et al. (2011), citing the results of the LINEE project, stated that young FL students tend to "identify with their own use of English rather than with a standard NS variety" (p. 307). Jenkins et al. (2011) explained such a state of affairs by learners' perception that their private variety of English, i.e., ELF, is "likely to enhance rather than deny their future success in a globalized world" (p. 307).

As far as more recent studies are concerned, Lewandowska (2019) offers a more cautionary view on ELF when she points out that it is "hardly teachable" (p. 35) due to its character and dependence on the qualities of its users, who change depending on the context. Nevertheless, Lewandowska (2019) encourages exposing FL learners to ELF contexts to familiarize them with the particular rules governing ELF communication (p. 35). Moreover, Lewandowska (2019) expresses the need to adjust FL teaching and learning to the findings of ELF research through a gradual change towards an ELF-centered approach (p. 36). With respect to the global position and importance of English, Lewandowska (2019) states that "[i]f we want to prepare our students for a bright future, they must be able to communicate effectively in the lingua franca context, where communicative conventions differ from those established by the native users of English" (p. 37).

Another important area of ELF research, in terms of teaching ELF, is the role of NNSs in ELF settings. Jenkins et al. (2011) emphasized that in ELF, NNSs "are no longer learners of English, they are not the 'failed native speakers' of EFL, but – more often – highly skilled communicators who make use of their multilingual resources in ways not available to

monolingual [native speakers]" (p. 284). Similarly, Hülmbauer et al. (2008) suggested that the multilingual and multicultural background of NNSs of English constitutes their advantage which they can use to communicate effectively with other NNSs (p. 29-30). What is more, Jenkins et al. (2011) perceived "non-native Englishes as different rather than deficient" (p. 283). Additionally, Jenkins et al. (2011) underlined that in ELF communication NNSs might "code-switch in order to promote solidarity and/or project their own cultural identity" (p. 284) and "accommodate to their interlocutors from a wide range of first language backgrounds in ways that result in an 'error' in native English" (p. 284).

Apart from focusing on the best ways to teach ELF to FL students, at times ELF research also addresses the matter of adequately educating FL instructors so that they can efficiently teach about ELF and introduce it in their FL teaching (Jenkins et al., 2011) (p. 304-307). Nearly 20 years ago, Seidlhofer (2004) noted that the findings of ELF research will impact FL teacher education, for example, by reducing the prestige of NS teachers in relation to NNS educators (p. 227, 229). Kohn (2016), citing Dewey (2012), Sifakis (2014), and Bayyurt and Sifakis (2015), also argues that it is important to make the FL teachers aware of the benefits of the lingua franca approach to FL teaching and, consequently, attempt to shift their teaching methods so that they will respond to the findings of the ELF research (p. 88-89). Nevertheless, Kohn (2016) underlines that such changes are usually difficult, mainly due to the prevailing preference of FL educators for teaching the native varieties of English over the lingua franca English (p. 89).

In one of the earlier ELF studies, Elder and Davies (2006) pointed also to a number of potential problems related to assessment of ELF, for instance, designing appropriate tests (Fiedler, 2010) (p. 207). Similarly, Jenkins and Leung (2017) stress that contemporary language tests do not take into account the distinct characteristics of ELF and tend to determine what is correct and what is not on the basis of language norms established solely by the NSs (p. 5). Consequently, Jenkins and Leung (2017) put forward that "[t]he findings of empirical ELF research have thus had no influence to date on the goals of English language assessment" (p. 5). Lastly, Jenkins and Leung (2017) add that there are no means of assessing ELF and that the related "discussion is primarily conceptual" (p. 1).

2.4.4 Benefits of English as a Lingua Franca for Foreign Language Learners

The literature shows the manifold benefits of the ELF approach. In early ELF research, Hülmbauer et al. (2008) underlined that ELF can facilitate the growth of intercultural

mindfulness, particularly with regard to cross-national communication, "linguistic accommodation" (p. 33), and NoM[9], thus, contributing towards students' capabilities to understand each other and communicate successfully in multinational environments. What is more, Hülmbauer et al. (2008) stated that the above developments can occur if FL learners are equipped with respect for cultural differences, "interpersonal sensitivity" (p. 33), and "cognitive flexibility" (p. 33), among others. Hülmbauer et al. (2008) put forward that the latter two concepts can be enhanced among FL learners through "cooperation, […] the ability to signal non-understanding in a face-saving way, […] and open-mindedness towards innovative linguistic forms" (p. 33). Additionally, Hülmbauer et al. (2008) noted that ELF literature should focus on reporting interdependencies, such as the ones presented above, and especially those pertaining to FL learning (p. 33). Similarly, in the first year of the 2010s, Fiedler (2010) stated that "ELF might be an alternative and a solution to current problems of international linguistic communication" (p. 209). In more recent studies, Lewandowska (2019), citing Dimoski et al. (2016), suggests that exposing FL students to ELF contexts can enhance their abilities to autonomously solve the misunderstandings encountered during interactions with their partners (p. 35). Lewandowska (2019) attributes such results particularly to "the effective use of communicative strategies, [which] can indeed increase the ability to sustain meaningful communication" (p. 35). Similarly, Kohn (2020b) argues that an ELF environment can facilitate learners' FL learning and, in particular, increase their autonomy and control over their learning process and communication with others (p. 8).

2.4.5 English as a Lingua Franca and Telecollaboration

Jenkins and Leung (2017) underline that ELF is primarily used in online communication among users of various L1s (p. 2). Similarly, Kohn (2016) emphasizes that providing FL learners with significant volume of real ELF input and numerous opportunities for intercultural conversations in English is crucial in FL learning from ELF and socio-constructivist perspectives and argues that this can be achieved through engaging FL students in TC projects (p. 91). Likewise, Kohn (2020a) highlights that ELFTC environments allow FL learners to engage in meaningful interactions in the TL, which fulfills the ideas of socio-constructivists (p. 55). Moreover, Kohn (2020a) underlines that the authentic nature of ELFTC projects in crucial from the pedagogical perspective of this approach to FL learning (p.

[9] Negotiation of meaning.

58). Further, Kohn (2020b) draws attention to the fact that ELF has a "pedagogical potential for enhancing the emancipatory quality of foreign language learning" (p. 2), which can be achieved through TC. Additionally, Kohn (2020a) states that ELFTC projects combine characteristics of blended learning and flipped classroom and perceives them as valid substitutes of international school trips (p. 59). Lastly, Kohn (2016) argues that ELFTCs have "the potential for an innovative revitalisation of the decades-old communicative language teaching approach" (p. 92).

2.4.6 Pedagogical Lingua Franca Approach

Kohn (2020b) takes the notion of ELF even further and proposes, as its extension, an idea of a pedagogical lingua franca (PLF) approach in which "speaker-learners of different linguacultural backgrounds […] meet and use their common target language as a pedagogical lingua franca" (p. 7). Kohn's idea of PLF can be perceived as a response to the call of Fiedler (2010), citing Seidlhofer (2004), who theorized that "a pedagogical approach that is based on ELF norms will better prepare learners for communication with other non-native speakers, as it allows them to express their individual identities through English" (p. 206). Kohn (2020b) explains that pedagogical English as a lingua franca (PELF) aims to transform FL learning by implementing new solutions to it on the basis of the findings of ELF research and states that the PLF approach, which is "based on a social constructivist understanding of learning English" (p. 7), "provides for a much-needed pedagogical reconciliation between ELF and ELT[10]" (p. 7).

Kohn (2020b) underlines that the PELF approach "requires rich and diverse opportunities for authentic communication, which are hard to come by in face-to-face foreign language teaching" (p. 7). As a result, Kohn (2020b) suggests that PELF can be successfully implemented in online environments and, in particular, through TC projects (p. 7). Further, Kohn (2020b) emphasizes that "the PLF approach forms part of a 21st-century revision of communicative language teaching (CLT) and contributes to enhancing successful international communication" (p. 8). Among the demands that the 21st century puts on FL students and which validate the implementation of PELF projects such as TCs, Kohn (2020b) enumerates the "need to learn and practice to communicate and interact more autonomously, more extensively, and more interculturally than in classroom contexts" (p. 8).

[10] English language teaching.

Here, Kohn (2020b) also highlights the crucial role of FL teachers in facilitating such projects and students' growth and points to the important role of assessment in PELF TC projects, stating that it should allow learners to "raise their learning awareness, reflect on their task understanding and requirements of success, and identify their strengths and weaknesses" (p. 11). Additionally, Kohn (2020b) underlines that the PLF approach is suitable not only for teaching English but also for other TLs (p. 8).

Chapter Three: Review of Past Syntheses of Telecollaboration Research

3.1 Introduction

Given that this dissertation is a research synthesis, this section focuses on the findings stemming from past syntheses published in the field of TC in general and related domains.

The publications assessed in this section were primarily identified through a database search. However, contrary to what might be assumed, not all review publications contain keywords, such as review, meta-analysis, synthesis, etc., in their titles, abstracts, or keywords, thus, requiring another approach. As a result, I carried out a detailed reading of the full texts of the publications collected from the database search in search for potential other applicable reviews. Additionally, I examined the references of the collected studies. This process was repeated several times until no new syntheses were found. Consequently, through the database search and careful examination of full texts of the studies, along with their references, an exhaustive list of 23 publications that have a review character and are related to TC was gathered. Due to the scope of the search and meticulous review of full texts, the chance that any relevant study was not found is estimated as low.

This review of past syntheses of TC research was guided by a comprehensive inclusion approach, which aims to collect and synthesize as many findings from the relevant subject literature as possible. It differs from the traditional literature review in the sense that the selection of publications aims at providing a comprehensive overview rather than choosing a selected set of primary studies.

The decision to construct the literature review in this way was also due to the fact that one of the goals of this dissertation is to link the findings stemming from the newest publications to the already existing secondary research on the topic. This is achieved towards the end of this dissertation through the juxtaposition of the findings of this study with the relevant results of past syntheses. Such a procedure is aimed at determining whether and in what way certain trends, tendencies, and phenomena evolved in the literature on TC over the years. Consequently, this dissertation not only adds the synthesis of the most recent publications to the already existing body of secondary research in the field of TC and links all the present and past findings together but also provides an overview of the syntheses related to TC published to date. I put forward that all this contributes positively and significantly to the enhancement of a coherent and continuous body of

secondary research devoted to TC literature amassed over the years, as well as the understanding of TC. Moreover, the comparison of the newest and past findings in the TC literature allows us to draw further conclusions with regard to potential future research strands. This is because the findings presented later in this dissertation provide an update to the previously outlined research directions, enabling us to determine which of them have already been studied in-depth and, therefore, do not have to be investigated further, and which deserve further attention, for instance, due to existence of contradictory or limited findings. What is more, it seems logical to compare the current synthesis to the past syntheses to avoid the potential accusations pertaining to the "apples and oranges" comparisons, which are quite common in the TC literature and which could have been raised if the findings of a synthesis were compared to the results stemming directly from primary sources. Consequently, it is evident that research syntheses, such as this one, should juxtapose their findings with other forms of secondary research since in their particular case this is the most appropriate level of reference and comparison.

Given the specific nature of findings stemming from secondary research, this overview reports only the relevant, and not all, findings stemming from the reviewed syntheses for the purpose of comparing them with the results of this dissertation later on. This is also due to the fact that each synthesis has its own limitations which, in turn, impact on the generalizability of the findings. Here, only the results which deemed generalizable are outlined. Nevertheless, the findings reported in this chapter constitute the vast majority of the content of past review publications.

Additionally, the in-depth analysis of the findings of 23 syntheses that constitute the corpus of this synthesis of past TC research can, in fact, be equated to the review of about 1000 individual studies, which is the sum of all the studies included in the reviewed syntheses. This validates the implemented approach, making it much more comprehensive, inclusive, and objective, in comparison to the traditional approaches to literature reviews. Moreover, the strategy adopted here allows us to compare and aggregate the already summarized findings, which is otherwise impossible to do on a large scale if one only looks at primary studies. Further, the juxtaposition of the already reviewed findings is much more trustworthy than the comparison of results of primary studies due to the fact that the consolidated results are a product of the findings of multiple primary studies and not just one publication. Consequently, the conclusions resulting from a review of past syntheses

have a much more reliable and informative character than findings stemming directly from the primary studies.

In what follows, I will detail the issues addressed by the different syntheses and highlight the number of syntheses that focus on each issue.

3.2 Overall Characteristics of the Literature on Research Into Telecollaboration

Lewis and O'Dowd (2016) observe continuous growth of studies devoted to TC between 1990 and 2015. Similarly, Barbosa and Ferreira-Lopes (2021) note an "increasingly continuous growth of the number of published articles" (p. 8) on TC in the 2008 – 2020 timeframe. Likewise, Dovrat (2022) states that research on TC "has grown exponentially in the past five to ten years" (p. 194), pointing to the 2012/2017 – 2022 timeframe. In particular, Barbosa and Ferreira-Lopes (2021) identify the top five journals in the field of TC as Language Learning & Technology (LL&T), Computer Assisted Language Learning (CALL), System, ReCALL, and Computer-Assisted Language Instruction Consortium (CALICO) Journal. Finally, Dovrat (2022) puts forward that the increasing number of TC studies with solid theoretical frameworks is a sign that the TC field is maturing, similarly to what Alvarez and Steiner (2019) and Akiyama and Cunningham (2018) conclude.

Barbosa and Ferreira-Lopes (2021) state that past secondary research in TC, here understood as the studies of Avgousti (2018), Çiftçi (2016), Çiftçi and Savaş (2018), Lewis and O'Dowd (2016), Piri and Riahi (2018), and Shadiev and Sintawati (2020), focuses mostly on reviewing the studies from particular journals and often considers a small total number of publications. Dovrat (2022) notes that research in the field of TC generally reflects the research directions in the field of education, particularly with respect to the design of TC projects and activities, which, according to Dovrat (2022), highlights its educational roots. Moreover, Dovrat (2022) concludes that past reviews in the field of TC concentrate primarily on the results of TC projects. Further, Zak (2021) reports that contemporary research on TC mostly informs about the potential affordances and pitfalls of TC projects.

Dovrat (2022) reports that close to half of the articles reviewed (47.6%) clearly involve some sort of theoretical background; a third (33.3%) of the studies do so to a certain extent, while 19% of the publications do not feature any theoretical background. Notably, Dovrat (2022) concludes that individual studies are frequently based on more than one theoretical background and there is a big variety among them. Dovrat (2022) perceives this diversity positively and as an opportunity for theoretical discussion with perspectives coming

from different fields. Dovrat (2022) suggests that this can lead to the formulation of novel theories and the expansion of TC to other, new fields. Dovrat (2022) highlights also the negative repercussions of such a state of affairs, i.e., the "lack of explicit theoretical use" (p. 205). Dovrat (2022) concludes that most of the studies analyzed use the existing theoretical backgrounds in the field of TC for study design and research purposes and do not contribute towards enhancing the theoretical knowledge of TC. Additionally, in response to the criticism that research on TC frequently lacks proper theoretical grounding, Dovrat (2022) argues that although such statements were true in the past, current research on TC is generally thoroughly linked to theory while the studies themselves are implemented in line with the theoretical guidelines. In a similar tone, Shadiev and Yu (2022) report that TC studies use various theoretical backgrounds. The two most common ones are connected to social learning (55%), further embodied in sociocultural theory (23%) and social constructivism (19%), as well as cultural learning (47%), represented primarily by the Intercultural Communicative Competence (ICC) model (34%) (Shadiev & Yu, 2022). Nevertheless, Shadiev and Yu (2022) could not establish the theoretical frameworks of 34% of the reviewed publications and encourage researchers to include such important information in their reports. Shadiev and Yu (2022) explain such results due to the existing link between the theories listed above as well as cultural and language learning.

Dovrat (2022) states that the mixed-methods approach is the most common research methodology among the studies on TC but also points to a considerable diversity among the publications under review with regard to this aspect, with many studies not using any specific method. Dovrat (2022) also highlights that "[o]nly a small number specifically reported using case study [*sic*], ethnographic, or quasi-experimental methodologies" (p. 203). In a similar vein, Shadiev and Yu (2022) report that the majority (62%) of the reviewed TC projects are analyzed by means of mixed methods, among which qualitative research is the dominant one. Correspondingly to the above syntheses, Shadiev et al. (2021) report that mixed methods are the most commonly implemented approach to data collection and analysis (56%), followed by purely qualitative (40%), and purely quantitative methods (4%). However, in contrast to the above reviews, Shadiev et al. (2021) suggest a slightly different calculation and interpretation of the partial results obtained. Shadiev et al. (2021) argue that if the scores of the mixed-methods approach are evenly distributed between qualitative and quantitative approaches, then qualitative methodology accounts for as much as 68% of all

the reviewed studies. Thus, Shadiev et al. (2021) suggest that TC research is, in fact, mostly qualitative. Additionally, Shadiev et al. (2021) attribute the frequency of implementation of mixed-methods studies to researchers' willingness to "make their conclusions more powerful" (p. 19). Like the above syntheses, Avgousti (2018) states that most of the research on TC uses either mixed (46%) or qualitative (38%) methods, which, according to Avgousti (2018), is understandable given the nature of TC projects. Additionally, Avgousti (2018) informs us that such findings are in line with the study of Macaro et al. (2012) but contrary to the conclusions of Wang and Vásquez (2012). Similarly, Wu (2022) states that TC research can be characterized as mixed-methods (34%), case studies (29%), and qualitative (27%). Lastly, Zak (2021) concludes that the majority of the current research on TC has a qualitative nature and consists mainly of case studies. Zak (2021) states that such publications frequently provide the results of particular TC projects and include a number of recommendations concerning what should and should not be done in TC exchanges, i.e., outlining the best practices and cautioning researchers about potential jeopardies. Accordingly, Zak (2021) calls on TC researchers to address this "lack of methodological diversity" (p. 76) and conduct more "quantitative and mixed methods [investigations] as well as [implementing] other types of qualitative methods such as grounded theory, ethnography, phenomenology, and the like" (p. 76).

Barbosa and Ferreira-Lopes (2021) identify the top three research streams in the field of TC, namely: "language development, intercultural communication and teacher education" (p. 13). Similarly, Shadiev et al. (2021) state that culture, FL learning, and pre-service teacher education are the most common goals of TCs and, therefore, are the most commonly researched and reported on. Likewise, Dovrat (2022) lists three core areas where TC can play a significant role in the development, i.e., culture, language, and digital skills. Lewis and O'Dowd (2016) put forward that FLL constitutes the most common reason for the organization of TC projects and constitutes the most frequent subject while Çiftçi and Savaş (2018) state that ICC is a common focus of investigation across the studies devoted to TC. Alvarez and Steiner (2019) conclude that TCs can be organized in multiple different branches of education, on a variety of topics, and with countless different aims. Lastly, Dovrat (2022) states that research on TC focuses mainly "on the challenges of implementation, the benefits for students, and best design practices" (p. 194).

With regard to the development of FL skills in particular, Lin (2015) concludes that most TC research concentrates on the affordances of writing (49%) and speaking (39%). Lin (2015) identifies the root of such findings in the frequency and type of the most commonly used TC tools[11], which, due to their nature, are better suited to develop students' writing and speaking skills rather than their listening or reading skills. Correspondingly, Yu (2022) reports that studies focusing on the affordances of synchronous computer-mediated communication (SCMC) often analyze the growth of students' listening and speaking skills. In the study of Yu (2022), as much as 80% of the articles concerns the development of oral skills, and, as Yu (2022) suggests, this is in line with the overall trend. Lewis and O'Dowd (2016) offer even more in-depth findings, suggesting that the three main research trends among the reviewed studies are NoM, peer feedback, and pragmatic competence development.

Çiftçi and Savaş (2018) suggest that TCs can constitute good training grounds for future FL teachers where they can practice their teaching skills. Similarly, Shadiev et al. (2021) highlight that TCs can successfully be used for training future FL teachers. In particular, Shadiev et al. (2021) point to the benefit of equipping future educators with skills that are imperative in their jobs nowadays, such as information technology (IT) skills. Shadiev et al. (2021) underline also that TCs allows pre-service teachers to turn theory into practice through jointly designing learning activities with their partners as well as providing them with an opportunity to rehearse their classes and teaching duties. Shadiev et al. (2021) suggest that collaboration of student teachers from different countries might positively contribute towards boosting the readiness of the teachers to educate increasingly multicultural and multilingual FL classes and learners. Moreover, Shadiev et al. (2021) highlight that cooperation of pre-service teachers is likely to help them understand the limitations of different education systems around the world, which, in turn, can help them to efficiently plan their future TCs. Lastly, Çiftçi and Savaş (2018), citing several of the reviewed articles, advocate the addition of TC to traditional FL and teacher training curricula. The above findings also resonate with the study of Wu (2021), according to which TCs can be successfully implemented in FL teacher education, offering pre-service teachers "technology-enhanced learning, online interactions and collaboration, and intercultural learning" (p. 17).

[11] The term "TC tools" comprises Web 1.0, Web 2.0, and Web 3.0 tools.

Wu (2022) concludes that the main aims of implementing TCs in teacher education are to boost teachers' cultural (30%) and digital skills (25%), as well as showing them how TC can be implemented in their own teaching practice (29%). Importantly, Wu (2022) highlights that two or more of these goals can be realized concurrently in TCs, which is the case in 7% of the reviewed studies. Wu (2022) underlines the growing use of TC in teacher training, which is based on various pedagogies and is characterized by a strong emphasis on mentoring and argues that TC "is increasingly used for promoting the professional development of language teachers" (p. 281).

3.3 Overall Characteristics of Telecollaboration Projects

Akiyama and Cunningham (2018) conclude that the average duration of synchronous TC projects is about 10 weeks while there are no TC projects lasting longer than one semester. Similarly, Lin et al. (2013) report that 42% of the reviewed synchronous text-based TC projects lasted longer than 10 weeks, 21% took between one and 10 weeks, while 16% of the exchanges were shorter than one week. Likewise, Yu (2022) reports that the duration of the reviewed TC projects varies between 10 days and 12 weeks, with most of them lasting between 10 and 12 weeks. Çiftçi (2016) states that TC projects typically have a duration of one semester, i.e., around 13 weeks. Wu (2022) reports that the duration of TC projects in teacher education can range from a week to a year, yet mostly last between six and 10 weeks (36%) as well as 11 and 15 weeks (27%). In total, according to Wu (2022), TCs lasting between six and 15 weeks account for 63% of all the exchanges, with other, both shorter and longer project durations, accounting for less than 15% of the total. Shadiev and Yu (2022) note that most of the reviewed studies last between eight and 16 weeks (40%), followed by exchanges ranging between four and eight weeks (30%), and TCs lasting less than four weeks (19%). According to Shadiev and Yu (2022), only 11% of the TCs take more than 16 weeks. Consequently, Shadiev and Yu (2022) conclude that the majority of studies range between four and 18 weeks. Comparably, Lin (2015) reports that most of the TC projects last between 10 and 24 weeks (56%), followed by exchanges lasting less than 10 weeks (39%), and longer than 24 weeks (3.4%).

Based on the findings of the reviewed studies, Lin (2015) suggests that the most common duration of TCs is up to 24 weeks, or, more precisely, "between three and six months" (p. 94). Moreover, following an in-depth analysis, Lin (2015) concludes that TCs lasting less than 10 weeks are the most beneficial of all. However, Lin (2015) also provides

several reasons why such a finding might not necessarily be true. Correspondingly, Lin et al. (2013) conclude that synchronous text-based TCs lasting between one and 10 weeks have a medium positive effect on the effectiveness of FLL while exchanges lasting longer than 10 weeks have a small effect on FLL. According to Lin et al. (2013), no such effect can be attributed to TC projects lasting less than one week. Subsequently, Lin et al. (2013) conclude that one week of synchronous text-based exchange is the bare minimum for any effect on FL to take place. Notably, Çiftçi (2016) reports that authors of several of the reviewed studies admit that the duration of their TC exchange was short or too short, mainly due to a number of accompanying limitations. Similarly, Shadiev and Sintawati (2020) note that several of the reviewed publications list the short duration of TC projects as their shortcoming that had an impact on the quality of learning. Wu (2022), citing Fuchs (2016), offers the same conclusions, reporting that the duration of the TC projects often proved to be too short, not allowing their student to fully benefit from the exchanges. Wu (2022) suggests that TCs lasting for less than five weeks are perhaps too short "for essential learning activities" (p. 297) while Çiftçi (2016) suggests that the short duration of TC projects might demotivate students from taking part in such exchanges. Also, Shadiev and Yu (2022) advise against organizing short TCs due to the need to counteract, for instance, the novelty effect. Moreover, Shadiev and Yu (2022), citing Chwo et al. (2018), argue that longer TCs "make observing changes more accurate and provide unique insight that might not be possible any other way" (p. 24). Shadiev and Yu (2022) note that organizing longer TC exchanges is typically more demanding and the participants of such undertakings are more likely to abandon them at some point in time, if compared to short TCs. Nevertheless, Shadiev and Yu (2022) encourage TC practitioners to extend the duration of their exchanges while Çiftçi (2016) argues that longer TCs should become the norm for the benefit of the findings stemming from TC studies. Also, Ziegler (2016) underlines the need for more longitudinal studies related to TC contexts.

With regard to language configurations in TCs, Akiyama and Cunningham (2018) report the significant dominance of bilingual, or tandem, TC projects (63%), followed by monolingual TCs (25%), with a sparse presence of lingua franca exchanges (9%) and no reports on multilingual projects. According to Akiyama and Cunningham (2018), tandem TCs were and still are the most frequent type of TC exchanges while research on synchronous lingua franca and multilingual TC projects is simply nonexistent. What is more, Akiyama and

Cunningham (2018) highlight that the number of mixed-purpose TCs is gradually increasing while TCs aiming at forming bonds among students are less and less common. Similarly, Lewis and O'Dowd (2016) report that tandem TCs between two international partners are the most common TC settings and represent about 83% of the studies in their sample. Far behind them are lingua franca (11%) and multiparty exchanges (less than 1%). Comparably, Avgousti (2018) states that more than 60% of the exchanges are bilingual while around 20% are lingua franca projects. Notably, Avgousti (2018) states that English is the only language used in lingua franca exchanges. Lastly, Dovrat (2022), citing Lewis and O'Dowd (2016), highlights the contemporary growth of lingua franca TCs and reports on them in the literature.

Avgousti (2018) concludes that asynchronous communication is the most common in TCs (41%), closely followed by the use of both synchronous and asynchronous modes (37%). According to Avgousti (2018), only synchronous communication is characteristic of about 20% of the reviewed studies. Avgousti (2018) suggests that the infrequent implementation of synchronous tasks in TCs is likely due to time differences between the locations of TC participants. Wu (2022) has almost identical result and reports that the most popular TC mode is purely asynchronous (45%), followed by blended asynchronous and synchronous (39%), and purely synchronous (11%). Similarly, Lewis and O'Dowd (2016) conclude that between the 1990s and 2016 TCs were mostly asynchronous and text-based. Lewis and O'Dowd (2016) state that although the exact motives behind such results remain unknown, a number of pedagogical factors, which are outlined later in this chapter, can serve as potential explanations. Likewise, Çiftçi and Savaş (2018) identify the asynchronous TC mode as the leading type. On the other hand, Lin (2014) reports that synchronous (47%) and asynchronous (39%) TC modes are used to a similar extent. Lin (2014) highlights also that both of these modes are not frequently used concurrently (14%). Shadiev et al. (2021) highlight that early in the history of TC, the use of asynchronous TC mode was the norm. However, as Shadiev et al. (2021) report, with the advancements in technology and increased access to the Internet over time, synchronous TC mode was gradually added to the TC repertoire. Consequently, as Shadiev et al. (2021) note, we can now observe the frequent concurrent implementation of both TC modes. Shadiev et al. (2021) conclude that both asynchronous and synchronous TC modes have their own advantages and, as a result, recommend their concurrent use in TC projects. Similarly, Zhang and Zhou (2022) suggest

that asynchronous and synchronous collaboration can be successfully implemented jointly in TC projects.

Additionally, the literature offers various findings with respect to the impact of the TC mode. Avgousti (2018) concludes that TC mode has a significant impact on students' ICC growth while Zhang and Zhou (2022) underline that each of the TC modes (asynchronous or synchronous) can successfully lead students to cultural development. On the contrary, Lin (2014) argues that the TC mode does not impact FL acquisition. Interestingly enough, Lin (2014) reports that the spoken mode is nearly always practiced synchronously while written expression is commonly developed through both asynchronous and synchronous activities, thus, highlighting that particular language skills have their dedicated communication and practice channels, which are reflected in TC modes.

As far as asynchronous telecollaboration is concerned, Avgousti (2018), citing various reviewed studies, concludes that students value various freedoms associated with the work with this TC mode and the related tools. Avgousti (2018) reports that asynchronous TCs allow participants to get involved in the project whenever they find time to do so, giving them much more time to construct an utterance than in synchronous TCs. Moreover, Avgousti (2018) adds that asynchronous TCs are not as linguistically demanding as synchronous TCs. Similarly, Shadiev et al. (2021) report that working asynchronously gives TC participants more time to react, process, and respond to the conversations, as well as providing them with more freedom regarding when to engage in the project. What is more, Shadiev et al. (2021) point out that asynchronous TC mode is frequently used at the onset of the TC exchange, suggesting that it adds to the efficiency of the collaboration. Further, Shadiev et al. (2021) conclude that asynchronous work diminishes students' anxiety, which is usually taken into consideration at the beginning of the project, and makes it easier for the learners to open themselves up to their TC partners, which is often difficult during synchronous conversations. Avgousti (2018), citing Angelova and Zhao (2016), argues also that asynchronous collaboration is good for learning and practicing grammar. Lastly, Lewis and O'Dowd (2016) state that asynchronous tasks are good for reflecting on TC interactions.

With regard to synchronous telecollaboration, according to Avgousti (2018), citing multiple sources, TC participants value the immediate responses of and (near) real-time collaboration with their TC partners which is possible in synchronous TCs. In particular, Avgousti (2018) highlights that the nature of synchronous TCs allows their participants to

quickly respond to various cultural misunderstandings that occur quite frequently in TC environments, thus, making them more suitable for cultural learning. Similarly, Shadiev et al. (2021) perceive the instant nature of synchronous collaboration as one of its main advantages. Correspondingly, Avgousti (2018) stresses that although not knowing what direction synchronous TCs might take can be challenging for some TC participants, such a state of affairs is, in fact, beneficial for them since it allows them to face and react to quasi-real-life situations in a controlled setting. Importantly, Avgousti (2018) underlines that synchronous TCs yield higher engagement levels and cultural growth among TC participants than asynchronous TCs. Further, Avgousti (2018) provides evidence that learners perceive synchronous TCs as "convenient" (p. 843) and that students are generally more absorbed in synchronous than asynchronous exchanges. Likewise, Lewis and O'Dowd (2016) conclude that synchronous activities can offer TC participants a more engaging way of becoming involved in TC projects. Correspondingly, Avgousti (2018) argues that although synchronous TCs are more demanding from TC participants than asynchronous TCs, synchronous exchanges can, and usually do, lead to higher gains than projects of asynchronous nature. Here Lin (2014) states that speaking, carried out synchronously, is characterized by a significant variety of learning effects, accounting for the most positive and the most negative results across the corpus. Consequently, Lin (2014) underlines that the TC mode should be selected bearing in mind the development of the envisioned language skill and tasks through which it is expected to be advanced. Notably, Akiyama and Cunningham (2018) conclude that synchronous TCs are suitable only for learners who can demonstrate sufficient proficiency in the TL. Lastly, Lewis and O'Dowd (2016) point out that synchronous TCs, due to their multimodality, are much more demanding in terms of their analysis than asynchronous TCs, which, according to the authors, can be one of the reasons behind the more common implementation of asynchronous TC activities over the synchronous ones.

Çiftçi (2016) reports more advantages of asynchronous than synchronous TCs, pointing to some drawbacks of the latter. However, in the end, Çiftçi (2016) concludes that both TC modes should be used concurrently. Nevertheless, Çiftçi (2016), does not reveal to what degree and/or extent each of these TC modes should be used for the TC exchange to be successful. Similarly, Lin (2014) states that asynchronous TCs seem to be the most effective, followed by the use of both TC modes, and only synchronous TCs. Nevertheless, Lin (2014) concludes that the differences between these three solutions are negligible.

In a different classification of TC projects, i.e., into text-, voice-, and video-based TCs, Akiyama and Cunningham (2018) report that the exchanges in their sample of studies were only text-based (44%), only video-based (23%), or combined both text and video (23%), with other constellations being far less common/incidental. Similarly, Avgousti (2018) states that TC projects are mostly only text-based (48%), followed by a combination of text, video, and voice exchanges (22%), as well as text and voice TCs (17%), among others. Likewise, Lin (2014) states that most TCs are text-based (68%), rather distantly followed by voice-based (27%). Both of these modes are used together quite infrequently (5%). Also, Carney (2006) reports that most of the TCs in Japan were held in text form, i.e., via email.

With respect to text-based TCs, Hughes (2022) argues that the character of synchronous text-based TCs can "promote more noticing, alignment, and the correct resolution of LREs[12]" (p. 13) as well as boosting students' "question production and grammatical accuracy" (p. 13) more effectively than other types of TC. In particular, Hughes (2022), citing Yilmaz (2011), argues that synchronous text-based TCs can lead students to a higher number of LREs than in face-to-face communication due to the ability to reflect on past interactions. Moreover, Hughes (2022), referring to the investigation of Van der Zwaard and Bannink (2014), reports that synchronous text-based TCs provide their participants with "a sense of anonymity which may ease face-saving and increase NoM" (p. 12). Nevertheless, Hughes (2022) highlights the dominance of face-to-face TCs over text-based TCs in terms of the amount of corrective feedback (CF), NoM, and uptake received by TC participants. What is more, Hughes (2022) suggests that the "lack of nonverbal ques [*sic*] and the time delay between messages" (p. 13) in synchronous text-based TCs might negatively contribute towards students' participation in such projects, contrary to non-text exchanges. Hughes (2022) reports also that synchronous text-based TCs are quite time-consuming and usually last longer than non-text TCs. Further, Hughes (2022) states that the participants of synchronous text-based TCs normally generate around 50% less content than in non-text TCs, suggesting that the likely cause of such a state of affairs is the very nature of synchronous text-based TCs which tends to impede conversations. What is more, Lin (2014) reports that text-based activities are used to develop many language skills, but especially writing. In particular, as Lin (2014) underlines, text-based interactions are typically

[12] Language-related episodes.

characterized by a slower pace of communication than normal conversations, thus, allowing them to "significantly reduce working memory load, which has an impact on L2 performance and acquisition" (p. 133). Additionally, Lin (2014) highlights that learners have the ability to self-correct themselves in text-based interactions by retyping their statements when necessary.

As far as voice-based TCs are concerned, Lin (2014) states that, overall, voice-based TCs yield greater learning effects than text-based, particularly in terms of students' oral skills. Lin (2014) suggests that this is due to increased chances of "self-repair and self-correction" (p. 132) in voice-based TCs. As Lin (2014) explains, such auto-reflection is facilitated by the slower-than-regular pace of interactions which gives learners more time to think about the utterances they want to produce. Moreover, Lin (2014) suggests that students who interact through voice-based TCs are likely to be less anxious about such interactions, in comparison to text-based TCs, due to the ability to swiftly correct themselves.

Lastly, with respect to video-based TCs, Yu (2022) states that in such exchanges students can see each other and, thus, "co-construct emotional experiences" (p. 10), which is beneficial for their learning process. Likewise, Yu (2022) suggests that video-based communication resembles "face-to-face talk, fulfilling the criteria of the media naturalness theory" (p. 10). Yu (2022) concludes that video-based TCs contribute to the creation of an "interactive atmosphere, which is the nature of contemporary L2-teaching methodology" (p. 10). Correspondingly, Ziegler (2016) highlights the crucial role of gestures in FLL and communication via video links and suggests, citing Yanguas (2010) and Yanguas (2012), that "[t]he role of gesture in L2 development also highlights the potential learning benefits of video SCMC, which has been shown to produce similar results to FTF [face-to-face] interaction in both receptive and productive measures" (p. 576).

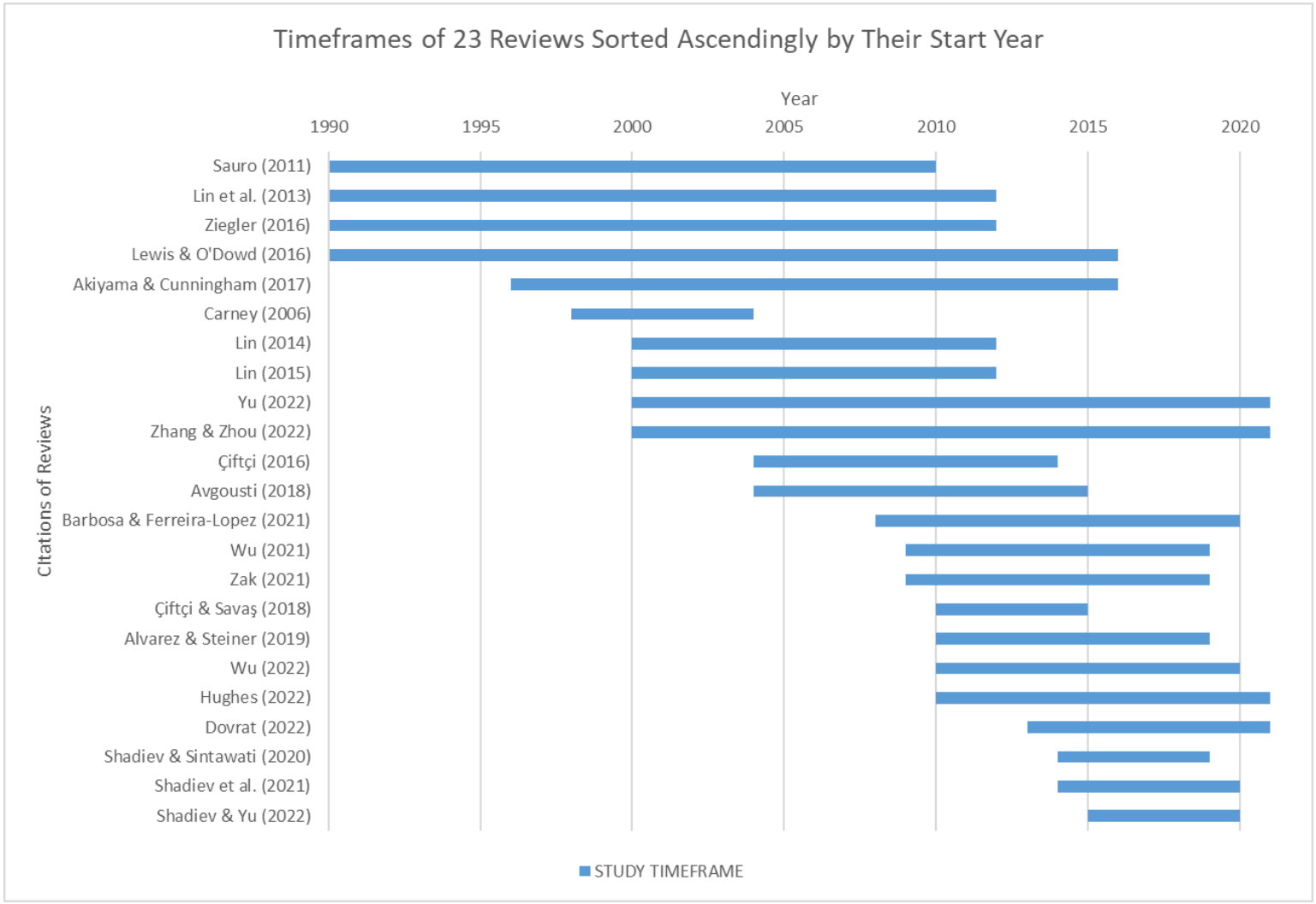
Multimodal TC can be considered yet another TC mode. Here, Wu (2022) reports that the majority of the analyzed TC projects in the sample of that publication were, in fact, multimodal. Avgousti (2018) underlines that TC allows for the implementation of multimodality in the FL teaching process, a feature which cannot be employed in traditional FL classrooms and activities. Avgousti (2018) states that TC participants value multimodality, particularly since it allows them to express their thoughts better and to continue the conversation even when some technical problems occur. Moreover, Avgousti (2018)

highlights that multimodality has a significant impact on students' ICC growth and FL learning in addition to facilitating the development of learners' "oral communication, pragmatic competence, as well as non-verbal communication" (p. 839), among others. Avgousti (2018), citing Hauck (2007) and Hauck and Lewis (2007) suggests that multimodality "has a stronger impact on learners' ICC than other factors, such as age and gender" (p. 844), which constitutes a very good reason for its implementation. Similarly, Avgousti (2018), citing Farías et al. (2007) and van Lier (2004), suggests that multimodal TC projects are in many ways similar to innate L1 acquisition, which represents another good reason for its implementation. Avgousti (2018) concludes also that the introduction of multimodality to TC projects increases the advantages of working on such undertakings, facilitates collaboration, and permits TC participants to freely choose their preferred communication channel. Yu (2022) suggests that students' FL gains resulting from TCs can be attributed to the multimodality of video-based environments, which allows learners the opportunity for more efficient communication, which, in turn, boosts their linguistic gains.

Avgousti (2018) suggests that a significant number of empirical studies reporting on the use of Web 2.0 tools in TCs were published after 2010 due to the increased interest in the TC practice. According to Çiftçi (2016), TC studies generally appreciate and favor the use of various TC tools and the implementation of technology in FL classrooms. Shadiev et al. (2021) conclude that TC tools can be used for three main reasons: "(1) communication among participants, (2) creating communication content or cultural artifacts, and (3) supporting communication" (p. 18). Avgousti (2018) argues also that TC tools have a substantial impact on students' cultural and linguistic development.

To offer a historical overview of the use of various TC tools, in the following section the findings from each of the syntheses are presented together, per study, and chronologically, depending on the start date of the given review. Timespans of all syntheses are presented in Figure 1 below.

Figure 1 Timeframes of the 23 Studies That Form the Review of Past Syntheses



Lewis and O'Dowd (2016) report that the most frequently used TC tools include emails (n = 21), chats (n = 17), forums (n = 14), blogs (n = 8), virtual learning platforms (n = 6), and wikis (n = 5). Moreover, Lewis and O'Dowd (2016) uncover that about half of the reviewed studies use both asynchronous and synchronous tools. Akiyama and Cunningham (2018) state that about 60% of synchronous TCs utilize asynchronous tools, among which email is the most frequent one (62%), followed by various blogs, forums, and webpages (41%).[13] Notably, only one TC includes the use of a social network – Facebook. Moreover, Akiyama and Cunningham (2018) note that in synchronous TCs, synchronous tools are used on their own (40% of the cases) nearly as common as they are used in conjunction with asynchronous tools (38% of the studies). Carney (2006) reports that most TCs take place via email or chat and to a lesser extent via blogs, wikis, and other types of web pages. Lin (2015) reports that the most commonly used TC tools include chats (37%), blogs (17%), and emails (13%), all of which allow for asynchronous communication. Zhang and Zhou (2022) enumerate a series of tools, such as blogs, emails, forums, instant messaging apps, and video-conferencing software, as the most commonly used TC tools. Avgousti (2018) states that the most frequently used tools are various blogs, forums, and webpages (31%), emails (22%), and Skype (22%), among others. Notably, social networks, such as Facebook or Twitter, constitute only 10% of the total. Moreover, TCs often feature the use of more than one tool. Avgousti (2018) highlights also that the high frequency of use of blogs, forums, and webpages is in line with the findings of Wang and Vásquez (2012). Barbosa and Ferreira-Lopes (2021) reveal that the most commonly used TC tools are "blogs, Facebook, social media, digital storytelling, wikis and Skype" (p. 19). Wu (2022) identifies that a variety of TC tools, such as video-conferencing software, Learning Management Systems (LMSs), as well as blogs, webpages, and wikis are used in TC projects and, most of the time, multiple tools are used in the same exchange. Notably, Wu (2022) identifies only several instances of the use of emails. Çiftçi and Savaş (2018) identify blogs, emails, LMSs, and video-conferencing software as the most common TC tools and suggest that they allow for asynchronous and synchronous collaboration alike. Çiftçi and Savaş (2018) also conclude that tools such as virtual worlds, wikis, or social media should be considered rather as additions to TC. Shadiev

[13] Hereinafter the percentages do not necessarily add up to 100% since numerous studies use more than one TC tool.

and Sintawati (2020) report that video-conferencing software (16%) and emails (13%) are the most commonly used TC tools. Other notable examples include social media (9%), discussion boards (9%), LMSs (7%), blogs (7%), and sharing tools. Shadiev et al. (2021) report that the most often used TC tools include Skype (14%), emails (12%), and blogs (10%), followed by forums (8%), virtual worlds (8%), and Facebook (8%). Shadiev and Yu (2022) identify multiple TC tools among the reviewed studies, such as blogs, forums, and wikis (30%), video-conferencing tools (30%), social media (24%), instant messaging apps (19%), and emails (13%), among others. Shadiev and Yu (2022) explain that these frequencies of use of TC tools are likely related to their capability to "easily create social learning environments in which learners can produce target language output through interaction and culturally related information exchanges" (p. 21).

Importantly, Avgousti (2018) points to a shift in the tools used in TCs, evidenced by the decreasing use of blogs, emails, forums, and webpages, which were frequently used in TCs prior to 2010, in favor of more multimodal tools that combine audio and visual channels, whose growth has become evident after 2010. Such a state of affairs is further reinforced by the conclusions of Shadiev and Sintawati (2020) who observe changes in the use of diverse TC tools across time, in particular, with regard to the findings of the article of Çiftçi (2016). Shadiev and Sintawati (2020) state that video-conferencing tools, sharing tools, and chats, among others, are becoming more common while email, social media, and LMSs, among others, are waning. Moreover, Shadiev and Sintawati (2020) suggest that email exchanges are gradually being substituted with more lively and engaging synchronous video TCs. Shadiev and Sintawati (2020) attribute this shift to the improved accessibility and quality of synchronous tools as well as their greater enjoyment and learning potential, in comparison to asynchronous tools. Additionally, Shadiev and Sintawati (2020) note that their findings are mostly in line with the review of Avgousti (2018). Lewis and O'Dowd (2016) report that between the 1990s and 2016 video-conferencing was only found in a handful of studies. However, they also state that their sample might not have reflected the real trends pertaining to the use of video-conferencing exactly. Nevertheless, Lewis and O'Dowd (2016) also hypothesize that video-conferencing might become the core tool in TC exchanges after 2016. Given the findings of other syntheses, it appears that this prediction was correct. Shadiev et al. (2021) compare the TC tools used before and after 2014 and conclude that instant messaging apps, social media, video-conferencing software, and virtual worlds, which

have not been commonly used in the past, are on the rise nowadays. Shadiev et al. (2021) note also that some TC tools, such as Twitter and podcasts, are not being used after 2014. What is more, Shadiev et al. (2021) highlight that some TC tools have been in constant use before and after 2014. Such tools include, for example, emails, LMSs, and video-conferencing software. Additionally, Shadiev and Yu (2022) note the slowly growing presence of emerging technologies, such as augmented or virtual realities, in TC projects. Shadiev and Yu (2022) conclude that these tools were not present in the reviews up to the date of the publication of their study and identify them as potential future mainstream TC tools. Shadiev and Yu (2022) argue that "artificial intelligence, cloud computing, natural language processing" (p. 22), among others, can likewise be potentially implemented in future TC projects.

Shadiev et al. (2021) report that TCs frequently involve several TC tools, and, consequently, recommend using a multitude of TC tools in TC exchanges to boost students' collaboration and output production. Similarly, Carney (2006) advocates the concurrent use of multiple tools in TC projects. Likewise, Çiftçi (2016) encourages the use of several tools in TC exchanges and advocates the implementation of new technologies in such undertakings, in particular, endorsing the utilization of video-conferencing software. According to Çiftçi and Savaş (2018), more than half of the reviewed publications featured at least one Web 2.0 tool in the TC exchange and these authors also advocate the use of a variety of software in TC exchanges. Shadiev and Yu (2022) recommend using more than one TC tool in exchanges too, acknowledging the limitations of each TC project.

Çiftçi and Savaş (2018) conclude that TC participants enjoy the Web 2.0 tools offered to them in TC projects immensely. Moreover, Çiftçi and Savaş (2018) suggest that the introduction of such tools play a significant role in engaging TC participants in TC exchanges. However, Çiftçi and Savaş (2018) also report several negative outcomes related to the involvement of technology in TCs, such as increased anxiety and nervousness in students. Additionally, Çiftçi and Savaş (2018), citing Antoniadou (2011), report that TC participants can choose not to implement the given TC tool if they find it unsuitable and instead select another one on their own. Nevertheless, studies concur that TC participants value the chance to acquire knowledge and skills regarding new tools. With regard to the effect of TC tools on particular variables, Avgousti (2018) states that TC tools have a significant impact on students' ICC growth. Similarly, Zhang and Zhou (2022) report that TC tools are effective in

increasing the cultural gains of TC participants. Importantly, Çiftçi and Savaş (2018), citing Chun (2011), suggest that utilizing different TC tools can lead to different results – "[a]synchronous tools provided opportunities for more complex statements, whereas synchronous tools were more appropriate for short and less formal statements" (p. 288). Regarding email implementation in TC projects, Shadiev and Sintawati (2020) point out that it brings flexibility to collaboration, allowing students to work according to their personal capabilities and schedules, and is vital when the TC participants are located in distant parts of the world and their local times vary. Shadiev and Sintawati (2020) add that communication via email provides learners with sufficient time to read the messages of their partners and formulate their own responses without a rush. Moreover, Shadiev and Sintawati (2020) conclude that using email in TC can boost students reading and writing skills. According to Avgousti (2018), incorporating blogs in text-based TCs is advantageous for enhancing the intercultural competencies of TC participants. Avgousti (2018) points out that multimodal TCs that involve social media constitute better learning settings than traditional FL environments. Avgousti (2018) highlights that such conclusions are in line with the findings of O'Dowd (2011) and Li and Wang (2014). Moreover, Avgousti (2018) states that TC participants find satisfaction in employing social media in TC projects as a result of their familiarity with these tools, stemming from their prior usage, and the sense of belonging to a larger community it generates. Avgousti (2018) highlights also that students' familiarity with social media contributes positively towards their engagement in the TC exchange and regular monitoring of social media for project purposes. Shadiev and Sintawati (2020) suggest that video-conferencing software allows learners to engage in more in-depth discussions and to communicate faster than in the case of asynchronous tools. Shadiev and Sintawati (2020) highlight that video-conferencing tools allow FL learners to develop their listening and speaking competences in the TL at the same time. Yu (2022) concludes that in video-based TCs, "[l]earners can have a sense of belonging and security […], which facilitates their learning" (p. 10) and suggests that it constitutes an effective approach that yields better results than traditional FL classroom interactions. Consequently, Yu (2022) encourages the use of video conferencing for FL learning. Avgousti (2018) reports also that TCs conducted via virtual worlds, although generally preferred less than video links, induce less anxiety among TC participants than person-to-person exchanges, mainly due to the anonymity they provide, which, according to the learners, facilitates chatting in the TL.

Lastly, Alvarez and Steiner (2019) remind TC practitioners to check the proper functioning of TC tools prior to the beginning of the exchange. Zak (2021), referring to the study of Bassani and Buchem (2019), also draws attention to the need to adequately test out the TC tools that are expected to be used in the TC project.

According to Avgousti (2018), citing Wang and Vásquez (2012), the success of TC projects is contingent upon a sound knowledge of TC participants on how to use specific TC tools. Consequently, Avgousti (2018) recommends that students are offered proper training on how to use the envisioned TC tools prior to the exchange. Avgousti (2018) notes that if the TC participants already know what the TC tools are and are capable of individually using them, this is for their own benefit and constitutes a substantial factor that contributes towards students' overall satisfaction with the TC project. Likewise, Avgousti (2018) underlines that learners' confidence regarding the given TC tools translates to their increased willingness to and easiness in collaborating with other TC participants. In a similar tone, Carney (2006) stresses that students need to possess at least some basic technological knowledge and skills to be able to take part in TCs. Carney (2006) also points out that the technological abilities of students seem to advance over time and is optimistic that the participants of the future TC exchanges will be even better equipped to take part in such undertakings. Nonetheless, Çiftçi (2016) recommends that TC participants are trained how to use various TC tools and how to communicate in TC environments.

To sum up, the findings of the study of Avgousti (2018), among other reviews, allow us to conclude that there are multiple available Web 2.0 tools that can be successfully employed in TCs. Alvarez and Steiner (2019) emphasize, however, the need to carefully select them for each of the TC projects so that they are accessible to all TC partners.

With respect to the total number and group arrangements of participants per TC, Lin et al. (2013) report that the total number of TC participants in the studies in their review varies between 24 and 96 and add that descriptions of large TC projects are scarce in the literature. Likewise, Yu (2022) reports that the number of participants per TC project in the reviewed sample of journal articles ranges between 30 and 57 students. Similarly, Shadiev and Sintawati (2020) highlight that numerous studies in their sample regarded the number of involved TC participants as low. Consequently, Shadiev and Sintawati (2020) call on TC practitioners to increase the size of investigated groups. With regard to TC collaborative groups, Akiyama and Cunningham (2018) report that most of the TCs (40%) include 1-on-1

collaboration, followed by the collaboration of small groups of four to six participants (20%), 1- or 2-on-1 collaboration (9%), a fluctuating 1- or 2-on-1 or group collaboration (9%), and class-to-class collaboration (7%) with other arrangements being less frequent. Further, Akiyama and Cunningham (2018) highlight that class-to-class collaborations were most common prior to 2007, after which a more individualized approach to TC is evident. It is likely that advances in technology and more widespread access to it contributed to this shift. Similarly, Lin et al. (2013) outline that most of the synchronous text-based TC studies include pair work or group work (68%), with group sizes ranging from three to six participants, followed by class-to-class collaboration (21%). Likewise, Lin (2015) states that in most TC studies, participants collaborate in pairs (34%) or small groups (22%). Accordingly, Lin (2015) concludes that collaboration in pairs or small groups (of three to six students) allows for increased interactions between the learners and, thus, is more effective and can lead students to greater gains in the TL than work in large or no groups. Additionally, Lin (2015) points out that a sizable number of studies (27%) do not report on such an important variable as students grouping in the project. Lin (2015) concludes that students working in pairs outperform those working in any other group arrangement, attributing this particularly to increased turn-taking and more individualized interaction dynamics than in other contexts. In a similar vein, Yu (2022) reports that TC interactions take place mostly on an individual level so between two students (60%), between pairs of learners (20%), or as one group (20%). Hughes (2022) also states that in most of the reviewed TCs students worked in pairs. Additionally, Lin et al. (2013) report that working in pairs or small groups in synchronous text-based TC projects has a small positive effect on FL gains of TC participants while Zak (2021) presents synchronous student-to-student collaboration as the most optimal FL learning condition in TCs, highlighting the potential related to gains in vocabulary and speaking skills.

Wu (2022) stresses that, in general, the reviewed publications commonly do not report on the duration of TC sessions and/or the frequency of TC activities, which often has to be deduced. Nevertheless, Wu (2022) reports that TC participants collaborated every week in most of the projects. Parallelly, Yu (2022) states that the duration of interactions between the project participants in TCs can range between 14 minutes and one hour, with most of the exchanges lasting close to an hour. Moreover, Yu (2022) reports that TC students interact with each other either daily (20%), once per week (40%) or two to three times per

week (40%). Moreover, Lin et al. (2013) suggest that the regularity of TC sessions might be an important contributing variable here, although authors refrain from making any definitive conclusions and call for further research.

3.4 Overall Characteristics of Participants of Telecollaboration Projects

Avgousti (2018) stresses that more than 80% of the reviewed publications did not reveal the gender of their participants, which is also in line with the conclusions of Macaro et al. (2012). Avgousti (2018) concludes that this matter deserves special attention due to the existing gender differences with regard to preferences in FL learning. What is more, Avgousti (2018) informs that if gender is reported, there are generally more female than male participants, however, no explanation for this state of affairs is given. Here Avgousti (2018) also expresses the need for further research.

With regard to the most commonly reported countries of residence of TC participants, Akiyama and Cunningham (2018) point to the USA, Germany, and Spain. Similarly, Çiftçi and Savaş (2018) report that most of the TCs in their corpus took place between the participants located in USA and Spain (n = 6), suggesting that the USA is the top country chosen as the TC partner, followed by Spain and Germany. Likewise, Lewis and O'Dowd (2016) report that most of the TC exchanges in their sample of studies took place between USA and Germany (n = 17), followed by USA and Spain (n = 6), as well as USA and France (n = 5). Alvarez and Steiner (2019) report that TC participants in the studies they reviewed came from a variety of countries, however, most of them were American. Also, Avgousti (2018) points to the dominance of the USA among the countries where TCs are organized the most. Zak (2021) reports that to date multiple TC projects took place between Europe and the USA but also indicates that the number of exchanges involving other regions is increasing. Çiftçi and Savaş (2018) and Wu (2022) conclude that TC studies typically take place among students located in the Western world. Here, in particular, Wu (2022) reports that most TC participants come from the USA (21%), Germany (12%), Spain (12%), Poland (7%), and the United Kingdom (UK) (5%). Correspondingly, Wu (2022) encourages further research on TC in countries and nations other than the Euro-Atlantic area.

Akiyama and Cunningham (2018) highlight that from 2010 onwards there is a focus also on learners from other countries, which were rarely reported on before, such as the citizens of Asia, Eastern Europe, the Middle East, Oceania, and South America. Similarly, Wu (2022) notices the increasing popularity of TC exchanges in Asia and the Middle East. Also,

Lewis and O'Dowd (2016) note a significant growth of interest in TC practices in Asian countries, such as China, Japan, South Korea, and Taiwan. Lewis and O'Dowd (2016) claim that although the overall number of reports from these countries in their sample is low, more reports on the TC projects organized in Asia will be visible in the literature in the next few years following their synthesis. Shadiev and Sintawati (2020) uncover that China and the USA are the most often involved countries in TC exchanges, followed by Spain and Germany, each of which constitutes less than half of the number of studies attributed to China and the USA. Moreover, Shadiev and Sintawati (2020) reveal that China and the USA as well as Poland and Spain are the two most frequently collaborating pairs of countries. Lastly, Wu (2022) notes that a number of TCs were multinational.

Avgousti (2018) states that participants' L1s vary significantly, however, this is not the case with regard to the TL which, in the vast majority of cases, is English. Similar findings are offered by Shadiev et al. (2021), Shadiev and Sintawati (2020), and Yu (2022), all of whom report that the most common TL in TCs is English, with other languages being far behind it. According to Shadiev and Sintawati (2020), such a state of affairs is due to the leading role and use of English in online communication worldwide. Likewise, Shadiev and Yu (2022), citing Wang (2020), attribute the dominant position of English to the fact that "English is a compulsory language in primary school and, above all, is included in undergraduate and graduate programs in many non-English speaking countries and regions" (p. 23). Zak (2021) argues also that English is used as the main language of TCs even if FL learning is not their aim.

Akiyama and Cunningham (2018) report that English, Spanish, and German are the most common L1s and TLs in synchronous TCs at the university level and that TC participants are typically monolinguals. Likewise, Lin (2015) states that English (78%) is the most common TL among the reviewed studies, distantly followed by Spanish (17%), and even further by German (3.4%).[14] Similarly, Lin et al. (2013) identify English (31%), Spanish (31%), and German (21%) as the most common TLs of synchronous text-based TCs under their review. Correspondingly, Sauro (2011) reports that English (42%) is the most common TL in TCs, followed by German (20%), and Spanish (18%), with each of the remaining languages

[14] Hereinafter the percentages might not add up to 100% due to the fact that in some TCs more than one TL was used.

representing less than 10% of the total number of the reviewed studies. Also, Shadiev and Yu (2022) state that English is the most common TL among the reviewed studies (61%), rather distantly followed by Spanish (11%), and German (10%), as well as seven other languages,[15] each of which stands for less than 5% of the total. Çiftçi and Savaş (2018) report that most of the TCs "involve the speakers of widely spoken and taught languages" (p. 284). Notably, Akiyama and Cunningham (2018) underline that TC projects including students whose L1s are less commonly reported on began to appear in the literature from 2010 onwards, however, they are still rare.

Ziegler (2016) underlines that more than half of the reviewed studies did not include any information that would allow readers to establish the age of the TC participants, and strongly advocates the need to report such an important variable. Similarly, Shadiev et al. (2021) underline that participants' characteristics are often not reported on sufficiently, with about 40% of studies not providing the age of the students. Based on the data from the publications that revealed the age of their participants', Shadiev et al. (2021) report that it ranges from 10 to 44. Lin (2015) notes that participants' age was reported only in 71% of the reviewed studies and ranged between nine and more than 24, with most of the learners being aged between 19 and 24 (46%). Avgousti (2018) states that the majority of the TCs take place at the university level, hence, most of the participants are aged around 20.

Sauro (2011) reveals that the vast majority (96%) of TC participants in the reviewed studies are university students. Similarly, Hughes (2022) states that most of the reviewed TCs took place at the tertiary education level while Yu (2022) reports that all of the studies analyzed investigate the tertiary education context. Lin et al. (2013) state that most of the participants in synchronous text-based exchanges are adults. Likewise, Shadiev and Yu (2022) indicate that university students constitute the vast majority of TC participants across the reviewed studies, with other age groups distantly following them. The study of Akiyama and Cunningham (2018) analyzed only university-level TC exchanges, thus, it can be assumed that the age of their participants reflects the typical age range of university students. Similarly, Carney (2006) reports only on the TCs organized at the tertiary level, although not intentionally, which evidences that TC projects are generally held at this particular educational stage. Consequently, Carney (2006) suggests that more research with regard to

[15] The following seven languages include French, Chinese, Korean, Portuguese, Italian, Japanese, and Mayo.

other age groups should be conducted, particularly due to limited opportunities for using TLs in such contexts.

Avgousti (2018) communicates that TCs at the university level account for more than 80% of the reviewed TCs with the remaining percentage being distributed among primary and secondary schooling. Nevertheless, Avgousti (2018) adds the steady growth of publications on TCs held in primary and secondary educational contexts, highlighting that they are still understudied. In a similar vein, Ziegler (2016) notes that most TCs take place at the tertiary level (79% of the reviewed studies), while research at the secondary education level is far less frequent, accounting for the remaining percentage of the sample. Notably, the study of Ziegler (2016) does not include any publications on TCs at the primary education level. Likewise, Lin (2014) reports that tertiary education level is the most commonly investigated context (76%), distantly followed by secondary education (17%), primary education (5%), and mixed education levels (2%). Consequently, Lin (2014) encourages further research in secondary and primary education contexts. Similarly, Shadiev et al. (2021) uncover that the reviewed studies investigate mostly TCs among tertiary education students (70%), followed by secondary and primary education pupils (22%), and tertiary-secondary education learners (4%). Similarly, Lin (2015) reports that university students account for 46% of the sample, secondary and high school students constitute about 15% of it, while primary school students represent around 8% of all TC participants. As a result, Lin (2015), like Lin (2014), encourages further research at the primary and secondary education levels. Similarly, Shadiev and Sintawati (2020) state that most TCs are held at the tertiary and secondary education levels. Shadiev and Sintawati (2020) attribute the near-absence of primary education contexts in their sample to the likely lack of readiness of primary school students for such projects, mainly due to their "limited communication and technological skills" (p. 8), yet encourage more research in this area.

Çiftçi and Savaş (2018) state that various types of TC participants took part in the reviewed exchanges, including students at the primary, secondary, and tertiary levels as well as in-service educators. Comparably, Wu (2022) reports that the majority (61%) of the TC participants of the reviewed publications are pre-service teachers while 38% of them are in-service educators. According to Wu (2022), they primarily teach English, among other languages. Additionally, Dovrat (2022) reports that nearly half of the reviewed TC studies (45%) took place in pre-service (FL) teacher education contexts, followed by FL teaching

environments (19%), and business settings (14.3%). Dovrat (2022) perceived such findings as evidence for the presence of TC in multiple domains.

As far as students' proficiency in the TLs is concerned, Lin et al. (2013) stress that it is frequently not directly reported on, thus, assumptions have to be made in this matter. Similarly, Lin (2014) highlights that a significant number of the reviewed studies (56%) does not inform about participants' proficiency in the TL while in the study of Yu (2022) this was the case in 40% of the reviewed studies. Nevertheless, Shadiev and Yu (2022) point out that improving students' FL proficiency is the general aim of 23% of the reviewed studies.

Avgousti (2018), citing several sources, states that differences in the degrees of linguistic proficiency among TC participants are likely to occur. Ziegler (2016) states that approximately 80% of the TC participants in the reviewed studies had intermediate proficiency in the TL, with the remaining percentage of students having an elementary knowledge of the TL. Likewise, Lin et al. (2013) recognize the proficiency of learners in most of the reviewed studies as intermediate (47%), followed by elementary (32%) and mixed proficiency (21%), i.e., learners with both elementary and intermediate proficiencies. Similarly, Yu (2022) states that students' proficiency in the TL usually varies significantly, however, the reviewed sample consisted mainly of learners with approximately intermediate (40%) and elementary (20%) proficiency in the TL. Consequently, both Lin et al. (2013) and Yu (2022) stress that future research should focus on investigating learners with other than intermediate proficiency in the TL. In particular, the study of Lin et al. (2013), which does not report on any exchanges between proficient learners, encourages the researchers to investigate such educational contexts and groups of students to determine whether TCs can be effective also in the case of advanced FL learners. In a similar vein, Lin (2014) states that the reviewed sample of studies includes mostly students with low (13%) and intermediate (12%) proficiency in the TL, with little presence of proficient learners (7%). According to Lin (2014), mixed proficiency among TC participants is also quite common (12%). Slightly different results are offered by Shadiev and Yu (2022) who report that students' proficiency in the TL was mostly high (47%) and intermediate (45%) while Akiyama and Cunningham (2018) report that TC participants were mostly at the intermediate (51%) or slightly higher proficiency level (40%). Nevertheless, Akiyama and Cunningham (2018) note that there were no studies that had investigated students whose proficiency in the TL was higher than intermediate.

In terms of the interplay of TC participants' proficiency in TLs and other variables, Lin (2014) argues that TCs can have a significant impact on the FL process of students with low proficiency in the TL, in contrast to learners with higher levels of proficiency. However, Lin (2014) refrains from coming to definitive conclusions pertaining to these findings and suggests further research. On the contrary, Lin et al. (2013), based on the calculated weighted mean effect sizes and 95% confidence intervals, conclude that proficiency is a variable that interplays with the overall effectiveness of synchronous text-based TCs. More specifically, Lin et al. (2013) argue that this is the case among intermediate and mixed proficiency learners and groups, however, not among students with elementary knowledge of the TL. Lin et al. (2013) conclude that learners' low proficiency in the TL might be an obstacle that does not allow them to fully benefit linguistically from TC projects. On the other hand, according to Lin et al. (2013), students with intermediate knowledge of TLs seem to be ready for taking part in the TCs and benefit from them, certainly to a greater extent than learners with low proficiency. In contrast to the above, Shadiev and Yu (2022) highlight that proficient learners are able to engage in the TCs to a greater extent than low-proficiency students due to their increased communicative capabilities resulting from extensive FL knowledge and skills. Nevertheless, Shadiev and Yu (2022) encourage research also among other, less proficient students. Similarly, Hughes (2022), citing Torres and Cung (2019), highlights that proficient TC participants are more likely to effectively use and benefit from their involvement in synchronous text-based TCs than non-proficient students. Additionally, Zak (2021) underlines that learners' poor FL skills, and the resulting low self-esteem, hinder their potential cultural gains resulting from the TC exchange. Consequently, Zak (2021) argues that a sufficient level of the TL among the students is needed for them to fully benefit from TC projects. Lastly, Ziegler (2016) concludes that the literature offers mixed results with regard to the interactions of TC participants with different proficiency levels in the TLs and encourages further research in this aspect. Lin (2014) underlines that TCs "can possibly close, or at least reduce, the gap between low and high proficiency learners" (p. 135). What is more, Lin (2014) highlights that TCs can successfully help students at all proficiency levels to boost their language skills, particularly when compared to traditional FL settings.

3.5 Project-Related Aspects

Çiftçi (2016) states that TC projects should be carefully planned to maximize the benefits of their participants. As Çiftçi (2016), citing Hauck (2007), puts it: "the backbone of

successful online intercultural interactions is a meticulous design" (p. 319). Moreover, Çiftçi and Savaş (2018) emphasize the importance of the TC design for the success of a TC exchange. Similarly, Wu (2021) underlines that TC projects should be meticulously conceived and close attention should be paid to factors such as curriculum, used technologies, organizational backing, and particular regional characteristics. Likewise, Zak (2021), drawing from the findings of the study of Bassani and Buchem (2019), highlights the need to precisely construct TC projects and points out that preparing such exchanges can take a significant amount of time. In a similar vein, Alvarez and Steiner (2019) state that TC projects should be thought through and appropriately structured to be successful. Alvarez and Steiner (2019) emphasize that TC "participants need to have a purpose which becomes the focus of shared work" (p. 26). Alvarez and Steiner (2019) stress also that technological constraints of the partnering institutions should be taken into account when designing TC exchanges. Additionally, Zak (2021) highlights the criticality of institutional support for implementing and conducting TC projects due to the fact that, as Alvarez and Steiner (2019) state, TC exchanges are demanding for both TC instructors and TC participants.

Hughes (2022) recommends that TC instructors provide TC participants with appropriate training before the start of TC exchanges. Likewise, Alvarez and Steiner (2019) suggest the provision of proper training to students prior to the beginning of the project, which would help them to understand their roles and responsibilities in such undertakings. Similarly, Wu (2022) stresses that prior training of TC participants is vital to allow them to fully benefit from TCs since it permits them to "develop essential prerequisite attitudes, knowledge, and skills" (p. 298). In particular, Avgousti (2018) advises that TC participants are instructed on how to use the envisioned TC tools in advance of the exchange. Similarly, Çiftçi (2016) recommends that TC participants are trained how to use various TC software and how to communicate in TC environments. Likewise, Çiftçi and Savaş (2018) highlight the need to educate TC participants on how to use the Web 2.0 tools envisaged to be used in the TC project. What is more, Hughes (2022) argues that it might be beneficial for TC participants to undergo a specific orientation prior to engaging in synchronous text-based TCs to maximize their FL learning benefits. Additionally, Shadiev and Yu (2022) suggest that TC organizers engage their students in training ahead of TC projects to alleviate their potential stress related to their participation in the exchange. Nevertheless, and in contrast

to the above findings, Çiftçi (2016) argues that “training participants does not seem to be sufficient for a successful intercultural communication” (p. 322).

With regard to pedagogical mentoring in TCs, Wu (2022) draws attention to the fact that it can take place before, during, and after TCs, and enumerates multiple ideas for its application on the basis of the reviewed studies. Wu (2022) underlines that the design and implementation of tasks in TCs are crucial for their success and important from the standpoint of pedagogical mentoring. Moreover, Wu (2022) focuses on the crucial role of feedback and reflective sessions, as already outlined above, in the pedagogical mentoring of TC participants. Similarly, Wu (2021) underlines the need to give TC organizers, and, in particular, pre-service teachers, opportunities to participate in TCs on their own, stressing that mentoring plays a crucial part in their education process.

Alvarez and Steiner (2019) recommend that TCs begin with collaboration on non-controversial topics and warn that discussing controversial topics during TCs might cause divisions among TC participants. Similarly, Çiftçi (2016), citing Rooks (2008), advocates “the inclusion of more enjoyable topics to discuss rather than compulsory writings with restricted options” (p. 320). Further, Çiftçi (2016), citing Menard-Warwick (2009), advises “flexibility of topics” (p. 320) in TC projects. Çiftçi and Savaş (2018) report that the absence of interesting content in TC projects is one of the most frequent causes behind the lack of students’ engagement in TC exchanges.

Lin et al. (2013) underline that publications on synchronous text-based TCs rarely provide extensive descriptions of the task design and tasks used during TC projects. Consequently, Lin et al. (2013) call for the provision of such details in TC studies. Conversely, Çiftçi and Savaş (2018) highlight the importance of careful task design in TC exchanges since it impacts the degree of learners’ involvement in such exchanges. Çiftçi (2016) highlights the importance of choosing the right tasks for the given TC projects. Likewise, Alvarez and Steiner (2019) suggest that ensuring a variety of activities is key to ensuring the participation of students in TC projects and allowing some of them to “counter the self-motivation barrier” (p. 24). Lin (2014) underlines that TCs, in fact, offer the ability to introduce various tasks to the FL learning process. Nevertheless, Lin (2014) stresses the need to appropriately modify the tasks used in traditional FL classrooms prior to their implementation in TC contexts to fully harness their capabilities and, thus, maximize the learning impact and gains. In a similar vein, Hughes (2022) argues that the successfulness of the given TC task and its

influence on FL learning is contingent upon the mode of the task and its cognitive load, which is generally lower in the case of text-based communication. In addition, Lewis and O'Dowd (2016), citing Bower and Kawaguchi (2011), emphasize "the importance of the choice of task to support focus on form and language-related episodes (LREs)" (p. 54) and state that "carefully structured activities […] are likely to foster more negotiation than free conversation or discussion" (p. 54). Moreover, Hughes (2022) suggests that tasks in synchronous text-based TCs should include a lot of content and have a simple nature. Importantly, Wu (2022) concludes that TC instructors should carefully select the tasks for their TC projects depending on the expected duration of the exchange since the "high complexity of online intercultural learning may require a longer time for learners to develop trust and effective partnerships" (p. 297). This is in line with the conclusions of Hughes (2022) who recommends allocating sufficient time for TC projects in general, thus, guaranteeing TC participants enough time to fulfil all of the envisioned tasks. Lin (2014) argues that task type is an important factor that warrants the success of TCs. According to Akiyama and Cunningham (2018), most of the synchronous TCs include information-exchange tasks (53%), followed by co-construction tasks (22%), with each of the other task types being less frequent than 10%. Correspondingly, Hughes (2022), citing Brandl (2012), reports that information exchange activities are more interesting for students than information gap assignments. Moreover, according to Hughes (2022), such tasks are also more likely to inspire TC participants to engage in the activities to a higher extent, thus, increasing the amount of their linguistic production. Lin (2014) reports that opinion exchange and decision-making tasks yield the best results and both of them are much more effective than information gap tasks. Additionally, Alvarez and Steiner (2019) favor the inclusion of ice-breaking activities at the onset of TC exchanges and encourage TC organizers to include unstructured time for communication between TC participants of their projects.

Çiftçi and Savaş (2018) argue that TCs "have potential in giving feedback to language learners" (p. 286). In particular, they highlight tremendous opportunities for peer feedback in TC exchanges. Lewis and O'Dowd (2016) report that collaboration with other students in TCs and the ability to receive feedback from them results in learners' "greater attention to linguistic form, accuracy and appropriateness" (p. 53). What is more, Lewis and O'Dowd (2016), drawing on the evidence from the reviewed studies, highlight the potential benefits for students' FL learning stemming from "giving students explicit instructions and training for

providing linguistic feedback to their telecollaborative partners" (p. 54). Moreover, Lewis and O'Dowd (2016) emphasize that peer feedback in TC exchanges leads to higher occurrences of LREs. Lewis and O'Dowd (2016) underline also that TC participants are happy with the form and quality of the feedback received from their TC peers and prefer it to the feedback received from FL teachers. Nevertheless, as Lewis and O'Dowd (2016) stress, TC participants are generally not willing to correct their TC partners and fail to do so adequately even if they are provided with specific guidelines on how to provide feedback to them. The most likely reasons for this state of affairs, as outlined by Lewis and O'Dowd (2016), include "a clash between the educators' pedagogic aims for the exchange […] and the students' perception of the exchange as a communicative activity and an exercise of cross-cultural friendship making" (p. 55), and "culturally divergent perspectives on what was appropriate online behaviour" (p. 55). Accordingly, Lewis and O'Dowd (2016) conclude that TC participants can only provide peer feedback effectively, and, thus, increase the occurrence of LREs, when it is the only task they are given during the TC project. In addition to the above, Hughes (2022), drawing on the findings of several studies, concludes that the provision of immediate CF in synchronous text-based TCs is more beneficial than delayed feedback and that offering feedback is much more beneficial to FL learners than not giving it. Consequently, Hughes (2022) infers that while the provision of immediate CF should be pursued first, the implementation of delayed feedback is likewise encouraged if the former cannot be guaranteed due to its advantage over the lack of feedback. In agreement with the above findings, Shadiev et al. (2021) point out that learners can provide CF to each other in TCs, which, in turn, boosts their linguistic knowledge and accuracy. Lastly, Lewis and O'Dowd (2016) conclude that CF (among others, i.e., focus on form and NoM) does not occur automatically in TCs and "need[s] to be promoted through careful task design and training of the learners to work as linguistic guides and tutors for their partners" (p. 54).

Wu (2022) reports that reflective activities are frequently implemented in TC exchanges (64%). Correspondingly, Shadiev and Yu (2022) state that reflection is frequently a part of TC projects (34%) while Shadiev et al. (2021) highlight that around 22% of the reviewed studies include students' reflections in some form. Zhang and Zhou (2022) simply state that reflection is frequently included in TC activities. Shadiev et al. (2021) emphasize that TC exchanges encourage students to reflect on their learning while Alvarez and Steiner (2019) underline that reflection is an important part of TC projects. According to the

conclusions of Avgousti (2018), critical reflections serve as evidence of learning gains. Similarly, Çiftçi and Savaş (2018) outline reflective sessions as activities that should be included in TC projects to ensure proper learning gains among their participants and inspire them towards further growth. Subsequently, Lewis and O'Dowd (2016) conclude that the mere exposition to the TL, as observed in TCs, does not automatically lead to its acquisition by TC participants. Consequently, based on the solutions provided in the reviewed studies, Lewis and O'Dowd (2016) advocate the inclusion of reflective sessions in TC projects. Lewis and O'Dowd (2016) explain that students can reflect on TCs, for example, by studying the "transcripts or recordings of the online interactions" (p. 52). Lastly, Avgousti (2018), based on the findings of other studies, identifies the lack of critical reflections in TC exchanges as a negative phenomenon.

3.5.1 Potential Issues in Telecollaboration Projects

Lewis and O'Dowd (2016) recognize the existence of various differences and problems in TC projects, however, conclude that they are practically unavoidable. Correspondingly, Shadiev et al. (2021) point out that several studies report issues in the implementation of TCs, however, also provide potential solutions for them. Similarly, Zak (2021) underlines that TC literature frequently reports on and provides possible resolutions of numerous likely and often unpredictable problems that can occur in TCs. Alvarez and Steiner (2019) and Dovrat (2022) underline that TCs are likely to be flawed by a number of organizational issues. According to Zak (2021), organizational problems in TC exchanges can include project implementation while Shadiev and Yu (2022) highlight the significant organizational load associated with TC projects. Four reviews (Alvarez & Steiner, 2019; Carney, 2006; Çiftçi, 2016; Çiftçi & Savaş, 2018) state that TC organizers should take into account the potentially different time zones of TC partners and adjust the design of the TC project accordingly. Carney (2006) suggests that a potential solution to this issue is to organize TCs asynchronously. Moreover, three syntheses (Carney, 2006; Çiftçi, 2016; Çiftçi & Savaş, 2018) identify different academic calendars as frequent obstacles that TC practitioners have to face when organizing TCs. Carney (2006) reports that issues of such nature can lead to shorter than expected TCs, pauses in interactions, or delayed response times. Carney (2006) concludes that there do not seem to be any reasonable ways to cope with the differences in academic calendars among the institutions involved in TC exchanges. Additionally, according to three reviews (Alvarez & Steiner, 2019; Çiftçi & Savaş, 2018; Zhang

& Zhou, 2022), various degrees of learners' familiarity with TC tools, including the lack thereof, and students' difficulties in using the assigned TC tools might pose a significant obstacle in implementing TCs.

Eight of the reviewed syntheses (Alvarez & Steiner, 2019; Avgousti, 2018; Carney, 2006; Çiftçi, 2016; Çiftçi & Savaş, 2018; Dovrat, 2022; Shadiev & Yu, 2022; Zak, 2021) underline that issues related to technology are highly likely and, in fact, prevalent in TCs projects. In particular, Alvarez and Steiner (2019) and Carney (2006) identify poor Internet connection speed as one of the main potential problems. Moreover, Çiftçi (2016) stresses that technical issues occurring in TCs might constitute significant disturbances to TC participants that can affect their overall perceptions of TC projects. Importantly, Alvarez and Steiner (2019) warn that students might use technical issues as excuses for their lack of participation in TC projects. Additionally, Alvarez and Steiner (2019) suggest TC instructors check the technological skills of their learners prior to their involvement in the TC project. If these skills turn out to be low, Alvarez and Steiner (2019) encourage TC instructors to appropriately train and later monitor their students with regard to this matter. Correspondingly, Carney (2006) suggests that external technical assistance might prove to be necessary in TC projects and, thus, should be ensured when conducting such undertakings given the significant number of technical issues that are likely to occur during them. Similarly, Shadiev and Yu (2022) suggest that TC instructors should be assisted "by designated technical personnel" (p. 25), who would be responsible for the technical aspects of the TC projects and managing the technical problems.

Çiftçi and Savaş (2018) highlight that the lack of collaboration among TC participants is a common difficulty in TC projects. Similarly, Avgousti (2018), citing Ertmer et al. (2011), recognizes the unequal degree of engagement of all TC participants as an issue that can be potentially encountered in TCs. In a similar vein, Çiftçi and Savaş (2018), as well as Zhang and Zhou (2022), note that one of the common problems in TC exchanges is the lack of involvement of TC participants. Accordingly, Çiftçi and Savaş (2018) suggest that creating inspiring learning conditions can be a remedy for students' poor participation levels in TC projects of the lack thereof. Additionally, Zak (2021), referring to the findings of the study of Bassani and Buchem (2019), suggests that learners' insufficient engagement in TC projects can be linked to their lack of confidence in their FL skills and a disbelief that they can effectively work with their partners. Zak (2021) infers that such limitations and attitudes of

students allow them to conduct TC projects almost exclusively in FL classrooms to ensure learners' participation in TC exchanges. In a similar tone, Alvarez and Steiner (2019), Çiftçi and Savaş (2018), and Zak (2021) call attention to the fact that cooperation and communication among TC participants might be problematic. In particular, Alvarez and Steiner (2019) stress that there is a lot of room for potential miscommunication among TC participants in TC exchanges. Relatably, Zhang and Zhou (2022) claim that "language barriers" (p. 23) and "learners' mismatch of levels of L2 proficiency" (p. 23) constitute potential issues that can be encountered in TCs. On a similar note, Shadiev and Sintawati (2020) report that the lack of appropriate language skills of TC participants is a frequently reported problem among the reviewed publications and add that it has a detrimental effect on the quality of the exchange. What is more, Alvarez and Steiner (2019) and Dovrat (2022) agree that issues of an educational nature can frequently occur in TCs. Here, Çiftçi (2016) as well as Çiftçi and Savaş (2018) identify distinct curricula, course objectives, and course requirements as potential sources of problems in TC exchanges and encourage TC organizers to prepare for them accordingly. Moreover, Carney (2006) and Çiftçi (2016) draw attention to the fact that among the multiple limitations of TC projects, institutional matters are of particular importance. Shadiev and Yu (2022) point out that yet another potential constraint of TCs can be their short duration, which is reported in 13% of the reviewed studies. Additionally, Carney (2006), as well as Shadiev and Yu (2022), highlight that only a small number of students can take part in TC exchanges at once. Zhang and Zhou (2022) state also that the following issues can be reported by TC participants: "difficult tasks […], limited number of cultural topics, and lack of immediate external support" (p. 23). Lastly, in response to the multiple potential pitfalls of TCs, Zak (2021), citing Patterson et al. (2012), argues that at least some of them can be prevented if the exchanges are well-planned or, alternatively, can be fixed while the exchange is already running. On a different note, Avgousti (2018), citing Dervin (2014), concludes that the changeable and often surprising nature of TCs, rooted primarily in their various potential issues, is interesting and appealing to FL learners.

3.5.2 Teachers' Roles in Telecollaboration Projects

Shadiev and Yu (2022) conclude that teachers' presence and assistance to TC participants are vital in TC projects. Çiftçi and Savaş (2018) suggest that TC instructors have multiple roles in TC projects and conclude that their role is even greater than in traditional FL

settings. Çiftçi and Savaş (2018) highlight that TC instructors have the duty to "be monitoring, prompting, guiding, and communicating" (p. 289). Further, Çiftçi and Savaş (2018) underline that TC instructors should be accessible to their learners when they request their assistance but should also proactively monitor the project and engage if necessary. Likewise, Shadiev and Yu (2022), citing Yang (2017), note that TC teachers should "actively guide students through the learning activities, and provide them timely assistance when necessary" (p. 25). Similarly, Wu (2021) adds that TC instructors have to, for instance, assist in conflict resolution, lead the conversations, and help TC participants in various aspects. In particular, due to the unpredictable nature of TC projects, Çiftçi and Savaş (2018) call on TC instructors to "always be prepared for emerging contradictions and for generating new solutions/strategies" (p. 289). Importantly, Zhang and Zhou (2022) stress that TC instructors should take into account the potential problems that might occur in TCs when designing their projects, a number of which are discussed later in this chapter. Correspondingly, Shadiev and Yu (2022) comment on the importance of the teachers' role in the selection of relevant TC tasks and the provision of feedback to the students. Similarly, Hughes (2022) notes that CF in synchronous text-based TCs is rarely provided by TC participants, suggesting that teachers are the ones responsible for its delivery.

Çiftçi and Savaş (2018) stress that due to the complex nature of TCs and the number of different roles that TC instructors have to take on themselves in TC projects, they should be properly trained in how to implement such exchanges to be able to do so successfully. Also, Çiftçi (2016) argues that TC projects require skilled organizers, preferably ones who possess sufficient knowledge about all cultures involved in the exchange, which is likely to help them run such undertakings. Correspondingly, Alvarez and Steiner (2019) highlight that teachers might find TC practice difficult to implement and adapt to, particularly due to the number of new duties they have to take on in such undertakings, and the need to coordinate their actions with partner teachers.

In addition to the above, Carney (2006) concludes that the success of TC projects is particularly contingent upon finding suitable TC partners with the same or similar ideas and goals to be realized through TC; maintaining good relations between all TC organizers who, at the same time, are committed to the project; and being able to depend on TC partners. Similarly, Alvarez and Steiner (2019) highlight that finding matching partner institutions and a decent number of TC participants can be a difficult task. Moreover, Alvarez and Steiner

(2019) emphasize the importance of a clear division of duties among TC partner teachers to guarantee successful TCs. Lastly, Alvarez and Steiner (2019) recommend that partner TC instructors agree on their teaching styles to be used throughout the exchange as they might differ depending on their country and culture of origin.

3.6 Participant-Related Aspects

Lin (2014) reports that the degree of students' participation in TC projects can be successfully boosted and sustained through either asynchronous or synchronous TCs. Likewise, Zhang and Zhou (2022) underline that both asynchronous and synchronous TC can sustain the engagement levels of TC participants over time. Correspondingly, Hughes (2022) reports that students' participation in TC projects is greater in video-based rather than text-based synchronous TCs. On a different note, Alvarez and Steiner (2019) suggest that if the profiles of TC participants are too different from each other, then they are not likely to be actively involved in the project. Identically, Hughes (2022) reports that collaborations between TC participants who know each other well yields better participation levels and learning outcomes than interactions between strangers.

Avgousti (2018), referring to the findings of several publications, concludes that setting the same or different goals to participants of TC projects can lead to their failure. Comparably, Çiftçi and Savaş (2018), citing several sources, stress that one of the greatest potential inconveniences related to the preparation of TC projects is "the need to set different goals and objectives for each side due to different contextual features and academic backgrounds" (p. 288). Moreover, Çiftçi and Savaş (2018), suggest that this can lead to research reports from one side of the project only.

In relation to the above, Çiftçi and Savaş (2018) citing multiple sources, suggest that crediting students for their participation in TC projects can be one way of motivating them towards their engagement in such settings. Similarly, Alvarez and Steiner (2019) suggest that the degree of students' involvement in TCs might be low if their participation in TC projects is voluntary and no gratification is provided to them for their attendance in the exchange.

Lin (2015) reports that TC activities are usually carried out in the FL classroom (49%) but also quite frequently outside of it (34%). Here, Lin (2015) concludes that organizing TCs in FL classrooms yields better results than holding them elsewhere, predominantly due to learners' increased focus on the tasks and ability to receive teachers' assistance in the class. Nevertheless, Lin (2015) highlights the benefit of implementing TC tasks both in and after FL

classes, which is more beneficial than conducting them only in class. Lin (2015) justifies the pursuance of after-class activities by the likely associated growth of students' autonomy.

Hughes (2022) provides mixed conclusions and inconclusive findings pertaining to the advantages and disadvantages of participation of NSs and NNSs in TC projects. While some of the reviewed studies suggest that the NNSs' presence might "hinder interaction and NoM due to issues of face" (p. 12), other publications report that "NNS-NS interaction produces more resolved LREs" (p. 12) or "NS involvement increased NoM for low proficiency NNSs but decreased it for high proficiency NNSs" (p. 12). Moreover, Hughes (2022), citing Fredriksson (2015), reports that NNSs engage in TCs to a lesser extent if they are working with NSs. However, when NNSs collaborate with other NNSs with the same proficiency in the TL, their participation is more pronounced, which is evidenced, for instance, by their linguistic production. Correspondingly, Ziegler (2016) argues that collaboration with either NSs or NNSs in TC projects yields slightly better results than work in traditional FLL contexts. Ziegler (2016) stresses, however, that the findings related to NSs should be treated with caution since they are based on a small number of publications.

3.7 Advantages and Disadvantages of Telecollaboration Projects

Overall, Zak (2021) concludes that TCs can develop a myriad of skills among their participants, even if they are organized for the purpose of boosting only one specific ability. Similarly, Shadiev et al. (2021) underline that most TC projects allow their participants to develop more than one skill at a time. Zak (2021) outlines three such goals that stem from the reviewed studies: cultural growth, FL learning, and peacebuilding.

On the basis of the reviewed articles, Zhang and Zhou (2022) conclude that TC projects constitute authentic learning environments, which can be considered an advantage. Also, Shadiev and Yu (2022) note that around 17% of the reviewed studies underline that TC exchanges are indeed genuine experiences. Çiftçi and Savaş (2018) conclude that TCs offer authentic opportunities for practicing the TLs. Similarly, Carney (2006), citing Fedderholdt (2001), states that TCs constitute a legitimate opportunity for students to use English in real-life contexts. Likewise, Shadiev et al. (2021) underline that thanks to their involvement in TCs, FL learners can practice their TLs in real-life situations. In a similar vein, Shadiev et al. (2021) underline that "cross-cultural projects with speakers of the target language can help create authentic language environments" (p. 17). According to Avgousti (2018), the authenticity of TC projects allows students to thoroughly engage in such exchanges, which

stands in contrast to traditional FL learning contexts that are less realistic and, thus, less captivating for learners. Avgousti (2018) states that TC participants appreciate the originality of TC exchanges. Moreover, Alvarez and Steiner (2019) infer that TC projects need to be authentic to be successful and caution that this feature of TCs can be "limited by restricted communication, only focused on learning" (p. 23).

What is more, Avgousti (2018) argues that TCs offer a relaxed atmosphere which, in turn, facilitates informal conversations that are considered to be beneficial for FL learning. Moreover, Çiftçi and Savaş (2018), based on the reviewed studies, highlight that TC offers a nearly stress-free learning environment. Similarly, Ziegler (2016), citing several studies, emphasizes that students' anxiety is usually lower in TCs than in traditional FL environments. Ziegler (2016) points out that this might be a particularly important finding for introverted learners since they are more likely to feel relaxed in TC environments and, thus, more encouraged to engage in FL learning. Additionally, Çiftçi and Savaş (2018), conclude that "creating a safe and stimulating collaborative environment under the guidance of competent facilitators" (p. 289) helps to ensure students' participation in TC exchanges.

Zak (2021) perceives TCs as opportunities for tertiary education students to take part in a study abroad program without the need to leave their countries of origin, which is frequently impossible due to a number of reasons, such as dangers or fears associated with travelling, family matters, financial constraints and expenses, or physical limitations. Likewise, Zhang and Zhou (2022) report that TCs can successfully be implemented as an alternative to study abroad programs.

As far as the learning aspects of TC are concerned, Ziegler (2016) reveals that, in general, TC exchanges positively impact the learning process and the related goals. Moreover, Zhang and Zhou (2022) highlight that TCs are focused on students and, as a result, can lead TC participants to higher learning gains than in traditional learning contexts. Avgousti (2018), paraphrasing O'Dowd (2011), encourages the use of TC in FL classrooms since it "provides learners with a different kind of learning that is not found in traditional textbooks" (p. 843). Additionally, Shadiev and Yu (2022) underline that TC participants appreciate the ability to learn with the help of technology.

Hughes (2022), citing Ajabshir (2019), suggests that participation in synchronous text-based TCs can boost students' autonomy and lower their reliance on teachers' help, which can be considered another potential advantage of TC projects. Similarly, Shadiev and Yu

(2022) emphasize that learners can become more autonomous as a result of taking part in TC projects. Alvarez and Steiner (2019) underline that TC projects "offer a lot of autonomy and responsibility to the participants" (p. 23), however, they also warn that certain students "might not be familiar with this way of learning" (p. 23). On the other hand, Lewis and O'Dowd (2016), citing Schwienhorst (2012), conclude that there is still little proof that TCs can boost students' autonomy. Moreover, Lewis and O'Dowd (2016) underline that the number of empirical TC publications reporting on learner autonomy is, overall, very low. Consequently, Lewis and O'Dowd (2016) do not unanimously conclude whether or not learner autonomy can be developed through TC projects, although towards the end of their review suggest that TCs environments are capable of sustaining such growth among students.

Shadiev and Yu (2022) highlight that TC exchanges can boost learners' motivation, as evidenced by around 11% of the reviewed studies, adding to the number of advantages of TCs. However, Çiftçi and Savaş (2018) report that students' lack of motivation to engage in TC exchanges is among the most common challenges of TC projects. Consequently, Çiftçi (2016) advices TC practitioners to make sure that their TC environments are sufficiently motivating and engaging for their learners.

Another potential advantage of TC projects is the one highlighted by Avgousti (2018) who argues that differences, for instance, cultural ones, between TC participants, or even minor conflicts, can serve as quality learning moments and events that spark cultural reflection among the students. Subsequently, Avgousti (2018) suggests that the existence of cultural differences and misunderstandings is natural in TCs and that they should not be avoided because they are the evidence of cultural growth and they have a potential positive teaching value if handled properly. Similarly, Çiftçi and Savaş (2018), citing Helm et al. (2012), suggest that conflicts among TC participants can be perceived as "an opportunity for [their] increased motivation" (p. 287), and encourage "the idea of taking learners out of their comfort zones as an optimal condition for increased intercultural awareness" (p. 287). Likewise, Wu (2021) points out that misunderstandings in TCs should be treated as learning chances and explains that disagreements can be resolved through discussions or guided reflection.

Turning now to the linguistic aspects of TCs, Çiftçi and Savaş (2018) report the existence of significant linguistic gains among the participants of TC projects. Similarly,

Shadiev and Yu (2022) state that around 30% of the publications reviewed in their study confirm the linguistic growth of TC participants. Lin (2014) concludes that TCs have a small to medium positive effect on FL acquisition when compared to learning in traditional classroom contexts while Lin (2015) suggests that, overall, TCs have a positive and medium effect size on FL learning. Further, Lin (2014) states that TCs can be a successful and effective alternative to traditional FL classrooms. Moreover, Yu (2022) concludes that video-based TCs have a positive and medium effect size on FL learning and, thus, students who take part in video-supported TCs can develop their FL skills to a better extent than learners who do not engage in such activities. Moreover, Yu (2022) underlines that such findings are in line with previous similar studies, which further reinforces such conclusions.

With regard to the improvement in language skills in particular, Shadiev et al. (2021) highlight that TC participants can develop all classic language skills through involvement in TC projects. Similarly, Lin (2014) reports that students' language skills can be successfully developed through their participation in either asynchronous or synchronous TCs. Shadiev and Yu (2022) indicate that writing is the most frequently developed FL skill across the reviewed TCs (45%), followed by listening (30%), speaking (24%), and reading (24%).

Ziegler (2016) suggests that students' productive skills can be developed to a further extent with the help of TC than in traditional FL classrooms while their receptive skills, such as listening and writing, can be developed better in traditional rather than TC contexts. Nevertheless, the study of Ziegler (2016) reviewed mostly text-based TCs, which explains the above conclusions. Ziegler (2016) clarifies that traditional FL classrooms have an advantage over TCs because they allow students to communicate using multiple channels, such as auditory, visual, and, in particular, gestures, among others. However, contemporary TC tools and technology already allow students for such multimodality in TC contexts and such capabilities are quite widespread. Hence, this limitation and characteristic of mostly past TCs can now be completely removed and, therefore, the related conclusions can be nullified, at least with regard to video-supported TCs. Positive findings concerning listening skills are also highlighted by Yu (2022) while Lin (2015) states that TC projects contribute significantly to boosting students' writing skills (medium effect size).

Çiftçi and Savaş (2018), Hughes (2022), and Yu (2022), citing several reviewed studies, highlight that in TCs students can easily practice speaking and, thus, develop their oral skills

in TLs. Lin (2015) reports that TCs are beneficial for developing oral skills, which is evidenced by the calculated small effect size.

Çiftçi and Savaş (2018), referring to a number of the reviewed articles, argue that TC participants can boost their knowledge of vocabulary by taking part in TC exchanges. Likewise, Hughes (2022), citing Tare et al. (2014), concludes that students who take part in synchronous text-based TCs boost their lexicon to a higher extent than learners who study the FL on their own.

With respect to NoM, Hughes (2022) states that although it does not take place frequently in synchronous text-based TCs, significant FL gains of TC participants are reported often in such TC projects. Consequently, Hughes (2022) infers that NoM does not impact FLL to a significant extent. However, Hughes (2022) implies that factors other than NoM must have a greater influence on FLL in synchronous text-based TCs, and identifies "self- and other-correction […], vocabulary modelling […], CF […], [and] structural alignment" (p. 13) as the potential variables. Moreover, Hughes (2022), citing Eslami and Kung (2016), suggests that "the number of correctly resolved LREs [is] in favor of the NNS-NS groups" (p. 11) and that the collaboration of NNSs with significantly distinct proficiency levels in the TL resembles NNSs – NSs interactions and power relations. Hughes (2022) compares such results with the findings of the study of Liu (2017), who claims that the amount of NoM is contingent upon the proficiency level, being the largest in the interactions of proficient NNSs, followed by non-proficient NNSs and NSs, proficient NNSs and NSs, as well as non-proficient NNSs. Similar findings are also offered by the study of Coyle and Reverte Prieto (2017), as reviewed by Hughes (2022). Lastly, Lewis and O'Dowd (2016) stress that NoM does not occur naturally in TCs and "need[s] to be promoted through careful task design and training of the learners" (p. 54).

As far as L1 and L3 (third language) use and acquisition are concerned, Çiftçi and Savaş (2018), note that L3 acquisition is possible in TCs thanks to the input received from TC partners. On a related note, Shadiev and Yu (2022) suggest that TC participants should be "allowed to speak both in the target and native languages" (p. 25).

Additionally, Hughes (2022), citing Rouhshad et al. (2016), reports that focus on form can be developed in TCs through joint writing activities. Although Lewis and O'Dowd (2016) report contradictory findings in the literature pertaining to focus on form, they conclude that TC is most likely to have a positive impact on students' linguistic growth if "tasks are

carefully designed to require linguistic accuracy and when students are aware of their role as language expert or tutor" (p. 55).

Multiple syntheses report on the potential advantages related to the concurrent development of both cultural and linguistic skills of TC participants. Zak (2021) states that TCs are commonly used for the purpose of teaching a FL and/or developing ICC. Similarly, Çiftçi and Savaş (2018) uncover that language and intercultural learning are the most frequent aims of investigations in the field of TC, however, they highlight that research is generally restricted to certain specific aspects pertaining to culture and language rather than the discovery of overall trends and tendencies. Shadiev et al. (2021) report that the majority of the reviewed studies on TC have more than one goal, for instance, combining cultural and FL learning. Moreover, Shadiev et al. (2021) conclude that intercultural growth should not be the only subject of TC projects. Rather, Shadiev et al. (2021) suggest adopting more than one goal in TC exchanges, for instance, parallel cultural and linguistic development.

Carney (2006), citing Torii-Williams (2004), provides evidence that TC projects lead to both cultural and linguistic gains. Likewise, Shadiev et al. (2021) state that a substantial number of the reviewed publications confirm that culture and language can be simultaneously and successfully developed in TCs. Also, Shadiev and Yu (2022) state that the majority of the reviewed TCs were successful and led to the growth of students' cultural and linguistic skills. According to Çiftçi and Savaş (2018), the vast majority of TC participants show "significant improvements in different aspects of language and intercultural learning" (p. 288) as a result of their involvement in TC exchanges. Likewise, Lewis and O'Dowd (2016) state that, overall, there is sufficient evidence in the literature to conclude that FLs and ICC can be concurrently developed through TC projects. Importantly, Lewis and O'Dowd (2016) conclude that cultural and linguistic aspects of TCs are inseparable and mutually dependent. In a similar vein, Shadiev et al. (2021) underline that in TCs FL is often taught in conjunction with culture since "language learning cannot be isolated from cultural learning" (p. 17) and "language learners should familiarize themselves with the target culture" (p. 17).

In addition to the above, Shadiev et al. (2021), based on the findings from a vast number of studies, point out that technology constitutes a significant component of TC projects and proves to be extremely useful in both cultural and linguistic growth of TC participants. Moreover, the study of Avgousti (2018) provides strong evidence that the linguistic and cultural growth of TC participants can be successfully boosted by using Web

2.0 tools. Additionally, Shadiev and Yu (2022) conclude that teachers' involvement is crucial in the process of students' cultural and linguistic growth. Lastly, according to Çiftçi and Savaş (2018), the reviewed studies, overall, show numerous benefits for TC participants in terms of culture and language, however, also outline a number of potential related challenges.

Several syntheses point to cultural growth as yet another potential benefit for TC participants stemming from their involvement in TC exchanges. To begin with, Dovrat (2022) concludes that the significant number of theories used to assess cultural gains in TCs highlights "the complexity of this skill and the difficulty in effectively and accurately measuring it" (p. 205). Lewis and O'Dowd (2016) uncover that the three most commonly used models that aim to capture students' cultural growth are those proposed by Bakhtin, Bennett, and Byram. Lewis and O'Dowd (2016) highlight also that none of these models is designed particularly to be used in online environments, such as TCs, but also point out that no other cultural model that is specifically designed for online settings exists. Similarly, Shadiev et al. (2021) report that TC research focused on culture is based on multiple theories (more than two dozen), among which Byram's and cultural convergence theories are the most frequently used, each accounting for about 15% of the total. Shadiev et al. (2021) encourage TC researchers to indicate the theoretical frameworks of their investigations in their publications as these are frequently not reported.

As far as the evidence for learners cultural growth is concerned, Çiftçi (2016) reports that TC literature often provides mixed and rather limited results pertaining to students' cultural growth. Nevertheless, Zhang and Zhou (2022) provide strong quantitative evidence that students' cultural awareness can be successfully boosted through their participation in TC projects, which was the case in 94% of the publications reviewed by them (positive and intermediate effect size). Likewise, Shadiev et al. (2021) report that nearly all of the reviewed studies (87%) provide evidence for students' cultural growth as a result of their participation in TC projects. Similarly, Shadiev and Yu (2022) state that the growth of cultural skills resulting from students' involvement in TCs is evident in around 34% of the reviewed studies.

Carney (2006) reports that intercultural learning indeed takes place in TCs and argues that "[t]elecollaboration can have many intercultural learning benefits for language learners" (p. 48). Likewise, Alvarez and Steiner (2019) highlight that TCs can boost the intercultural skills of their participants. Similarly, Zhang and Zhou (2022) argue that students'

participation in TC projects can significantly boost their cultural skills. Further, Zhang and Zhou (2022) add that the TC environment has a significant positive impact on the cultural advances of TC participants. What is more, Avgousti (2018) reports that the intercultural sensitivity (IS) of TC participants increases as a result of their engagement in TC projects, mainly due to the affordances of TC tools. Nevertheless, Avgousti (2018) concludes that findings on IS are sparse in the literature.

What is more, Avgousti (2018) and Çiftçi and Savaş (2018) report that participation in TC can increase students' curiosity towards various cultures. Similarly, Avgousti (2018) and Çiftçi (2016) state that TCs boost the interest and cultural growth of TC participants not only related to that of their foreign peers but also their own cultures. Avgousti (2018) stresses that knowledge about our own culture is crucial for the understanding of other cultures. Carney (2006), citing Fedderholdt (2001), highlights that TCs indeed allow students to increase their cultural awareness and knowledge, however, also cautions that such gains can be only superficial. Similarly, Avgousti (2018), citing other sources, states that the mere participation of students in TC projects does not translate to their cultural gains. Subsequently, Dovrat (2022) suggests the "potential of superficial or failed intercultural interactions due to poorly designed tasks" (p. 195). Also, Lewis and O'Dowd (2016) warn that the early studies on TC, i.e., those published up to 2007, overestimate the potential cultural growth of TC participants resulting from their engagement in TC exchanges. Lewis and O'Dowd (2016) note that studies published over this period frequently report the occurrence of cultural misunderstandings among students during TCs and attribute them to a variety of causes that "range from socio-institutional factors to broader cultural differences" (p. 50). Additionally, Çiftçi and Savaş (2018) emphasize that the investigation of such complex concepts as ICC, or cultural gains in general, necessitates more longitudinal studies than are currently available. Lastly, Alvarez and Steiner (2019) argue that the inclusion of cultural components in TC exchanges is essential even if the project itself is not focused on cultural differences.

Several syntheses note the potential beneficial changes in students' attitudes and skills resulting from their participation in TC projects. As far as communication skills are concerned, Shadiev et al. (2021) underline that learners can indeed enhance them by taking part in TC exchanges but Alvarez and Steiner (2019) caution that communication between TC participants is frequently not in-depth. According to the study of Çiftçi and Savaş (2018), TC

participants can also gain more confidence thanks to their participation in TC projects, particularly with regard to the use of various Web 2.0 tools. Similarly, Shadiev and Yu (2022) note that TC projects can boost learners' confidence levels. What is more, Avgousti (2018) argues that the use of blogs in text-based TC exchanges boosts critical thinking skills of their participants. Additionally, Shadiev et al. (2021) conclude that the majority of the reviewed publications yield positive findings pertaining to technological gains among TC participants. On the other hand, Lewis and O'Dowd (2016), citing Schwienhorst (2012), argue that there is sparse evidence proving the development of students' digital skills as a result of TC. Lastly, Avgousti (2018), based on the findings of Bray (2010), concludes that involvement in TC projects may help to facilitate the elimination of stereotypes among TC participants and encourages TC practitioners to use TCs for such purposes. Likewise, Zhang and Zhou (2022) report that learners' participation in TCs can contribute towards eliminating the stereotypes they possess towards certain cultures. In a similar vein, Shadiev and Yu (2022) underline that TC projects can help to neutralize learners' stereotypes concerning other cultures, as evidenced by about 7.5% of the reviewed publications. Nevertheless, Avgousti (2018) cautions that students' involvement in TC exchanges might also fail to eliminate cultural stereotypes and learners' engagement in TCs turns out to be only superficial.

3.8 Overall Success of Telecollaboration Projects

Lewis and O'Dowd (2016) conclude that the effectiveness, and, thus, success of TC projects depends on a myriad of variables. According to Çiftçi (2016), TC participants are generally happy with the outcomes of TC exchanges. Similarly, Shadiev et al. (2021) state that students' opinions about TC projects are generally favorable. Further, Shadiev and Yu (2022) report that TC participants are generally happy to take part in TC projects and are satisfied with their outcomes and personal gains acquired as a result of being involved in the exchanges. Çiftçi and Savaş (2018) report that, overall, there are more positive than negative reports stemming from the TC studies and directly from TC participants. Çiftçi and Savaş (2018) attribute students' satisfaction with TC to "lively engagement with speakers of the target languages and people from diverse cultures" (p. 285). Likewise, Çiftçi and Savaş (2018) provide examples of studies in which TC participants enjoyed the TC project so much that they were willing to take part in it again. Zak (2021), citing Patterson et al. (2012), notes that TCs are well-regarded by their participants even if some difficulties are encountered and students are generally willing to take part in such projects again. In particular, Avgousti

(2018), citing the study of Chun (2011), reports that "hedging, avoiding conflict, performing facework, and adding spontaneous thoughts rather than merely asking questions were indications of a successful online exchange" (p. 837). According to Çiftçi (2016), literature on TC rarely reports students' dissatisfaction towards TC projects, however, such findings are present. Çiftçi (2016) indicates that many TC studies indirectly report the dissatisfaction of TC participants with the exchanges. As Çiftçi (2016) reports, these negative opinions are most frequently rooted in technical issues. Consequently, Çiftçi (2016) suggests that merely transferring the interactions from the real to the online world is not always enough to ensure students' satisfaction with the project.

3.9 Criticism of Research Into Telecollaboration

Akiyama and Cunningham (2018) stress the need for TC researchers to offer detailed information and characteristics regarding their exchanges since the information provided to date was often not standardized and not sufficient. This call is further reinforced by the findings of Avgousti (2018) who highlights that 23 of the reviewed publications did not provide any information regarding the age of TC participants. Similarly, Lin (2014) encourages the researchers to offer thorough insights pertaining to their projects to allow for further analyses. As far as the effectiveness of TC is concerned, Ziegler (2016), based on the comparison of effect sizes across the studies, concludes that although both traditional FL learning and interactions in TC positively impact students' FL growth, TCs do so only to a slightly better extent than traditional FL instruction. Moreover, Çiftçi (2016) concludes that studies devoted to TCs frequently disclose "superficial findings without an in-depth analysis" (p. 320). Additionally, Lewis and O'Dowd (2016) underline that research on TC varies significantly and, thus, "it is difficult to reach entirely definitive conclusions" (p. 64). Here, for instance, Çiftçi (2016) states that some learning environments, age groups, and TC tools are more frequently reported on than others. As Çiftçi (2016) puts it, TC literature contains "repeating interactions between similar cultures and age or study groups, which sometimes resulted in poor exchanges" (p. 322). This reinforces the need to explore new research contexts beyond those that are already thoroughly investigated, i.e., tertiary education, and focus the research efforts on the understudied areas. In particular, Çiftçi (2016) recommends future studies in the field of TC investigate ELF exchanges. Lastly, Lin et al. (2013) highlight the need for "a qualitative research synthesis […] that not only reviews the obtained results but also addresses the effects of SCMC on [*sic*] second language learning process and the

reasons to [*sic*] both the effective and ineffective SCMC instruction" (p. 135) in the field of SLA. Lin et al. (2013) motivate this call by the fact that "the effectiveness of text-based SCMC on learners' learning process and affective aspects is not easily observed through quantifiable measures" (p. 135).

3.10 Conclusion

To sum up, it can be concluded that TC is a dynamically growing field of AL, particularly in recent years. TC research tends to focus on the analysis of the results of TC projects, highlighting their advantages and disadvantages, and, in particular, reporting on the good and bad practices, supported by empirical evidence. Moreover, TC research is increasingly theoretically grounded and is mostly of mixed and qualitative nature. Studies on TC concentrate on a small number of similar notions, such as FLL, intercultural development, and IT skills growth. Additionally, TCs are increasingly used in (pre-service) teacher education. Several studies agree that the field of TC is gradually maturing.

With regard to the overall characteristics of TC projects, it is evident that they mostly follow the tandem model, however, other TC forms, such as lingua franca exchanges, are currently on the rise. TC exchanges are also characterized by high variability in terms of their duration – they usually last for several weeks, mostly around 10, although they can vary from a single iteration to year-long projects, with very short and very long exchanges being rare. Importantly, TC projects often prove to be too short to fully implement all the envisioned goals. Correspondingly, it is noticeable that interactions in TC exchanges take place mostly on a weekly basis, however, examples of other arrangements are also evident in the literature. Notably, researchers commonly do not provide sufficient information regarding this aspect. The number of participants involved in TC exchanges varies significantly among the studies, however, most commonly, such projects are medium-sized and involve a few dozen of participants. What is more, learners frequently collaborate in pairs or small groups, with the latter being the most optimal setting leading to the biggest gains, according to several studies.

Moreover, various TC modes and tools are used in TCs for developing specific FL skills, intercultural knowledge, and other competencies. Older studies tend to report the dominant use of only asynchronous TC modes and tools, while the newer ones show the increasing use of only synchronous TCs and tools, in addition to TCs that use both TC modes and underlying tools. Several studies notice such changes in the literature across time and

argue that their main causes are the technological advancements that allow TC practitioners for a greater implementation of synchronous TC projects. Such growth is attributed also to the apparent higher learning gains resulting from synchronous TCs, when compared to asynchronous TCs. Moreover, studies agree that the concurrent use of both TC modalities and underlying tools is an effective and recommended solution. A number of reviews also explore the similarities and differences among text, video, and voice TCs, each of which offers its own set of potential benefits and drawbacks. There is, however, an observable increase in the implementation of non-text TCs and TC tools over time, with the exception of instant messaging apps and social media, both text-based, whose use, according to some authors, is also on the rise. What is more, several studies highlight a unique characteristic of TC projects, i.e., their multimodality, and point to its numerous merits. Additionally, several research syntheses agree that students' knowledge about how to use TC tools, be it prior or trained, is key to the success of TC projects. Nevertheless, studies outline numerous advantages and disadvantages of each TC mode and the related tools, allowing us to conclude that they should be selected individually each time, depending on various participant- and project-related factors. Lastly, no matter which TC tools are selected for the given TC project in the end, studies agree that their use is generally favorably perceived by TC participants. It is also evident that with the increasing digital skills of young people, boosted by the technological advances and accessibility of various electronic devices, the organization of future TC projects will be facilitated.

As far as the TC participants are concerned, it can be concluded that they come mostly from developed countries, located primarily in Europe and North America. Some studies underline also the recent increase in the number of studies in other geographical contexts, such as Asia, the Middle East, and South America. In the vast majority of cases, the L1s of TC participants correlate with the official languages of their countries of origin. What is more, the most commonly used TL in TC exchanges is English, distantly followed by other commonly studied world languages, such as German and Spanish. The reviewed studies agree that learners' proficiency in the TL is, regrettably, often not reported on. Nevertheless, most of the TC projects involve students with intermediate proficiency in the TL, with other levels being less common. The reviewed secondary research studies also reveal mixed findings pertaining to the role of proficiency in the TL in TC exchanges. The age of TC participants varies greatly depending on the study, however, university students are the

most commonly investigated age group. Overall, most TCs take place at the tertiary education level.

The past TC syntheses draw attention to numerous important aspects related to the organization of TC projects, such as the need to carefully plan them, include prior training for TC participants, and envisage sufficient time for the exchange. Moreover, they describe the crucial role of task design, tasks, and task types in TC projects, as well as suggesting feasible solutions to fully harness the potential of TC activities. Several ways to ensure the satisfactory involvement of students in TC projects are also outlined, along with detailed explanations of the roots of the lack of learners' participation. The literature offers mixed findings pertaining to the collaboration of TC participants with NSs and NNSs. The past reviews underline also the vital functions of feedback, mentoring, and reflection in TC projects. Moreover, the analyzed syntheses discuss the roles of teachers in TCs and provide suggestions on how to ensure good cooperation between partner teachers. Lastly, the past TC exchanges enumerate multiple potential issues that are likely to occur in TCs and give advice on how to avoid them or cope with them.

The reviewed secondary research studies enumerate multiple potential advantages and disadvantages of TC projects. The notable findings are that TCs are authentic, safe, and supportive learning contexts that are capable of facilitating students' growth in a number of aspects. Such areas include, for instance, the learning, linguistic, and cultural domains. In particular, TC is found to boost students' motivation towards learning and autonomy. Moreover, TCs are purported to significantly advance learners' FL and cultural skills, which can, and is, recommended to be done parallelly in TCs. What is more, the reviewed publications outline that several skills and attitudes, such as communication skills, critical thinking, and digital skills, can be advanced through TC exchanges. Notably, it is evident that TC can be successfully used as a substitute for study abroad programs and can contribute toward the elimination of students' stereotypes. The examined secondary research literature provides evidence of both successes and failures in TCs, however, overall, there seem to be more benefits than drawbacks of TC exchanges, which validates their implementation in a variety of contexts.

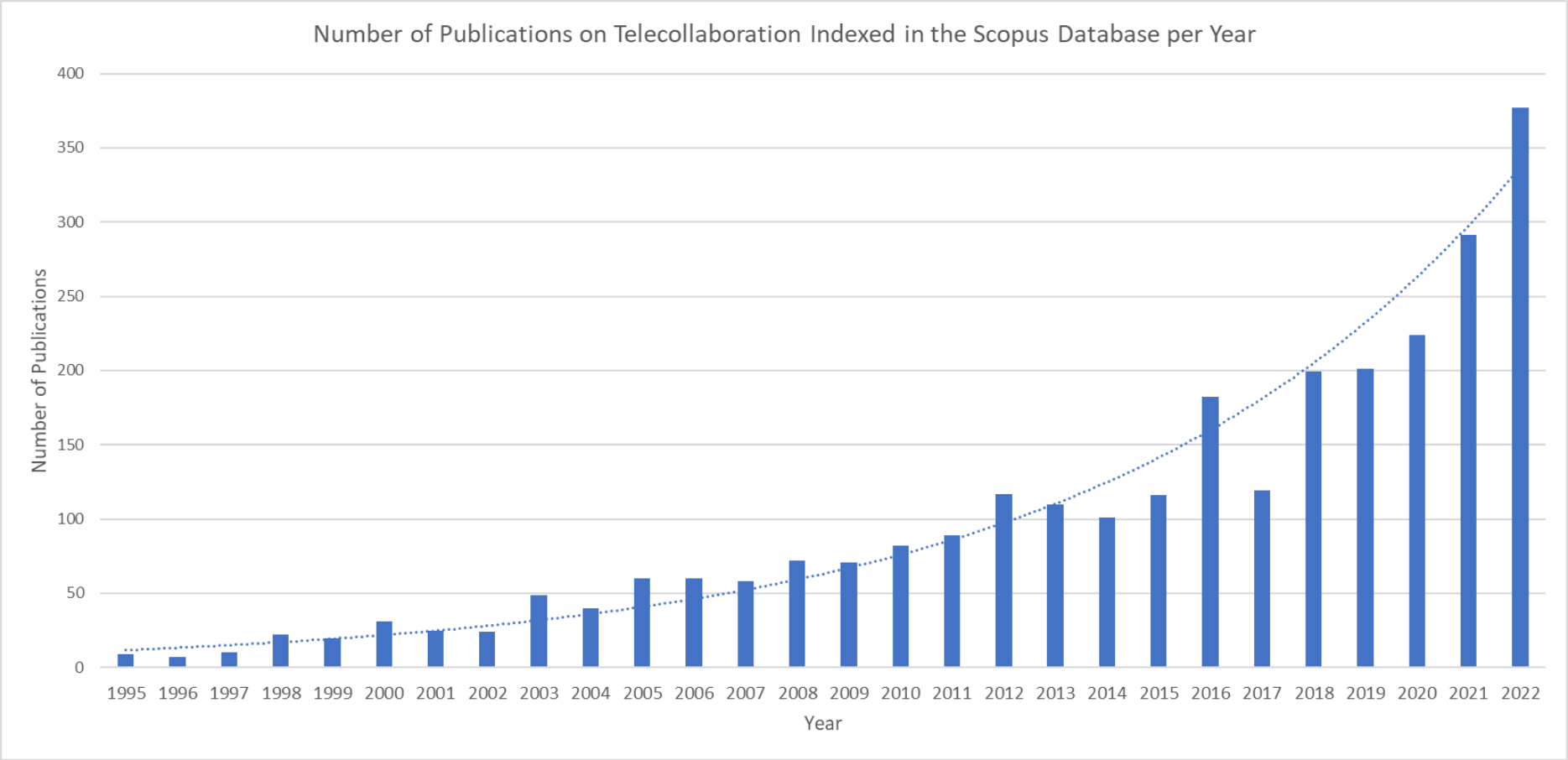
Having assessed the literature on TC published to date, chapter five will set out to explore the contents of the most recent studies devoted to ELFTCs. First, however, in chapter four, the research rationale and methodology of this study will be outlined.

Chapter Four: Methodology

4.1 Research Rationale

During the initial literature review in the field of TC, I identified a recent exponential growth in the number of studies devoted to this approach, including ELF projects, that had already occurred prior to, but especially during and after the COVID-19 pandemic. This observation was later confirmed by several studies, for instance, Barbosa and Ferreira-Lopes (2021). Given the circumstances, such as the immediate need to transition to emergency online learning that, in turn, led to the increase in the number of TC projects, I classified TC as an emerging field, which urgently needs an in-depth investigation. This was mainly due to the burgeoning interest of practitioners and researchers in this practice as well as the rapid increase of projects and studies devoted to TC. Consequently, given the fact that, to the best of my knowledge, there was no secondary research of any kind devoted specifically to ELFTC projects, I decided to collect, analyze, and synthesize them. The specific reasons behind this decision, the expected outcomes, and the targeted recipients of this paper are outlined below. The historical growth of studies in TC, seen on the example of the number of studies indexed in the Scopus database on this topic, is presented in Figure 2 below.

Figure 2 The Number of Publications on the Topic of Telecollaboration, Indexed in the Scopus Database Over Time



Note. The search was conducted only with the use of the term “telecollaboration.”

First, despite the fact that ELF practice has been present in TC for many years, after an exhaustive literature search, I concluded that no reviews devoted to ELFTC projects have been published to date (as of November 2020). Since there is a large body of research that has not yet been subject to secondary review, there exists an urgent need to synthesize the studies devoted to ELFTC projects. The findings of such an investigation would be of interest to multiple groups, for instance, researchers and practitioners, including English S/FL teachers. A review of ELFTC studies would allow the former group to comprehend the current state of research in this specific domain. It would also help them to identify existing research gaps and plan future investigations. On the other hand, the latter group would gain a fresh overview and understanding of the ELFTCs, learn about its potential benefits, drawbacks, and best practices that stem from the latest studies, as well as being able to gather new ideas for their own future projects. In turn, one of the goals of this review is to provide the researchers with updated information regarding the novel findings in the field that would guide their future work. Consequently, this study aims to offer practitioners the knowledge they need to put these findings into practice, such as the best solutions associated with the design and implementation of such projects, which would, conversely, facilitate the language learning process and cultural gains, among others. It is expected that this synthesis would significantly contribute to the overall knowledge concerning ELF projects by presenting conclusions that stem from a large number of recently published studies in a reader-friendly manner, thus, making them readily available to all interested parties. This, in turn, is expected to facilitate future projects of this kind as well as increase their quality and potentially also their number.

Second, TC in general (Barbosa & Ferreira-Lopes, 2021; Sauro, 2011) and ICC in particular (Avgousti, 2018; Çiftçi, 2016) have been the subject of reviews over the last few years. However, I have not been able to find any secondary research that has been devoted specifically to ELFTC projects to date. Hence, the need to fill this research gap by synthesizing studies devoted to this subject, analyzing them in-depth, and, thus, potentially contributing to the promotion of this practice among interested parties. Given the continuous growth of TC, it can be inferred that identical phenomena would also take place in the case of ELFTC projects, which warrants the need for analysis of this type of undertakings as much as similar approaches.

Third, the aim of this thesis is to contribute to the generalization of findings concerning ELFTC practices. The studies devoted to ELFTC projects, much like other types of TC projects, often include a small total number of participants (a limitation in itself) whose beliefs, culture, customs, L1s, and nationalities typically affect the projects and the extrapolation of their conclusions. These factors hinder generalizations of findings that emerge from such investigations, as the authors frequently highlight themselves. Yet, this synthesis, due to its very nature, aims to collect the conclusions scattered across different, individual studies, which took place in diverse cultural and language contexts around the world. As a result, it is expected that this perspective will provide a fresh outlook on ELFTC projects, allowing us to make broad generalizations and draw conclusions that could not be reached otherwise, for instance, as an outcome of a single study.

Lastly, this review aims to address the issue that some English learners might face if their mother tongue is not a language that is commonly studied by others. While NSs of languages that are frequently studied around the world (such as English, French, Spanish, etc.) are usually the desired partners for tandem TC exchanges, NSs of other, less popular languages, are somewhat disadvantaged due to the lower interest in their L1s. In turn, they are not frequently chosen as partners in TC projects with NSs of their TLs due to their inability to offer feedback in a language that would be desirable by the other party. Consequently, due to the limited possibility of finding partners for tandem TC exchanges, such groups of learners do not participate in any initiatives of this kind at all. Yet, given the fact that they often study English, projects that use English as the working language might be a suitable solution for them, offering an experience comparable to tandem TC exchanges. Hence, this study aims to investigate the nature of ELF collaborations to address the overlooked needs of some NNSs of English and verify whether they can be successfully used in the S/FL learning context as an activity that would enhance language learning and, perhaps, also other competencies.

Consequently, the novelty of the ELFTC field, the constantly increasing number of studies devoted to it, and the lack of secondary research dedicated to this matter, validate the urgent need to investigate and synthesize ELFTC practices. This is further justified by the increasing interest in and the exponential growth of TC in recent years (Barbosa & Ferreira-Lopes, 2021). Also, several groups, such as researchers and practitioners, would certainly be interested in the results of a synthesis devoted to ELFTC projects. No less important is also

the fact that TC is gaining recognition at all educational stages as an innovative teaching practice (Jauregi & Melchor-Couto, 2017), while the characteristics of TC projects between non-native English learners remain largely overlooked in comparison to tandem TC exchanges as well as in terms of secondary research. All of these aspects need to be addressed and the goal of this dissertation is to do so. Accordingly, this synthesis aims to answer the following research questions:

(1) What are the characteristics of recent ELFTC projects?
(2) What are the advantages, disadvantages, and best practices that stem from novel ELFTC projects?
(3) What are the benefits of ELFTC projects for language learning and other competencies, according to the latest literature?
(4) How are the recent findings stemming from ELFTC literature related to the results of past syntheses on TCs?

4.2 Method

4.2.1 Search Strategy and Instruments Used

To perform the review and answer the research questions outlined above, a corpus of RAs devoted to recent ELFTC projects had to be created. Multiple scholars suggest a diversified search for the targeted literature and concurrently look for it in various spaces, such as databases (Avgousti, 2018; Brunton et al., 2012; In'Nami & Koizumi, 2010; Lipsey & Wilson, 2001). Consequently, relevant studies were collected from two online databases – Scopus (Elsevier) and Web of Science, or WoS (Clarivate Analytics). They are considered the leading and largest multidisciplinary academic databases (Barbosa & Ferreira-Lopes, 2021; Rejeb et al., 2020; Skute, 2019), which validates their use for the purpose of in-depth analyses of various fields (Aghaei Chadegani et al., 2013; Harzing & Alakangas, 2016). Moreover, they are commonly used to compile reliable datasets in the field of AL and, more specifically, TC (Avgousti, 2018; Barbosa & Ferreira-Lopes, 2021; Lim & Aryadoust, 2021; Shadiev & Sintawati, 2020; Zhu & Liu, 2020). Further, these two databases index only peer-reviewed publications, which allows to eliminate “gray/grey” or “fugitive” literature from the corpus at the very beginning of the process (Chong & Plonsky, 2021; Norris & Ortega, 2006, 2010). Both Scopus and WoS permit researchers to use multiple filters to refine search results, for instance, choosing the document type, selecting the language of the publication, or narrowing down the topic of the paper, which greatly facilitates the process of collecting

the targeted studies. Likewise, Boolean operators and truncation can be used when performing a search in both of them, although both of the databases currently support the lemmatization of the words being searched for automatically.

Although other databases, such as the Bielefeld Academic Search Engine (BASE), Google Scholar, or The Lens, index more studies than Scopus or WoS, they do not offer the same set of preferences and refined search tools, which are desirable from the reviewer's standpoint. Moreover, the former three databases include both peer-reviewed and non-peer-reviewed literature, whose inclusion would be against the assumption to assess only high-quality studies. What is more, the entries of these databases frequently have low quality (missing and/or incorrect data). Accordingly, to obtain high-quality, peer-reviewed studies with reliable metadata for the corpus, I decided not to use BASE, Google Scholar, and The Lens databases, among others, for the purpose of creating a corpus used in this study.

Having reviewed research syntheses published in the field of TC to date, my objective was to overcome their limitations in this study. These included, for instance, the low number and variety of sources from which the primary studies were retrieved and the restricted scope of search of some of the previous studies. Lewis and O'Dowd (2016) as well as Piri and Riahi (2018), for instance, extracted their studies only from four major journals that publish studies on TC, i.e., CALL, CALICO, LL&T, and ReCALL. Then, Çiftçi and Savaş (2018) focused only on the studies found in the same four journals and the Education Resources Information Center (ERIC) database. Çiftçi (2016) as well as Shadiev and Sintawati (2020) conducted their literature search only in one database (ERIC and WoS respectively). The existence of studies based on such restricted scopes of research validates and, in fact, stresses the need to conduct an analysis that would be more extensive in terms of the search scope (Chong & Plonsky, 2021; Cooper, 2015; Norris & Ortega, 2006).

On the other hand, the study of Avgousti (2018), which seems to be the most comprehensive in terms of sources selection out of the syntheses I reviewed, included as many as six databases, i.e., ERIC, Linguistic Abstracts, Linguistics and Language Behavior Abstracts (LLBA), the Modern Language Association (MLA) International Bibliography, PsycINFO, and Scopus. Yet, it has to be noted that since the publication of that paper some of these academic databases were acquired by new companies and are now included in larger datasets. Such was the case of LLBA, which at the time of creating that review was a product of ProQuest and, therefore, was available in its dataset, but now is integrated into

the WoS database, following the recent (December 1, 2021) acquisition of ProQuest by Clarivate (a parent company of WoS).

Also noteworthy is the fact that nowadays most of the journals, such as the four journals reviewed by Lewis and O'Dowd (2016) as well as Piri and Riahi (2018), i.e., CALL, CALICO, LL&T, and ReCALL, are indexed in Scopus and/or WoS. Reviewing them manually in search for relevant articles would not only be time-consuming, but potentially also error-prone due to the nature of manual search, which could lead to the omission of some relevant studies. What is more, a set of primary studies compiled only on the basis of a search in a few pre-selected journals might not necessarily be considered comprehensive and/or reliable. Moreover, the potential publication bias could be questioned. Instead, it is advisable to perform a much wider search (Chong & Plonsky, 2021; Cooper, 2015; Norris & Ortega, 2006), which could be achieved, for instance, by conducting a search in several (Avgousti, 2018; Lin, 2014), or even just two vast databases (Barbosa & Ferreira-Lopes, 2021; Sauro, 2011). Consequently, the risk associated with a potential omission of a significant number of applicable primary studies due to the narrow search would be minimized, while the basic requirement of every review, that is, exhaustive search, would be fulfilled (Chong & Plonsky, 2021; Cooper, 2015; Norris & Ortega, 2006).

Due to the current characteristics and sizes of academic catalogues, conducting a search in just two of them can be considered sufficient. A search in combined databases, such as Scopus and WoS, which comprise numerous other archives that were independent in the past, generates more (and more relevant) studies than the same search in multiple databases in the past.[16] With that in mind, using only two, yet substantial databases for the purposes of this study (Scopus and WoS), seems to be appropriate, sufficient, and even more inclusive than the search strategies of several similar studies to date.

4.2.2 Keywords Used

To retrieve the targeted studies, a number of keywords had to be identified beforehand. Thus, I thoroughly reviewed the literature in the field of TC and identified the following recurring keywords:

(1) collaborative online international learning (COIL);

(2) eTandem or e-tandem;

[16] While using the same search criteria as the original study.

(3) etwinning or e-twinning;

(4) global virtual collaboration (GVC);

(5) global virtual teams (GVT);

(6) globally networked learning environments (GNLE);

(7) intercultural virtual collaboration (IVC);

(8) internet-mediated intercultural foreign language education (ICFLE);

(9) online intercultural exchange (OIE);

(10) telecollaboration (TC);

(11) teletandem;

(12) virtual exchange (VE).

These keywords were used by other meta-analyses, meta-syntheses, or reviews published to date (Avgousti, 2018; Barbosa & Ferreira-Lopes, 2021; Çiftçi, 2016; Çiftçi & Savaş, 2018; Lewis & O'Dowd, 2016; Piri & Riahi, 2018). They were also included in some publications (Dooly & Vinagre, 2021; O'Dowd, 2016, 2018). The terms identified above are typically used interchangeably, however, most of the studies use only a few of them at a time. Given this fact and the aim to collect as many potential and relevant keywords as possible to fulfil the assumption of an exhaustive search (Chong & Plonsky, 2021; Cooper, 2015; Cooper et al., 2019; Norris & Ortega, 2006), the keywords outlined above came from various sources. Certainly, this is not a complete list of phrases that have been coined and used to describe TC projects (for more please see, for instance, O'Dowd (2018)), however, these are the most widespread and well-defined terms that have been used and are still used by researchers and practitioners worldwide when referring to TC projects. Through the use of these keywords in a database search, relevant articles that were of interest to this study were retrieved.

Interestingly enough, there are some domain-specific and regional preferences when it comes to the use of these keywords. For instance, "global virtual teams" is frequently used when reporting studies from the fields of business, education, and management, among others (Crowne, 2020; Ferreira-Lopes et al., 2021; Glikson & Erez, 2020; Magnier-Watanabe et al., 2017; Zwerg-Villegas & Martínez-Díaz, 2016). Publications concerning eTwinning projects sometimes do not include even the core term "telecollaboration" (Cinganotto, 2017; Tonner-Saunders & Shimi, 2021), despite the identical nature of activities presented in such papers. On the other hand, Latin American authors, mainly from Brazil, frequently use

the terms “e-tandem” and “teletandem” to describe collaborative projects (Cavalari & Aranha, 2016; Guanoluisa & Viera, 2021; Hernández Alvarado et al., 2018; Rampazzo & Cunha, 2021; Schaefer, 2020; Serrato & Padilla Rodriguez, 2020; Telles, 2015). Hence, aiming to retrieve as many relevant studies as possible, it was decided that all of the keywords listed above would be used in the search.

In addition to these keywords, which aimed to narrow down the search to studies concerning TC projects, “language learning” was also included in the search string. This additional component aimed at boosting the number of studies that focused on language learning in the final corpus. At the same time, I strived to exclude irrelevant studies that did not concern language learning at all and were not the subject of this study.

4.2.3 Search Criteria

The search was narrowed down to studies published between 2016 and 2021, both inclusive, and, more specifically, January 1, 2016 and December 31, 2021. The starting year was set to 2016 due to the fact that most of the previous reviews in the field of TC analyzed papers published prior to 2016. The systematic review of Lewis and O’Dowd (2016) concerned the studies published between 1990 and 2015, the study of Çiftçi (2016) included papers published until 2014, the synthesis of Çiftçi and Savaş (2018) was devoted to studies published between 2010 and 2015, while the systematic review of Avgousti (2018) set its timeframe to 2004 – 2015. Consequently, there is a vast body of research that has not yet been analyzed by means of secondary research, i.e., the studies from 2016 onwards. Even the existence of some newer reviews, such as that of Piri and Riahi (2018) or Shadiev and Sintawati (2020), which concern studies published between 2007 and 2017 as well as 2014 and 2019 respectively, still suggests that a significant number of new primary studies, i.e., those published after 2019, remain unanalyzed by means of secondary research.

On the other hand, the closing year was set to 2021 since it was the last full year that preceded the analysis of the publications under scrutiny, which took place in 2022. The aim of this thesis was also to analyze the most recent literature. Hence, I decided to limit the timeframe to only the last six full years, following the works of Shadiev and Sintawati (2020) as well as Shadiev and Yu (2022), which also investigated studies published over a period of six years (2014 – 2019 and 2015 – 2020 respectively).

At this point it is also crucial to highlight the recent exponential growth of studies concerning TC exchanges, as reported, for instance, by Barbosa and Ferreira-Lopes (2021),

and as already illustrated in Figure 2 of this dissertation. What is more, a significant number of papers devoted to TC were published during and after the COVID-19 pandemic, mainly in 2020 and 2021. A Scopus database search of the keyword "telecollaboration" returned 180 results in 2016, 114 in 2017, 182 in 2018, 176 in 2019, 214 in 2020, and 273 in 2021.[17] Further calculations that followed the same criteria revealed that a total of 1,130 studies included the word "telecollaboration" between 1995 and 2015 (both inclusive), while 1,139 studies did so between 2016 and 2021 (both inclusive), the latter timeframe being under the scrutiny of this thesis. This shows that the number of studies published over 16 years (1995 – 2015; 1,130 publications) is nearly equal to the number of studies published over a period of just six most recent years (2016 – 2021; 1,139 publications), which clearly shows the contemporary growth of the field of TC and, thus, the magnitude of the phenomenon that this thesis attempts to analyze and synthesize.

The search was limited to journal articles (primarily referred to as RAs in this dissertation) since they are the primary way of communicating the novel research findings to the public (Plonsky & Gass, 2011; Smith & Lafford, 2009). On the basis of my own calculations and initial database search, I established that the number of RAs on the subject of TC significantly exceeded the number of investigations available in any other form.[18] The inclusion of only journal articles was deemed to be the most appropriate since this document type constitutes a representative sample of the domain, which can be reviewed later. Despite the existence of studies devoted to TC projects in other sources, such as books, book chapters, book sections, conference papers, etc., I decided that they would not be the subject of this study. This was mainly due to organizational reasons, i.e., the need to create a homogeneous corpus to facilitate the subsequent coding process. What is more, I concluded that the remaining publications would most probably not alter the results of this study significantly, thus, they could safely be omitted. Additionally, often times the full texts

[17] The search was conducted in Scopus database in January 2022 and included only the keyword "telecollaboration," which had to appear at least once somewhere in the text. No other search criteria were applied.

[18] The Scopus search that followed the search criteria that are being outlined in this section yield a total of 320 publications: 229 journal articles, 63 book chapters, 16 reviews, four books, three editorials, one conference paper, and one note. On the other hand, the WoS search yield 491 results in total: 381 articles, 71 conference papers, 38 books and book chapters, 29 review articles, 26 publications denoted as "early access," 13 editorial materials, six publications labeled "other," two abstracts, one case report, one correction, and one "unspecified" publication. In the case of WoS, some publications are categorized under more than one label, thus, individual numbers do not add up to the presented total number.

of sources other than journal articles are difficult to obtain, even if multiple retrieval strategies are adopted. Hence, I made the decision to exclude publications other than journal articles from the corpus of this study.

Moreover, I refined the results of the search depending on the language of the publication. In the final corpus I, included only the RAs written in English. The main reason behind this decision is that English is the lingua franca of science and nowadays the vast majority of publications are available in English. This proved to be the rule also in the field of TC where, by means of a series of initial searches, I discovered that the substantial majority of the publications are, in fact, available in English. Additionally, since this study focuses on English learning, it seems logical to choose RAs written in English for my analysis. Another reason behind such a decision is my desire to appeal to as wide an audience as possible, which is possible if my study is written in English. Correspondingly, aiming to make my research as transparent, verifiable, and replicable as possible, my study reviews RAs written only in English rather than other languages. It is evident that verifying the analysis of RAs and, if needed, consulting the primary studies written in languages other than English, would be possible only to a limited number of potential readers. What is more, including RAs written in languages other than English would require finding the terminology equivalent to the English one, which would constitute a significant obstacle that would also be prone to criticism. Additionally, a thorough review of RAs written in languages other than the ones I know would require the involvement of other reviewers in the process, preferably the NSs of such languages, which, again, was not a viable solution in the case of this study.

The search was also narrowed down by the subject area. In Scopus, the pre-defined categories “arts and humanities” and “social sciences” were selected, while in WoS the research areas “arts and humanities,” “education educational research,” “linguistics,” and “social sciences” were used. By refining the search results this way, I aimed to find more relevant studies in the final set of RAs by including only those fields that correspond to the subject of this thesis.

4.2.4 Inclusion Criteria

I made great efforts to create a robust search strategy design, which aimed at collecting RAs devoted to ELFTC projects that focused on language learning that were written in English and published between 2016 and 2021 (both inclusive). However, the database search could only narrow down the number of studies to a certain extent and with

a certain threshold of correctness. As a result, I had to include or exclude the remaining RAs manually. I conducted this process according to a set of objective and transparent pre-established criteria, which were applied when screening each publication, leading to the creation of a coherent collection of RAs. I created this set of rules specifically for the purpose of this study on the grounds of the strategies adopted in past similar reviews, but also inductively on the basis of my own research needs, knowledge about the literature and its specificity, as well as introductory literature searches, which preceded the main search. Accordingly, the following 13 inclusion criteria were adopted. Notably, the database search was responsible for ensuring that the first three of these criteria were fulfilled. Nevertheless, I manually verified the correctness of this process later. I applied the remaining 10 inclusion criteria manually during the later stages of the RAs retrieval process.

(1) The RA was published between 2016 and 2021 (both inclusive);
(2) The RA was published in the form of a journal article;
(3) The RA was written in English;
(4) The RA was an empirical study, i.e., reported on a TC project;
(5) The TC project took place between at least two groups of participants who were located in geographically distant locations, i.e., in different countries;
(6) The majority of the participants in each of the project groups included students that had a different nationality from that of the participants from the other group(s);
(7) The participants were learners of any subject at any educational stage;
(8) The TC project was part of a formal educational context;
(9) Language learning was one of the goals of the TC project and this was reported on in the RA;
(10) English was the lingua franca of the TC project;
(11) The participants' L1s were different from English and from the L1s of other participants;
(12) The TC project included the use of at least one TC tool;
(13) The RA included verbatim or raw data, such as participants' responses.

4.3 Procedure

4.3.1 Stage One: Database Keyword Search and Application of the Search Criteria

First, I performed an advanced keyword search in Scopus and WoS databases in January 2022. The search string of each of the databases included 14 keywords: etandem*[19], e-tandem*, etwinning*, e-twinning*, global virtual teams, globally networked learning, intercultural exchange*, internet-mediated intercultural foreign language education, online international learning, telecollaborat*, tele-tandem*, teletandem*, virtual collaboration*, and virtual exchange*. These are the modified equivalents of terms synonymous with TC that are frequently used in the literature and were already listed earlier in this chapter. All keywords were separated by a Boolean operator "or" and any of them had to appear either in the title, abstract, or the keywords of the RA to be included in the corpus. Notably, no TC review published to date used all the 14 keywords at once. The full search strings are presented in Appendix 1.

As I mentioned previously, "language learning" was added to the search string with the use of the Boolean operator "and" after the keywords listed above. However, in contrast to the former procedure, this keyword had to be present somewhere in the whole text. The purpose of including this phrase was to refine the results of the search so that they would comprise as many relevant RAs that discuss language learning as possible. At the same time, the aim of this procedure was to exclude as many irrelevant studies that did not discuss language learning from the corpus.

All of the remaining search criteria, as outlined earlier, were applied to the search in each of the databases. Consequently, Scopus returned 229 results while WoS yielded 380 of them. This gave a theoretical total of 609 studies, however, this number was reduced significantly as a result of the stages of the RAs retrieval process presented below.

4.3.2 Stage Two: Import of the Results From the Databases to the Mendeley Reference Manager and the Removal of the Duplicates

Second, I imported the results of the searches from the two databases as RIS files and imported them to the Mendeley Desktop, a freeware reference manager. Then, I merged the

[19] Truncation, here represented by the asterisk symbol (*), was used to widen the scope of the search in two ways. First, "telecollaboration" and "telecollaborative" are two frequently used keywords. To include both of them in the search at the same time, a truncated form "telecollaborat*" was used. Second, WoS, in contrary to Scopus, does not automatically search for plural forms of the entered keywords. Hence, truncation was used to include also their plural forms in the search results. For the sake of simplicity, the same keywords (presented here) were used when performing a search in both databases. The use of truncation in the case of Scopus, which can be considered redundant, had no effect on the number of results retrieved since they would have been found regardless of the use of truncation.

two datasets and removed the duplicates using three methods. First, by means of using the "remove duplicates" option available in Mendeley which allowed me to compare and delete the entries that the software deemed to be similar. Second, by sorting all the entries alphabetically by authors' last names and visually comparing whether there were any similarities among them. Third, by sorting all the records by the title of the paper and likewise searching for the same publications. Subsequently, I carefully examined the duplicates that I found by any of these three methods and deleted them from the corpus if they indeed were duplicates. Thanks to the first method, I deleted 147 duplicates and the number of RAs dropped from 609 to 462. With the help of the second and third method, I identified and removed an additional 19 duplicates from the corpus. Consequently, I reduced the total number of RAs in the corpus to 443. All of these RAs entered the next stage of the RAs selection process, i.e., the screening of titles, abstracts, and keywords.

4.3.3 Stage Three: Screening of Titles, Abstracts, and Keywords

In the third stage of the RAs selection process, I scrutinized the titles, abstracts, and keywords of the RAs using the pre-established and previously outlined inclusion criteria, and selected only the applicable studies. If the title, abstract, or keywords were not obtained as a result of importing the entries from the database, the missing elements were extracted from the full texts of the RAs found online. If the title, abstract, and keywords of the given RA did not provide sufficient information to either include or exclude it, I consulted the full text to check the compliance with the inclusion criteria and make the final decision.

To ensure the reliability and transparency of this process, each RA that was excluded from the Mendeley corpus was added to a Microsoft Excel spreadsheet along with the reason(s) for its deletion. Notably, all excluded RAs were categorized by the year of publication and sorted alphabetically by the title within the same year. Prior to any deletions in Mendeley, I noted the following yearly distribution of all 443 RAs 2016: n = 62; 2017: n = 63; 2018: n = 50; 2019: n = 63; 2020: n = 89; 2021: n = 116. Then, I closely tracked the number of excluded RAs per year both in Excel and Mendeley. The number of deleted and remaining RAs (in relation to the total number of RAs at the beginning of the process) was checked frequently, at least twice throughout the elimination process in the case of each year. This ensured the reliability, coherence, and correctness of data. In total, 318 out of 443 RAs were deleted during this stage: 2016: n = 48; 2017: n = 45; 2018: n = 34; 2019: n = 39;

2020: n = 65; and 2021: n = 87. I grouped the reasons behind the exclusions of RAs into five categories, i.e.,

(1) The subject of the RA was irrelevant (n = 162);

(2) No TC project was reported on and/or the RA was purely theoretical (n = 65);

(3) The TC project was not carried out in English (n = 46);

(4) The RA was not a journal article (n = 40);

(5) The TC participants came from the same country (n = 5).

Consequently, upon the deletion of 318 RAs, the number of the RAs remaining in the corpus decreased to 125 RAs, all of which satisfied the first 10 inclusion criteria. The remaining three inclusion criteria required an even more in-depth analysis and retrieval of data that could not be found among the titles, abstracts, or keywords of the RAs. As a result, I obtained the full texts of the remaining RAs and further screened them. However, before that, I performed another method of collecting relevant RAs – snowballing. The next section describes this process in detail.

4.3.4 Stage Four: Snowballing

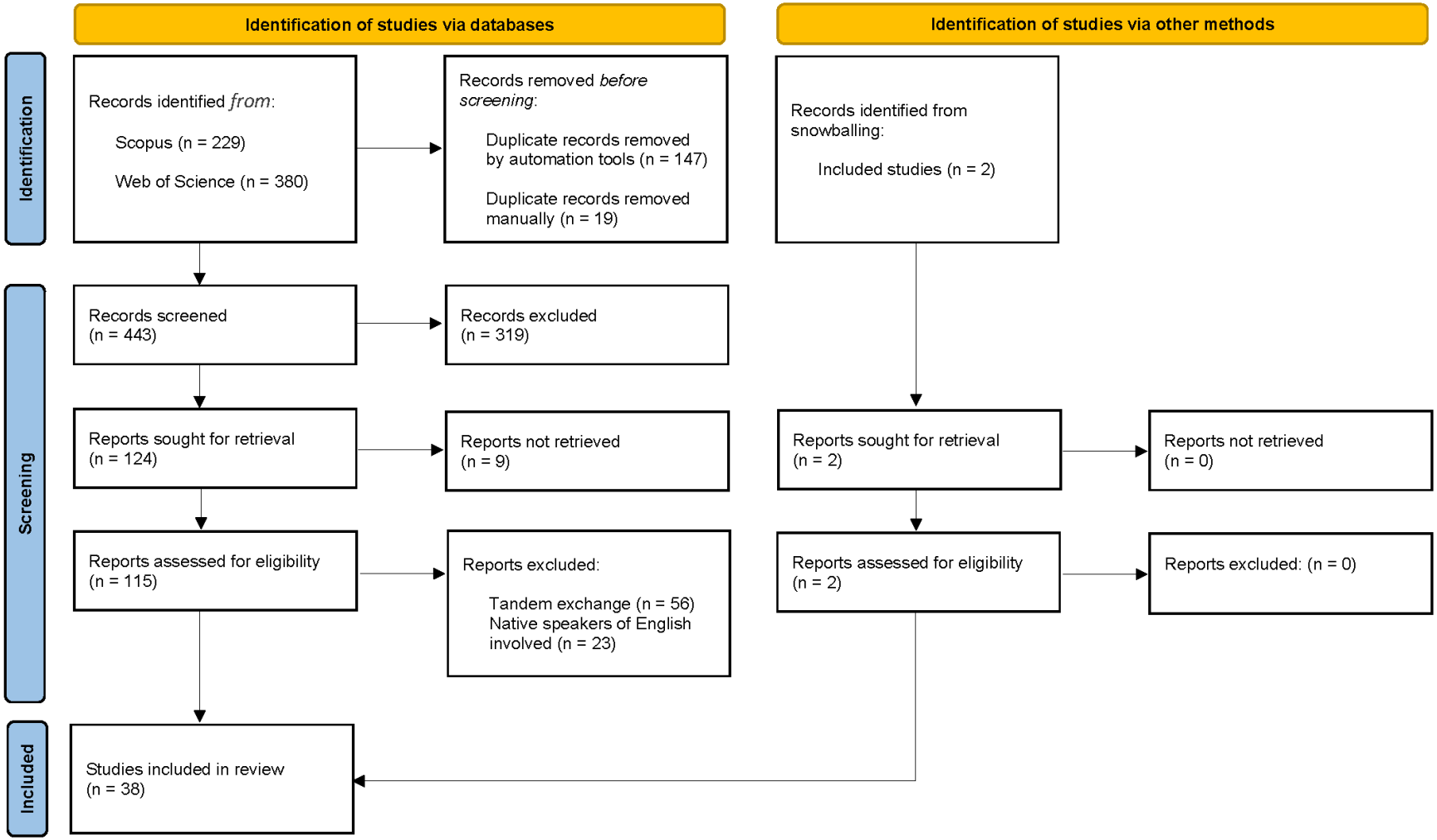
At this point in the RAs retrieval process, Chong and Plonsky (2021) advise researchers to review the references of the already included publications to potentially increase the number of relevant studies in the corpus. This step is grounded by the assumption that some of the references of the already included publications might also fit the characteristics of the studies that a given investigation is looking for and fulfil the already applied inclusion criteria. Hence, I collected the references extracted from the 125 RAs (included so far) in a Microsoft Word document. There, I sorted them alphabetically by the first author's last name. Next, I removed all duplicates and entries that did not meet the timeframe of this study. After analyzing the titles of the remaining entries, I retrieved and screened the abstracts of the RAs that were likely to fit the inclusion criteria set in this study. Ultimately, I added two new RAs to the corpus. As a result, the corpus increased to a total of 127 RAs.

4.3.5 Stage Five: Screening of Full Texts

To check which of the 127 RAs fulfilled the three remaining inclusion criteria, I performed a more detailed analysis, i.e., the screening of full texts. Out of the 127 RAs, I was able to retrieve 118 RAs. Despite an exhaustive search in various sources and databases, I could not obtain the full texts of nine RAs. Thus, I screened only 118 RAs in this stage of the

process to verify their compliance with the remaining three inclusion criteria. Accordingly, I excluded a total of 80 RAs, which discussed tandem TCs or included the involvement of a significant number of NSs. Finally, out of 118 RAs, only 38 RAs met all 13 inclusion criteria and are the subject of the analysis of this dissertation. Their distribution per year is the following: 2016: n = 6; 2017: n = 7; 2018: n = 6; 2019: n = 8; 2020: n = 5; 2021: n = 6. Figure 3 presents a PRISMA 2020 flow diagram (Page et al., 2021) which outlines the first five stages of the RAs' retrieval process.

Figure 3 A PRISMA 2020 Diagram (Page et al., 2021) Outlining the First Five Stages of the Article Retrieval Process



4.4 Data Extraction and Harmonization

To characterize, synthesize, and compare the collected 38 RAs, I established which types of information need to be extracted them. The effect of this process is reflected in a coding book that can be found in Appendix 2. Having established these criteria, I proceeded with the screening of the full texts of RAs in search of the relevant information that would meet the defined parameters. Initially, I extracted only raw data from the RAs and collected them on an Excel spreadsheet. However, in most cases, leaving the data unformatted would make it incomparable. For instance, the duration of the TC projects was reported on in weeks, months, or semesters, among other ways. Consequently, given the fact that the same type of information was presented in various ways, I standardized the extracted data. This process varied depending on the format of the data in the given category and was systematically implemented each time. Such a harmonization procedure allowed for the analysis and synthesis of the extracted information at a later stage.

Three major decisions were made at the very beginning of the data analysis process. Each of them had an impact on the subsequent results, hence, they are outlined below.

Among the 38 RAs under scrutiny, there are two pairs of RAs that report on the same TC project, namely Porto (2016) and Porto (2018) as well as Priego and Liaw (2017a) and Priego and Liaw (2017b). As a result, to avoid counting them twice, numerical data reported in each pair of these RAs is taken into consideration only once. Hence, despite the fact that there are 38 RAs analyzed in this study, the quantitative calculations, descriptions, and results, include data from only 36 TC projects, unless stated otherwise. Nevertheless, the findings of the qualitative data analyses and the subsequent conclusions are based on the findings of 38 RAs.

The RA of Kohn and Hoffstaedter (2017) concerns two English and one German lingua franca TCs. Unless the authors clearly stated that certain findings concerned only the German lingua franca exchange, it was assumed that the results referred to English or both English and German lingua franca TCs and such information was extracted. Data concerning specifically the German lingua franca TC was not considered.

Turula (2017) presents the findings of two TCs parallelly throughout one RA. Due to the fact that only one of them concerned interaction between NNSs, the other exchange, which took place between NNSs and NSs, is not considered in this review. Therefore, only

the information that concerns the NNSs-NNSs ELF exchange is included in this study. Likewise, all numerical data is adjusted accordingly.

4.5 Data Analysis

In line with the contemporary recommendations pertaining to research methods and data analysis, this dissertation adopts a mixed-method approach (Clark & Ivankova, 2015; Creswell, 2014; Creswell & Clark, 2017; Fetters et al., 2013; O'Cathain et al., 2008; Onwuegbuzie & Leech, 2005; Teddlie & Tashakkori, 2009) and analyzes the collected information with the help of both quantitative and qualitative methods.

With respect to quantitative data, I extracted and coded the relevant information concerning each aspect of ELFTCs from the 36 RAs and entered them into Excel spreadsheets where I also harmonized them later. I verified the correctness of the entered data by checking it twice on two different occasions that were significantly distant from each other in time. Then, I analyzed the retrieved data with the use of appropriate mathematical calculations and the tools available in Excel or by means of statistical calculations which I performed in a freeware statistical software JASP (JASP Team, 2023).

Next, I analyzed the corpus of 38 RAs by means of corpus linguistics and with the help of the AntConc software (Anthony, 2022). This was done for two main reasons. First, to comprehend, calculate, and report the size of the reviewed data. Second, to get a general idea of the contents of the RAs, to facilitate their subsequent qualitative analysis. Here, I expected that the corpus analysis can generate at least some keywords and, thus, categories that will form the scaffolding of the results of the qualitative analysis.

To perform the corpus analysis, I extracted the parts of RAs selected for the subsequent qualitative analysis from full texts of 38 RAs available in PDF files. Then, I copied these fragments of texts into 38 separate Word documents. Notably, only the text was included while any tables or figures were omitted and analyzed manually later, during the qualitative analysis. Then, I imported the 38 Word files into the AntConc software, thus, forming a corpus. There, I performed a search for the most frequently used words and phrases to obtain the general gist of the corpus. I also wanted to learn which words and phrases appear the most often in the corpus, and, thus, to identify the keywords and key phrases that could potentially form the thematic scaffolding of the results section. A natural first step in such search is the creation of a stop words list. To avoid the omission of some words that could be potentially relevant to this research, I resorted to creating my own stop

list. Hence, I was constantly reviewing the list of most commonly used words produced by AntConc and adding new words to the stop list until I reached the 500th most commonly appearing keyword. In total, the stop list contains 314 distinct words. Additionally, to obtain even more meaningful information about the contents of the corpus, I conducted a similar search for two-, three- and four-word clusters (n-grams).

As far as the qualitative analysis is concerned, I first read each of the 38 RAs in full to get a general understanding of the text. Second, using the Mendeley reference manager, I read all the RAs again and highlighted the relevant passages of the RAs with different colors. Each of the colors represented a different category of information. Third, I extracted all the highlighted, i.e., relevant passages of the RAs into separate Word files for each of the RAs. As a result, I created a corpus of 38 RAs with all their relevant information collected in separate Word files. Each of these documents was subject to a quantitative analysis, which is discussed in the following paragraph.

Overall, the qualitative analysis of this dissertation is based on the QRS model proposed by Chong and Plonsky (2021), which has its roots in GT and a constant comparison model. To quantitatively analyze the contents of each of the aforesaid Word files containing the relevant information from each of the RAs, I isolated the passages of the original main text into individual pieces on the basis of their content, following the methods and recommendations of the previous secondary research and the related theoretical frameworks (Charmaz, 2014; Chen, 2016; Chong & Plonsky, 2021; Chong & Reinders, 2020; Çiftçi, 2016; Çiftçi & Savaş, 2018; Tanghe & Park, 2016). This involved “using a constant comparison method, [by means of which] descriptive and conceptual categories were generated through initial coding, focused coding, and axial coding” (Chong & Plonsky, 2021) (p. 1030). After classifying the relevant information in all 38 separate documents, I transferred the categorized passages from all RAs into another Word document where I merged them on the basis of their categories (hereinafter also referred to as the aspects of TCs) and adjusted the categorization where needed using the constant comparison method, as already outlined above. All of these aspects can be found in Appendix 25. As a result, I created a Word document with all relevant passages from 38 RAs which I organized thematically based on their content. This document served as the foundation of the qualitative results presented in this dissertation. Notably, I assigned a unique control

number to each of the individual passages of the RAs to facilitate the identification of their origin.

Upon carefully examining the RAs of the corpus of this study and extracting the relevant passages from them, I also performed a retrospective analysis to identify the RAs that contributed the most to the findings of this dissertation. Since the reviewed RAs contained varied volumes of text, I suspected that the amount of the information extracted from them can vary between the RAs too and this is worth reporting on in the light of determining which RAs added how much information to the results of my dissertation. Here, I conducted three analyses. First, I counted the total number of aspects of TCs that the given RA addressed throughout the results section of my dissertation and calculated the percentage that number constitutes in the total number of aspects that appeared across all RAs in the qualitative results of this thesis. Second, I juxtaposed the results of the above analysis against the size of the content that the given RA contributed to the corpus, thus, calculating a ratio for each of the RAs. Here, I have taken into account only the actual amount of content that the given RA contributed to this dissertation. Third, I awarded each of the RAs two scores, i.e., one per its standing in the above two measures. Then, in the case of each RA, I added these two scores, thus, receiving an average score of the previous two measurements, which constituted the third, averaged measure.

The results of the corpus, quantitative, qualitative, and retrospective analyses are presented in this order in the following chapter.

Chapter Five: Results

5.1 Corpus, Most Frequent Words, and N-Gram Analyses

In total, the compiled corpus of 38 RAs contains 110,324 words (tokens). The amount of information extracted from the RAs varied significantly – the least contributing RA (Alcaraz-Mármol, 2020) added 829 words to the corpus while the highest contributing RA (Demir & Kayaoğlu, 2021) provided 5,958 words to it. On average, a single RA contributed approximately 2,900 words to the corpus (M = 2901.08, SD = 1094.15). Detailed information is available in the following table.

Table 1 The Number of Words per Research Article – Descriptive Statistics

Statistic	Number of Words per Research Article
Mean	2901.079
Standard Deviation	1094.153
Minimum	829.000
Maximum	5958.000

Note. n = 38.

Out of the 500 most frequent single words that appear in the corpus of RAs, I recognized 189 as meaningful for the purpose of the study while the remaining 311 words were blocked by the stop list. Among the 100 most commonly used single words in the corpus, 30 were recognized as relevant while 70 belonged to the stop list. The most frequent single keyword is “students” with 1259 instances of use, distantly followed by “language” (n = 431), “project” (n = 417), and “learning” (n = 394). The frequency of appearance of the remaining words was lower than 400. The lists of all applicable keywords from the top 500 words are presented in Appendix 3.

The most commonly appearing two-word phrases in the corpus of this study are “lingua franca” (n = 58), “language learning” (n = 55), and “foreign language” (n = 50). The remaining instances of two-word clusters present among the top 500 keyword hits appeared less than 50 times and are presented in Appendix 4.

Among the three-word phrases, which also meet the minimum threshold of 10 or greater number of instances of use, are “critical cultural awareness” (n = 18), “lingua franca conversations” (n = 14), “pedagogical lingua franca” (n = 13), and “foreign language teaching” (n = 11). Full results are presented in Appendix 5.

Although I conducted a similar search for n-grams consisting of four words, none of the obtained phrases surpassed the threshold of five examples of use, thus, these results are

not reported here. Consequently, I did not conduct further alike searches, i.e., of n-grams of five and more words.

As a result of the above analyses, I obtained several ideas for the categorization of the findings of the subsequent qualitative analysis of the RAs. For instance, keywords related to language and culture appeared frequently on the lists of the most frequent words. Based on these findings, I assumed that the RAs are likely to include significant portions of information about these aspects. Hence, I established the relevant categories pertaining to language and culture among the core ones at the onset of the structuring of the results of the qualitative analysis. Moreover, already on the basis of the results of the most frequent words and n-gram analyses, I could establish the most common languages of TC participants, their nationalities, and countries of origin, which were later confirmed by the findings of the qualitative analysis. Similarly, the above analyses drew my attention toward the TC tools used in TC projects and their potentially significant role, which, indeed, turned out to be important later on. Numerous other similar cases could be potentially listed here as well. Notably, however, the results of the conducted analyses, i.e., the particular words and phrases and their significant frequency, confirm that the selected RAs contain information that is relevant from the perspective of this dissertation.

5.2 Quantitative Results: Journals in Which Research Articles Were Published (n = 38)

All the RAs under scrutiny (n = 38) were published in 24 different journals. Six of the RAs were found in “Computer Assisted Language Learning,” five in “Language Learning & Technology,” three in “CALL-EJ” and “International Journal of Computer-Assisted Language Learning and Teaching,” while two were published in “System.” Each of remaining 19 RAs was published in a different journal, distinct from the ones listed above. The list of all journals and the respective number of RAs published in them, which were included in the corpus of this review, can be found in the following table.

Table 2 A List of Journals in Which the 38 RAs Were Published and the Number of RAs per Journal

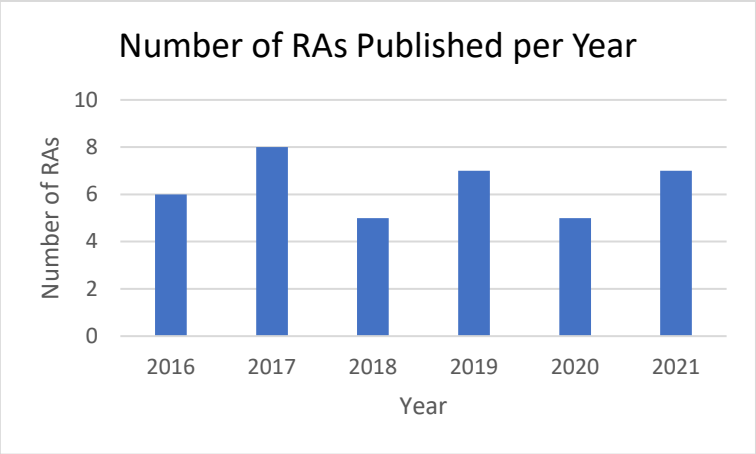
Journal	Number of RAs
Computer Assisted Language Learning	6
Language Learning & Technology	5
CALL-EJ	3
International Journal of Computer-Assisted Language Learning and Teaching	3
System	2
Alsic	1
Applied Linguistics Research Journal	1
Cambridge Journal of Education	1
Education 3-13	1
E-mentor	1
European Journal of Language Policy	1
Foreign Language Annals	1
Hacettepe University Journal of Education	1
Indonesian Journal of Applied Linguistics	1
International Communication Gazette	1
The JALT CALL Journal	1
Journal of Asian Pacific Communication	1
Journal of Intercultural Communication Research	1
Language Learning in Higher Education	1
Language Related Research	1
Language Teaching Research	1
ReCALL	1
Tejuelo	1
TESOL Quarterly	1

Note. n = 38.

5.3 Quantitative Results: Number of Research Articles Published per Year (n = 38)

During the six years (2016 – 2021) which are under the scrutiny of this research, approximately seven applicable RAs were published per year (M = 6.33; SD = 1.21) and formed the corpus of this study. Moreover, this number varied from five to eight RAs per year (Min = 5; Max = 8). Detailed results are offered in the following figure and in Appendix 6.

Figure 4 The Number of RAs Published per Year – Graph



Note. n = 38.

5.4 Quantitative Results: Characteristics of English as a Lingua Franca Telecollaboration Projects

5.4.1 Duration of Telecollaborations (n = 29; n = 28)

RAs included various expressions and units that quantified the duration of the TC. These comprised, for instance, weeks, months, or semesters, but also timeframes between two given months, such as September – December, often followed by year of the TC. Instances of the season of the year during which the TC took place, such as "spring" or "fall," were also noted. To calculate the mean duration of the TC (treatment), a unified way of reporting this variable had to be established. Consequently, all variables were converted to weeks. A month was considered to be four weeks and one semester 15 weeks. Out of 36 RAs, 16 explicitly provided the duration of the TC project in weeks, while the details included in other seven RAs allowed me to clearly identify this variable. In six cases, I calculated the duration of the treatment following the criteria outlined above, while in seven cases I could not establish it at all. As a result, findings pertaining to the duration of the treatment concern data obtained from 29 RAs. The mean duration of these TC projects was around 11 weeks (M = 10.62, SD = 5.52), with the shortest exchanges lasting for four weeks and the longest ones for 32 weeks. The majority of TCs (n = 15) lasted between five and 10 weeks, while the duration of eight TC projects ranged between 10 and 15 weeks. Nearly 60% of TCs (n = 17) lasted for or less than 10 weeks while around 86% of them (n = 25) had a duration of less than 15 weeks. Detailed results are offered in Appendix 7.

However, the duration of one TC exchange was identified as an outlier due to its excessive length (32 weeks) in comparison to the other TC projects. Upon its elimination

from the dataset, the above statistics were recalculated. The mean duration of the remaining 28 TC projects now stood at around 10 weeks (M = 9.86, SD = 3.75). The shortest TC exchange lasted, again, for four weeks, while the longest had the length of 16 weeks now. Half of TCs (n = 14) lasted between four and eight weeks, while the other half (n = 14) took between eight and 16 weeks. Moreover, around 60% of TCs (n = 17) continued for between four and 10 weeks. Detailed results are presented in Appendix 8.

5.4.2 Character of Telecollaborations (n = 36)

Only one RA explicitly stated that the participation in TC was mandatory for all students. However, since all TCs were a part of a formal educational context, I assumed that they were compulsory, unless stated otherwise. Four RAs noted that taking part in the TC was voluntary, was treated as an additional activity, and/or had no impact on the final grades. In two additional cases the participation in TC was compulsory for one of the groups, while it remained optional for the other. Consequently, I calculated that participation in the TC was mandatory for all the participants in 30 out of 36 exchanges.

5.4.3 Telecollaboration Modes (n = 36)

Two-thirds of the RAs (24 out of 36) reported directly on the mode of the TC project. Another seven RAs provided enough details to unequivocally establish this variable. In five cases I had to assume the mode of the TC based on the TC tools used and/or the context of the RA. Most of the TCs (n = 16) utilized both synchronous and asynchronous modes. Synchronous interaction was the only mode in 11 TCs, while the participants in nine TCs collaborated only asynchronously. If the number of mixed synchronous and asynchronous TCs (n = 16) is added to both only synchronous (n = 11) and only asynchronous TCs (n = 9), then synchronous TCs account for 27 cases while asynchronous for 25 cases.

5.4.4 Telecollaboration Tools (n = 36)

All RAs reported at least one TC tool that was used throughout the TC project. In all, such instruments were listed 90 times. The most commonly used tools were: Facebook (n = 11), Skype (n = 9), email (n = 7), Moodle (LMS) (n = 6), Padlet (n = 6), and WhatsApp (n = 5). The remaining tools were used in four or less TCs. A full list of the TC tools used in the RAs under scrutiny, along with their frequencies of use, can be found in the following table.

Table 3 TC Tools and Their Frequencies of Use in TC Projects

TC Tool	Count
Facebook	11
Skype	9
Email	7
Moodle	6
Padlet	6
WhatsApp	5
Discussion Forum	4
Google Docs	4
Zoom	4
BigBlueButton	2
Google Drive	2
Google Hangouts	2
LiveOn	2
Generic LMS	2
Twinspace	2
Wiki	2
Wix	2
About.Me	1
Dropbox	1
Flipgrid	1
Glogster	1
Google+	1
Instagram	1
Kahoot	1
Movenote	1
Prezi	1
Screencast-O-Matic	1
Second Life	1
Unicko	1
Unspecified Presentation Creator	1
Unspecified Video-Conferencing Tool	1
Unspecified Virtual Platform	1
VoiceThread	1
WeChat	1
YouTube	1

Note. n = 90. Screencast-O-Matic was rebranded to ScreenPal while Flipgrid is now called Flip.

Cumulative sums of similar TC tools offer interesting findings. The video-conferencing tools, such as BigBlueButton, Google Hangouts, LiveOn, Skype, and Zoom, were used 20 times in all. Social media, for instance, Facebook, Google+, or Instagram, totaled up to 13 cases. Similarly, various LMSs were reported 12 times in total. Further, email was used in

seven TC projects. Both Padlet and instant messaging apps, such as WhatsApp or WeChat, were listed in six TCs. Other TC tools, or joint categories of tools, appeared less than five times in the count. Full results are outlined in the following table.

Table 4 TC Tools and Their Frequencies of Use in TC Projects With Similar Tools Grouped

Groups of TC Tools or Individual TC Tools	TC Tools Forming the Groups of TC Tools
Video-Conferencing Tools (n = 20)	Skype (n = 9)
	Zoom (n = 4)
	BigBlueButton (n = 2)
	Google Hangouts (n = 2)
	LiveOn (n = 2)
	Unspecified Video-Conferencing Tool (n = 1)
Social Media (n = 13)	Facebook (n = 11)
	Google+ (n = 1)
	Instagram (n = 1)
LMSs (n = 12)	Moodle (n = 6)
	Generic LMS (n = 2)
	Twinspace (n = 2)
	Unicko (n = 1)
	Unspecified Virtual Platform (n = 1)
Email (n = 7)	
Instant Messaging Apps (n = 6)	WhatsApp (n = 5)
	WeChat (n = 1)
Padlet (n = 6)	
Presentation Creators (n = 5)	Glogster (n = 1)
	Movenote (n = 1)
	Prezi (n = 1)
	Unspecified Presentation Creator (n = 1)
	VoiceThread (n = 1)
Google Docs (n = 4)	
Discussion Forum (n = 4)	
File Hosting Services (n = 3)	Google Drive (n = 2)
	Dropbox (n = 1)
Website Creators (n = 3)	Wix (n = 2)
	About.Me (n = 1)
Wiki (n = 2)	
Flipgrid (n = 1)	
Kahoot (n = 1)	
Screencast-O-Matic (n = 1)	
Second Life (n = 1)	
YouTube (n = 1)	

Note. n = 90. Categories comprising similar TC tools are marked in bold.

The number of tools used per TC varied greatly among the RAs, i.e., between one and six tools (Min = 1; Max = 6). Most commonly, but in less than half of the total number of RAs,

TC participants used only one TC tool (n = 14; 39%). The remaining RAs (n = 22; 61%) involved the use of more than one TC tool. In particular, two tools were used in eight RAs and four tools in seven different RAs. Other frequencies of TC tools used were equal to or lower than three cases. The calculated mean suggests that, overall, approximately three distinct tools are used in TCs (M = 2.50; SD = 1.63) and this is reflected in nearly all years that were under the scope of this study. Further results are presented in Appendix 9.

Interestingly enough, among the 14 TCs that used only one TC tool, video-conferencing tools were the most frequent (n = 6), followed by social media (n = 3), with each of the remaining five other tools appearing one time in the count. Detailed results can be found in the subsequent table.

Table 5 The Most Frequently Used TC Tools – Only One Tool Used per TC

Tool	Count
Video-Conferencing Software	6
Social Media	3
LMS	1
Email	1
Instant Messaging App	1
Padlet	1
Presentation Creator	1

Note. n = 14.

As far as 22 TCs that used two or more TC tools are concerned, once again, videoconferencing tools take the lead (n = 14). They are followed by LMSs (n = 11) and social media (n = 10), with each of the remaining TC tools appearing six or fewer times in the count. Full findings are outlined in the following table.

Table 6 The Most Frequently Used TC Tools – Two or More Tools Used per TC

Tool	Count
Video-Conferencing Software	14
LMS	11
Social Media	10
Email	6
Instant Messaging App	5
Padlet	5
Discussion Forum	4
File Hosting Service	3
Google Docs	4
Website Creator	3
Wiki	2
Flipgrid	1
Kahoot	1
Screencast-O-Matic	1
Second Life	1
YouTube	1

Note. n = 76.

Among the TCs that involved the use of two or more TC tools, the most frequent combinations of two jointly used tools, based on data from 12 RAs, were video-conferencing software and social media (n = 6), video-conferencing software and email (n = 5), as well as video-conferencing software and LMSs (n = 4). Further results are presented in the table below.[20]

Table 7 The Most Frequent Combinations of Two Jointly Used TC Tools

Tools Combination	Count
VC + SM	6
VC + EM	5
VC + LMS	4
VC + IM	3
VC + PL	3
SM + LMS	2

Note. n = 23. VC = video-conferencing software; SM = social media; EM = email; LMS = learning management system; IM = instant-messaging app; PL = Padlet. Frequency threshold: =>2.

Similarly, the most commonly appearing set of three tools used concurrently together, based on information from six RAs, involved video-conferencing software, social media, and instant messaging apps (n = 3). Detailed results are offered in the following table.

[20] All possible combinations were considered. Thus, the presented number should not be added up.

Table 8 The Most Frequent Combinations of Three Jointly Used TC Tools

Tools Combination	Count
VC + SM + IM	3
VC + SM + LMS	2
VC + LMS + EM	2
VC + SM + PL	2

Note. n = 9. VC = video-conferencing software; SM = social media; EM = email; LMS = learning management system; IM = instant messaging app; PL = Padlet. Frequency threshold: =>2.

Notably, video-conferencing software is the most commonly appearing TC tool in such comparisons – it appears in the top five two pairs of tools used concurrently and the top four trios of jointly used tools.

In terms of the use of TC tools over time, it can be concluded that video-conferencing tools, social media, and LMSs were commonly used in the RAs published in all years under scrutiny of this study (i.e., 2016 – 2021, both inclusive). However, as far as social media is concerned, their use seems to drop from 2020 onwards. Email, instant messaging applications, and Padlet were used at a similar yearly rate in these years, although no instances of email use were reported in 2019 and 2020 while Padlet was not used in any RAs published in 2018 and 2020. Nevertheless, instant messaging applications and Padlet were used only from 2017 onwards. Similar analyses of trends were not performed for other categories or groups of TC tools due to their low frequency of appearance.

5.4.5 Total Number of Participants per Telecollaboration (n = 24)

Only a half of the 36 RAs (n = 18) explicitly reported on the total number of participants somewhere in the text. In 11 other cases, I was able to calculate this number based on the details provided in the RAs, thus, increasing the total number of RAs offering such information to 29. In seven other RAs, the exact total number of participants remains unknown due to missing, inaccurate, or contradictory data in the RAs or because the TC project was only presented from the perspective of one TC group. Among the remaining 29 RAs, I identified five RAs that described multi-year or multi-group TCs. They constituted outliers since they reported a large total number of participants that were incomparable to the sizes of other TCs in the corpus of this review. Consequently, they were removed from the applicable calculations. Hence, the following results concern results offered by only 24 RAs. The mean total number of students participating in the exchange approached 42 (M =

41.58, SD = 19.28) and varied significantly (Min = 11, Max = 76). Further results can be found in Appendix 10.

5.4.6 Number of Groups per Country in Each Telecollaboration (n = 36)

In terms of the number of groups per country per TC, most, i.e., 29 RAs (80.5%), involved cohorts from two countries (M = 2.44, SD = 1.16). The remaining seven RAs (19.5%) included between three and seven groups per country. Detailed results are presented in Appendix 11.

5.4.7 Number of Participants in Groups per Country in Each Telecollaboration (n = 22; n = 19)

Out of 28 RAs, which discussed TCs between two groups of participants, 22 RAs reported applicable numbers of participants in each group. The total number of students that took part in these TC exchanges was equal to 950. Notably, two RAs included more than one pair of participating groups per country due to the fact that they were either multi-group or multi-year projects. The mean number of participants per group per country was 19 (M = 19.00, SD = 11.37). The smallest group per country included four participants while the biggest 58 of them (Min = 4, Max = 58). Moreover, out of 50 groups per country in total, the vast majority of them comprised 30 or less participants (n = 45; 90%). Further results can be found in Appendix 12.

Three of 22 RAs included at least one group with a high number of participants (equal to or greater than 50 students), in comparison to other RAs. Consequently, the above statistics were recalculated without data offered by these three RAs. The new set comprised 19 RAs and 731 participants in total. The mean number of participants per group was 17 (M = 16.51, SD = 7.39). The smallest group included four students while the biggest one 32 of them (Min = 4, Max = 32). Detailed findings are presented in Appendix 13.

5.4.8 Configurations of Multinational Groups in Each Telecollaboration (n = 32; n = 18)

Out of 36 RAs in total, 28 reported on the configuration of groups that took part in TC exchanges explicitly. In two other cases the details presented in the RA allowed me to establish this variable while in another two other cases I was capable of accurately assuming the configuration based on the contents of the RAs. I could not establish this information in the case of four RAs. Out of 32 RAs for which the configuration of groups that took part in the TC exchange was known or possible to establish, 27 RAs featured collaboration between

groups of students, four RAs organized TCs in pairs, while one RA included joint work in both groups and pairs.

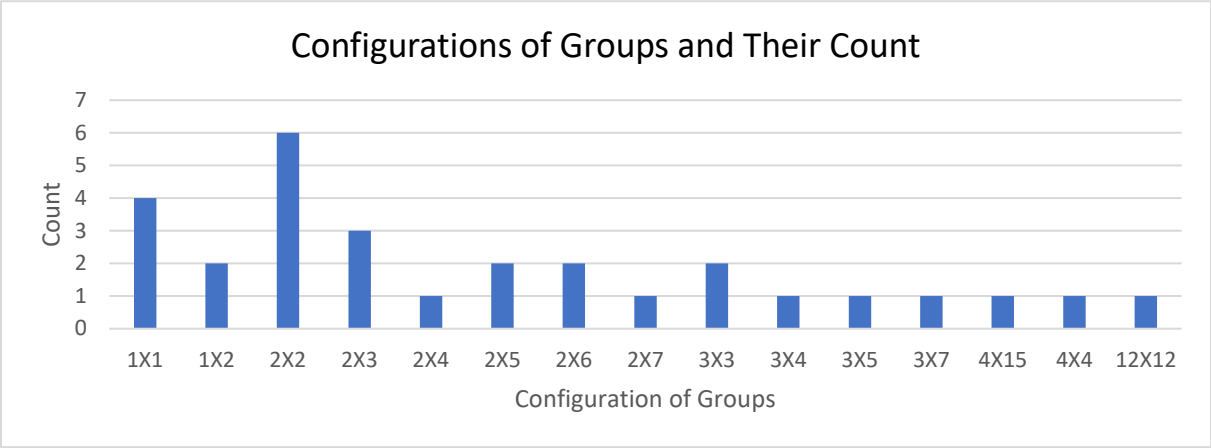
Additionally, 18 RAs provided detailed information concerning the number of participants in each of the groups that took part in TC exchanges. Here, the most popular arrangement was two vs. two students, (n = 6), followed by one vs. one participant (n = 4), and two vs. three learners (n = 3). Other arrangements of TC participants were reported twice, once or not at all. Further information can be found in the following table and figure.

Table 9 The Configurations of Groups That Took Part in TCs – Frequency Table With Individual and Cumulative Percentages

Configuration of Groups	Frequency	Individual Percent	Cumulative Percent
1X1	4	13.793	13.793
1X2	2	6.897	20.690
2X2	6	20.690	41.380
2X3	3	10.345	51.725
2X4	1	3.448	55.173
2X5	2	6.897	62.070
2X6	2	6.897	68.967
2X7	1	3.448	72.415
3X3	2	6.897	79.312
3X4	1	3.448	82.760
3X5	1	3.448	86.208
3X7	1	3.448	89.656
4X15	1	3.448	93.104
4X4	1	3.448	96,552
12X12	1	3.448	100.000

Note. n = 29.

Figure 5 The Configurations of Groups That Took Part in Telecollaborations – Distribution Plot

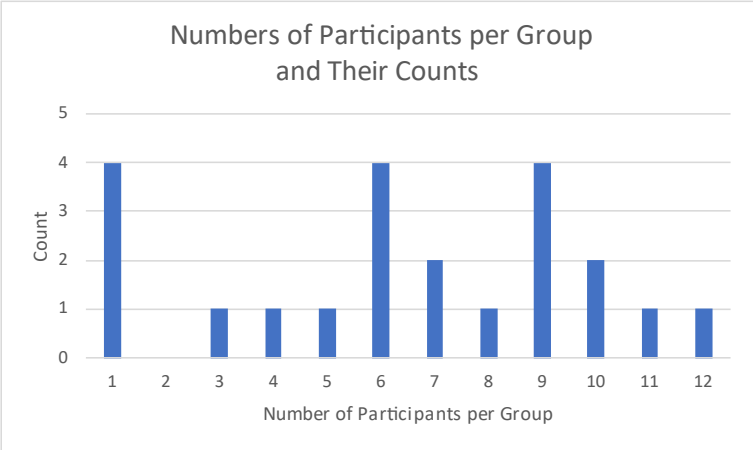


Note. n = 29.

5.4.9 Number of Collaborating Multinational Groups in Each Telecollaboration (n = 20)

Exactly 20 RAs provided sufficient information regarding the number of groups that took part in their TC exchanges. The number of such groups ranged from one to 12 (Min = 1, Max = 12) with the average of seven groups per TC (M = 6.41; SD = 3.42). Most of the RAs included one (n = 4), six (n = 4), or nine multinational groups (n = 4). Details are presented in the following table and in Appendix 14.

Figure 6 The Total Number of Collaborating Multinational Groups per TC – Distribution Plot



Note. n = 29.

5.4.10 Number of Participants Collaborating in Multinational Group in Each Telecollaboration (n = 23; n = 21)

Nearly two-thirds of RAs (n = 23) reported in some way on the number of participants per group that took part in the TC exchange, i.e., by either providing a concrete figure, a range, or a rough assumption representing the number of students in a group. The number

of learners per group varied from two to 24 (Min = 2; Max = 24) and tended to comprise approximately seven participants (M = 6.22; SD = 4.12). Detailed findings are offered in Appendix 15.

Nevertheless, in the dataset formed by the above 23 RAs, I identified two RAs that included outliers. Consequently, I excluded information provided by these two RAs from the dataset and performed the above calculations again, using data from only 21 RAs. The recalculated size of groups that took part in TC exchanges varied from two to 10 participants (Min = 2; Max = 10) while the mean was around six (M = 5.42; SD = 2.07). In most cases, the groups that took part in the TC exchanges comprised six participants (n = 8), followed by four students (n = 6), and five learners (n = 6). Further results are offered in Appendix 16.

What is more, among TCs where only two groups of students per country collaborated (n = 28), and in whose case the RA provided the number of learners in each of the two groups (n = 22), only in the case of five TCs the number of participants in one group was different from the second group by 10 or more participants. In the remaining 17 RAs, this difference was smaller than 10. Similarly, the ratio of participants in two TC groups was greater than two only in five out of 22 TCs while it was equal or close to one in the remaining 17 cases. Individual ratios of each RA are presented in variable 10 in Appendix 24.

5.4.11 Number of Telecollaboration Sessions (n = 19; n = 18)

Slightly more than half of RAs in the corpus (n = 19) reported on the number of sessions that took place over the course of the given TC. This number varied greatly – from a single session up to 48 of them (Min = 1; Max = 48) while the mean number of TC sessions across all RAs oscillated around nine (M = 8.53; SD = 10.17). Further details are presented in Appendix 17.

However, I identified the RA which included 48 sessions over the course of a single TC as an outlier. Consequently, I removed it from the dataset and repeated the previous calculations, now with data coming from 18 RAs. This time the highest number of TC sessions was equal to 13 while the lowest number of sessions remained unchanged (Min = 1; Max = 13). The average number of sessions per TC was around seven (M = 6.33; SD = 3.58). No particular trend in terms of the dominance of any number of TC sessions over the remaining ones was identified – each distinct number of sessions was supported by one or two RAs. Details are outlined in Appendix 18.

5.4.12 Frequency of Telecollaboration Sessions (n = 21)

Data available in 21 RAs allowed me to establish the frequency of TC sessions that took place over the duration of the given TC project. Most of them (n = 16; 76%) took place weekly, followed by more than weekly (n = 3; 14%), and less than weekly (n = 2; 10%) sessions.

5.4.13 Duration of Telecollaboration Sessions (n = 14; n = 13)

Based on information provided in 14 RAs, I calculated the average duration of TC sessions (in minutes). It varied significantly – from 25 to 240 minutes (Min = 25; Max = 240). On average, a typical TC session lasted for around 73 minutes (M = 72.29; SD = 48.82). Detailed results are presented in Appendix 19.

Upon further examination of the generated results, I found an outlier in one RA which, in turn, I removed from the dataset. Consequently, the above calculations were performed again, using data from only 13 RAs. This time the duration of TC sessions varied from 25 to 135 minutes (Min = 25; Max = 135) while the new average duration of a TC session among the reviewed RAs was around 64 minutes (M = 63.90; SD = 30.90). Notably, the most common duration of TC sessions was 90 minutes (n = 4), followed by 30 minutes (n = 3), and 50 minutes (n = 2). Further results are available in Appendix 20.

5.4.14 Topics of Telecollaboration Projects (n = 33)

As many as 33 RAs provided information on the main topics of TC exchanges. The vast majority of TCs revolved around cultural topics (n = 16). Others, although much less popular topics were education (n = 3) and ecology (n = 2). The remaining exchanges focused on either one specific topic (n = 5), such as healthy habits, migrations, and new technologies, among others, or included multiple topics (n = 7).

5.4.15 Characteristics of Participants of Telecollaboration Projects

5.4.15.1 Participants' Gender (n = 8). Only eight out of 36 RAs reported on the gender distribution of their participants. Each of the eight RAs had two groups of participants. Out of 352 participants that took part in all eight RAs in total, the majority were female (n = 221; 63%), while the rest were male (n = 131; 37%). What is more, females constituted the majority in nine out of 16 groups that were present in these eight RAs. In only five of them there were more males than females while in two groups the number of females and males were equal. Notably, six out of eight RAs under the consideration in this paragraph were organized on a tertiary education level (75%) while two of them took place on a secondary level (25%).

5.4.15.2 Participants' Countries of Residence and Regions of Origin (n = 36). All RAs in the corpus included information concerning the country of residence of the participants who took part in TCs. Among the 36 TC exchanges there were representatives of 37 various countries and eight regions of the world, spanning over six continents. In total, there were 89 distinct groups of participants. Most of the groups came from Japan (n = 10), Spain (n = 10), Taiwan (n = 9), Germany (n = 7), and Poland (n = 6), with other countries appearing less than five times in total. Full results are available in the following table.

Table 10 The List of Participants' Countries of Residence and the Respective Frequency of Occurrence – All TCs

Country of Residence	Count
Japan	10
Spain	10
Taiwan	9
Germany	7
Poland	6
Turkey	4
Argentina	3
Israel	3
Sweden	3
Canada	2
Colombia	2
Finland	2
Iran	2
The Netherlands	2
The United Kingdom	2
Algeria	1
Australia	1
Austria	1
Azerbaijan	1
Bangladesh	1
Brazil	1
Costa Rica	1
Cyprus	1
Denmark	1
Egypt	1
Ghana	1
Hong Kong	1
Indonesia	1
Italy	1
Kuwait	1
Lebanon	1
Portugal	1
Russia	1
Serbia	1
South Korea	1
Thailand	1
Vietnam	1

Note. n = 89.

As far as regions are concerned, most of the groups were from Europe (n = 38; 43%), Asia (n = 26; 29%), the Middle East (n = 14; 16%), and South America (n = 4; 4%). The remaining regions appeared two or less times in the count and stood for two or less percent

of the total count. Notably, students from Europe and Asia accounted for 72% of all participants in the RAs under scrutiny. Detailed results are outlined in the following table.

Table 11 The List of Participants' Regions of Origin and the Respective Frequency of Occurrence – All TCs

Region	Count
Europe	38
Asia	26
The Middle East	14
South America	7
North America	2
Africa	1
Australia and Oceania	1

Note. n = 89.

5.4.15.3 Most Frequent Number and Combinations of Countries That Held Telecollaboration Projects Together (n = 36). The vast majority of TCs (n = 30; 83%) included representatives of only two countries (M = 2.47, SD = 1.23), hereinafter also referred to as bilateral exchanges. The remaining six TCs (17%) involved participants from three to seven countries, hereinafter also called multilateral TCs. Further details are presented in Appendix 21.

Among the 30 TCs between only two countries, there were 23 distinct countries and 11 of them appeared at least twice in the count. Here, the top nations included Spain (n = 9), Germany (n = 7), Japan (n = 7), Poland (n = 6), and Taiwan (n = 6). Other countries appeared less than three times in the count. These findings translate to the following regional distribution in which European countries clearly dominate (n = 32), constituting more than double the presence of the Asian countries (n = 15). Next are the Middle East (n = 8), South America (n = 4), and North America (n = 1) Detailed results are outlined in the following tables.

Table 12 The List of Participants' Countries of Residence and the Respective Frequency of Occurrence – Bilateral TCs

Country of Residence	Count
Spain	9
Germany	7
Japan	7
Poland	6
Taiwan	6
Turkey	3
Argentina	2
Colombia	2
Finland	2
Israel	2
The United Kingdom	2
Austria	1
Azerbaijan	1
Canada	1
Cyprus	1
Denmark	1
Egypt	1
Hong Kong	1
Iran	1
Italy	1
Kuwait	1
Portugal	1
Sweden	1

Note. n = 60.

Table 13 The List of Participants' Regions of Origin and the Respective Frequency of Occurrence – Bilateral TCs

Region	Count
Europe	32
Asia	15
The Middle East	8
South America	4
North America	1

Note. n = 60.

What is more, among these 30 bilateral TC exchanges, the most frequent pairs of collaborating countries were Japan and Taiwan (n = 5), Germany and Poland (n = 3), as well as Poland and Spain (n = 3). Each of the remaining 19 bilateral TCs was a unique combination of countries. Interestingly enough, the distances between Japan and Taiwan as well as Poland and Spain, the two most common international partnerships, are identical and equal

to approximately 1,345 miles (2,164 kilometers).[21] Further information is offered in the following table.

Table 14 The List of Pairs of Countries That Held TC Projects Together and the Respective Frequency of Occurrence – Bilateral TCs

Country Pair	Count
Japan – Taiwan	5
Germany – Poland	3
Poland – Spain	3
Argentina – Denmark	1
Argentina – Egypt	1
Austria – Spain	1
Azerbaijan – Turkey	1
Canada – Taiwan	1
Colombia – Kuwait	1
Cyprus – Spain	1
Finland – Spain	1
Finland – The United Kingdom	1
Germany – Hong Kong	1
Germany – Israel	1
Germany – Spain	1
Germany – Turkey	1
Iran – Turkey	1
Italy – Israel	1
Japan – Colombia	1
Japan – Spain	1
Spain – Sweden	1
The UK – Portugal	1

Note. n = 30.

As far as the six multilateral TC exchanges are concerned, the most commonly included countries are Japan (n = 3) and Taiwan (n = 3) as well as Sweden (n = 2) and the Netherlands (n = 2), with each of the 19 remaining countries appearing only once in the count. In terms of regions, Asia (n = 12) appears the most commonly. It is followed rather distantly by Europe (n = 6) and the Middle East (n = 4). The remaining regions account for two or fewer cases. Full results are presented in the following tables.

[21] According to an online distance calculator "DistanceFromTo": https://www.distancefromto.net.

Table 15 The List of Countries Participants' Countries of Residence and the Respective Frequency of Occurrence – Multilateral TCs

Country of Residence	Count
Japan	3
Taiwan	3
Sweden	2
The Netherlands	2
Algeria	1
Argentina	1
Australia	1
Bangladesh	1
Brazil	1
Canada	1
Costa Rica	1
Ghana	1
Indonesia	1
Iran	1
Israel	1
Lebanon	1
Russia	1
Serbia	1
South Korea	1
Spain	1
Thailand	1
Turkey	1
Vietnam	1

Note. n = 29.

Table 16 The List of Participants' Regions of Origin and the Respective Frequency of Occurrence – Multilateral TCs

Region	Count
Asia	12
Europe	6
The Middle East	4
Africa	2
South America	2
Australia	1
Central America	1
North America	1

Note. n = 29.

5.4.15.3.1 Intraregional and Interregional Exchanges (n = 36). Similarly, to the above recognition of participants' countries and regions of origin, I was also able to construct a matrix of intra- and interregional exchanges for all RAs. Hereinafter intraregional

TCs are understood as TC projects between partners located within the same geographic region. On the other hand, interregional TC exchanges denote TCs between groups of TC participants from different regions of the world. What is more, the results are also presented depending on the number of countries that were involved in the given TC project. First, I discuss the bilateral TC exchanges. Second, I focus on the multilateral TCs. Third, lastly, I present the joint results.

Most of the bilateral TC exchanges had an intraregional character (n = 19). This included TCs within Europe (n = 13), Asia (n = 5), and the Middle East (n = 1). Interestingly, there were no intraregional TC projects within North and South American countries. The respective count of individual regions involved in intraregional TCs is the following: Europe (n = 26), Asia (n = 10), and the Middle East (n = 2). The remaining 11 bilateral TCs had an interregional character. Here, the most common pairs of partnering regions involved Europe and the Middle East (n = 3), Asia and Europe (n = 2), as well as the Middle East and South America (n = 2), with other ones being only individual cases (n = 4). Among all interregional TCs, Europe was the most common partner (n = 6), closely followed by the Middle East (n = 5), Asia (n = 4), South America (n = 4), as well as North America (n = 1).[22] Full results are available in the following tables.

Table 17 The List of Intraregional TCs and the Respective Frequency of Occurrence – Bilateral TCs

Region Pair	Count
Europe – Europe	13
Asia – Asia	5
The Middle East – The Middle East	1

Note. n = 19.

Table 18 The List of Individual Partner Regions of Intraregional TCs and the Respective Frequency of Occurrence – Bilateral TCs

Region	Count
Europe	26
Asia	10
The Middle East	2

Note. n = 38.

[22] All perspectives were considered here, thus, the total number of exchanges will not add up.

Table 19 The List of Interregional TCs and the Respective Frequency of Occurrence – Bilateral TCs

Region Pair	Count
Europe – The Middle East	3
Asia – Europe	2
The Middle East – South America	2
Asia – The Middle East	1
Asia – North America	1
Asia – South America	1
Europe – South America	1

Note. n = 11.

Table 20 The List of Individual Partner Regions of Interregional TCs and the Respective Frequency of Occurrence – Bilateral TCs

Region	Count
Europe	6
The Middle East	6
Asia	5
South America	4
North America	1

Note. n = 22.

In terms of the six multilateral TCs, the number of regions involved in the given TC exchange varied between one and five (M = 3.33, SD = 1.51). Notably, half (n = 3) of such TCs included exactly four groups of participants from different countries. Only one of the multilateral TCs was intraregional and took place between countries located in Asia. The remaining five TCs had an interregional character and each of their regional composition was unique. Detailed results are offered in Appendix 22.

Consequently, it can be concluded that, in total, the corpus of this study comprises 20 intraregional and 16 interregional TC exchanges.

5.4.15.4 Participants' Mother Tongues (L1s) (n = 36). All of the reviewed RAs reported on their participants' L1s, either explicitly or by providing sufficient details to unequivocally determine them. However, this information was incomplete in the case of three groups of participants in three separate RAs and I could not deduce it. This is mostly because the L1 of the given group of students was not explicitly stated in the RAs while their countries of origin had multiple official languages, thus, not permitting me to make any assumptions in this regard. Consequently, information on the L1s of three groups of participants is not reflected in the results outlined below.

In total, there are 91 groups of participants whose L1 was established and they included 26 different L1s. Among them, Spanish is ranked first (n = 17), followed by Chinese (n = 11), Japanese (n = 10), German (n = 8), Polish (n = 6), and Arabic (n = 6). Other languages appear less than five times in the count. Full results concerning participants' L1s are presented in the following table.

Table 21 The List of L1s of TC Participants and the Respective Frequency of Occurrence

L1	Count
Spanish	17
Chinese	11
Japanese	10
German	8
Polish	6
Arabic	6
Turkish	4
Hebrew	3
Swedish	3
Dutch	2
Finnish	2
French	2
Persian	2
Portuguese	2
Russian	2
Azerbaijani	1
Bengali	1
Danish	1
Indonesian	1
Italian	1
Korean	1
Punjabi	1
Serbian	1
Thai	1
Urdu	1
Vietnamese	1

Note. n = 91.

5.4.15.5 Participants' Age and Age Groups (n = 35). All but one RA report on the specific age or age range of the participants who took part in the TC projects. In the majority of cases (n = 20), this information is provided directly. In the remaining 15 cases, I had to assume the age of the participants on the basis of the descriptive and/or non-numerical data provided in RAs. To harmonize the extracted data and perform the subsequent calculations, I converted such information to numerical data, according to specific pre-defined criteria. I

assumed that first-year students were aged 19 and every subsequent year of education was equal to one additional year of age. For instance, master's degree students were assumed to be 22 or 23 years old, while the age of doctoral students was estimated to be between 24 and 27. If the participants were regarded simply as "students," then the 19 – 23 age range was used as an equivalent. If the description of the RA was more detailed, for instance, it specified that the participants were undergraduate students, then the assumed age range was adjusted accordingly to the provided information, also bearing in mind the country-specific contexts. Likewise, if the given RA investigated freshmen or sophomores, I narrowed down the assumed age of the students to only one value of age. In 10 instances, the age or age range of the participants was narrowed down on the basis of the details provided in the RAs. In the remaining five cases a general reference "students" was converted to the 19 – 23 age range. All RAs concerning TCs at educational stages other than tertiary education reported the age of their participants directly. Consequently, there was no need to create any similar assumptions.

The mean age of participants was calculated at around 25 (M = 24.77, SD = 9.22).[23] The youngest TC participants were six years old, while the oldest were 56 years old (Min = 6, Max = 56). In terms of age ranges, only two RAs focused on learners under the age of 10, eight RAs investigated learners between 10 and 18, 22 RAs studied TCs between participants aged between 19 and 29, while only four RAs focused on learners aged 30 and above. Further data could be found in the following table and in Appendix 23.

Table 22 The Age of TC Participants – Descriptive Statistics

Statistic	Age
Mean	24.914
Standard Deviation	9.442
Minimum	6.000
Maximum	56.000

Note. n = 363. This number does not reflect the number of individual TC participants but the number of age groups, each of which includes multiple students.

5.4.15.6 Participants' Educational Stages and Majors (n = 35). In nearly all cases it was possible to establish the educational stage during which the given TC took place. This

[23] Since the exact numbers of participants representing specific ages were frequently not reported in the RAs, each age that fell within any given age range was counted once. In total, 363 individual ages were extracted from the age ranges presented in the RAs.

was either directly stated in the RA or could be unambiguously deduced from the age of the participants or the overall context of the RA. The vast majority of the TCs were held at the university level (n = 24). The secondary school context was examined significantly less often (n = 6), while primary schools constituted the least researched environment in this sample of RAs (n = 4). One TC took place in a mixed secondary and tertiary context, although the majority of participants in that TC exchange were university students.

Among the TC projects that took place on the tertiary level, there were 21 groups of pre-service teachers. Further, as many as 24 project groups included students majoring in English. The rest of participants studied various other degrees, for instance, business, communication, economics, engineering, or tourism, or such information was not provided.

5.4.15.7 Participants' Proficiency in English (n = 24). Two-thirds of the RAs under scrutiny reported the proficiency of their participants. This information was presented mostly in accordance with the Common European Framework of Reference for Languages (CEFR), but also by means of providing other measurements, such as the test of English for international communication (TOEIC) scores, or by using descriptive statements, such as, "elementary" or "intermediate." I adopted five different descriptive bands of participants' proficiency in English for the purpose of unifying the collected data. They correspond to the CEFR levels in the following manner:

(1) Elementary = CEFR level group A;
(2) Intermediate = CEFR level group B;
(3) Advanced = CEFR level group C;
(4) Elementary – intermediate = CEFR level groups A and B;
(5) Intermediate – advanced = CEFR level groups B and C.

Most of the RAs (n = 18) report intermediate (n = 10) or intermediate – advanced (n = 8) level of English of the participants. Three studies describe TC projects between participants at the elementary level (n = 3), while two of them focus on the elementary – intermediate level (n = 2). Only one RA reports on an TC between advanced learners of English (n = 1).

A full summary of quantitative results can be found in Appendix 24.

5.5 Qualitative Results: Project-Related Aspects (n = 37)

5.5.1 Planning and Organization of Telecollaboration Projects (n = 13)

According to Freiermuth and Huang (2021), TCs should be implemented when technically possible (p. 203). However, several RAs highlight that such projects are difficult to organize and need to be carefully planned (Bueno-Alastuey & Kleban, 2016; Demir & Kayaoğlu, 2021; Dooly & Sadler, 2016). Moreover, Dooly and Sadler (2016) state that such undertakings have to be well structured, especially in terms of tasks, so that their participants can acquire all relevant cultural, linguistic, and social skills (p. 73). Likewise, Demir and Kayaoğlu (2021) underline the necessity of careful planning to, among others, minimize the risk of developing or reinforcing stereotypes (p. 32). O'Dowd et al. (2020) caution that it is not possible to predict all potential issues due to the complexity of TCs (p. 166).

Several RAs outline a number of institutional constraints that may impact the TCs (Bueno-Alastuey & Kleban, 2016) (p. 162). Such exchanges require the involvement of multiple parties, for instance, students, their parents (if applicable), teachers, their supervisors, researchers, technical support, etc. (Grau & Turula, 2019; Porto, 2018; Scott-Monkhouse et al., 2021). This, in turn, makes them complex and high-risk initiatives (Grau & Turula, 2019; Porto, 2018; Scott-Monkhouse et al., 2021). Scott-Monkhouse et al. (2021) highlight also that instructors willing to organize TCs might face "resistance on the part of their colleagues and students" (p. 24). Nevertheless, RAs conclude that institutional support and the backing of participants' parents (if applicable) are vital for the success of TCs (Porto, 2016) (p. 411). Among a number of scheduling issues that TC instructors might encounter during the organization of TC projects, the reviewed RAs identified differences in academic calendars (Demir & Kayaoğlu, 2021; Scott-Monkhouse et al., 2021), timetables (Bueno-Alastuey & Kleban, 2016; Smith & Keng, 2017), and time zones (Fuchs, 2019; Porto, 2018; Scott-Monkhouse et al., 2021; Vahed, 2020). According to Bueno-Alastuey and Kleban (2016), issues related to the above are likely to negatively impact students' opinions on the TC experience (p. 160), particularly due to overdue replies from partners and the related need to continue the work on the TC project individually, leading to no actual collaboration, as cautioned by Priego and Liaw (2017b) (p. 381-382). Scott-Monkhouse et al. (2021) stress that even a difference of one hour between the time zones of TC participants is significant (p. 24).

5.5.2 Prior Training (n = 5)

Several RAs suggest that pre-exchange training for its participants should be conducted. According to Nguyen et al. (2020), such an activity might be useful for TCs (p. 100) and certainly deserves more attention (p. 102). Alghasab and Alvarez-Ayure (2021) argue that instructing learners on how to properly work together might be able to improve TCs (p. 21). Likewise, Kohn and Hoffstaedter (2017) emphasize that learners who are well-prepared for the upcoming TCs are more likely to cope well with their technological aspects (p. 364). Fuchs (2019) advocates that students should be briefed prior to taking part in TCs, for instance, through the implementation of the "critical incident technique" (p. 74). Bueno-Alastuey and Kleban (2016) propose including guidance on "appropriate response strategies" (p. 162) to numerous issues that can occur during TCs. The RA of Nguyen et al. (2020) also suggests providing "more detailed instructions on the final product criteria and training on giving constructive feedback" (p. 97) to partner students. Examples from the RAs of Alghasab and Alvarez-Ayure (2021), as well as Nguyen et al. (2020), show that the absence of such training or guidance might lead to "superficial interaction" (Alghasab & Alvarez-Ayure, 2021) (p. 21) while some students might fail to give well-structured feedback to their partners or properly reflect on the TC experience (Nguyen et al., 2020) (p. 97).

5.5.3 Pedagogical Mentoring Prior to Telecollaboration (n = 2)

Alghasab and Alvarez-Ayure (2021) argue that providing TC participants with pedagogical mentoring prior to the exchange is advantageous for them since it equips them with some critical TC skills, such as collaborative skills (p. 1). Further, Alghasab and Alvarez-Ayure (2021) suggest that such training can raise students' awareness and lead them to "genuine interaction" (p. 22). According to the RA of O'Dowd et al. (2020), "teachers must be prepared to carry out pedagogical mentoring" (p. 166) and guide their learners "in the development of […] langua-technocultural competence" (p. 166). The study of O'Dowd et al. (2020) suggests that Type 1 pedagogical mentoring, i.e., a pre-TC familiarization of students with communication strategies, is, in fact, rather unsuccessful in increasing the use of most of such strategies or influencing interactions in general (p. 169). Authors identify the popularity and commonality of use of Type 1 pedagogical mentoring as the most likely cause for this state of affairs (O'Dowd et al., 2020) (p. 161). However, according to O'Dowd et al. (2020), Type 1 pedagogical mentoring contributes successfully to raising "student awareness of certain aspects of social presence" (p. 161). Further, O'Dowd et al. (2020) state that TC participants frequently report gains in learning and reflection as a result of Type 3

pedagogical mentoring (p. 169), i.e., the introduction of participants' own ideas and techniques into the TC project. In this case, learners demonstrate increased awareness, particularly as a result of critical events (O'Dowd et al., 2020) (p. 166). Nevertheless, O'Dowd et al. (2020) conclude that pedagogical mentoring does not seem to increase the use of most of the interactional and linguistic strategies by students (p. 158-159). Similarly, O'Dowd et al. (2020) state that pre-TC training can prepare the students for an exchange only to a certain extent and that it can equip them solely with basic awareness and communication strategies (p. 167).

5.5.4 Time (n = 18)

Among multiple key aspects of TC projects, time seems to be the core one. Several RAs discuss the role of time in relation to TC. In general, they agree that TC exchanges are tremendously time-consuming and require a significant number of arrangements during each project phase (Bueno-Alastuey & Kleban, 2016; Grau & Turula, 2019; Porto, 2018). Some RAs argue that providing sufficient time for TC is vital for its success and students should be able to complete all activities without having to rush (Turula, 2017; Vurdien & Puranen, 2016). A number of RAs report on unforeseen time bounds that limit the TC experience (Grau & Turula, 2019; Kurek & Müller-Hartmann, 2019; Scott-Monkhouse et al., 2021) or specify that their TCs proved to be too short and should have been longer (Gajek & Calderón-Quindós, 2018; Hagley, 2020; Sevilla-Pavón & Nicolaou, 2017). On the other hand, Dooly and Davitova (2018) report that their TC project took longer than initially anticipated (p. 233). Further, students regret that if, due to time constraints of the TC exchange, they are not given the opportunity to talk freely with their peers or if the TC does not last long enough to be able to establish any reasonable relationships, as evidenced by several RAs (Gajek & Calderón-Quindós, 2018; Turula, 2017; Vurdien & Puranen, 2016). Likewise, TC participants attribute the occurrence of communication issues to the lack of sufficient time for TC (Vurdien & Puranen, 2016) (p. 44). Similarly, they voice negative opinions if the time allocated for tasks is insufficient or they are so busy with other activities that they cannot engage in proper conversations, as outlined by Fuchs (2019) (p. 82) as well as Vurdien and Puranen (2016) (p. 44). According to several RAs, completing tasks within the limited time and tight deadlines also proves to be a challenge for numerous TC participants (Gajek & Calderón-Quindós, 2018; Sevilla-Pavón & Nicolaou, 2017). On occasion, learners could not meet the set deadlines and asked for more time to carry out the assigned tasks (Dendenne,

2021) (p. 166). The participants were also checking whether their partners respect the deadlines, however, they often did not adhere to them themselves (Gajek & Calderón-Quindós, 2018) (p. 50). Frequently, students struggled to find time for TCs due to other duties (Freiermuth & Huang, 2021) (p. 203), especially if they took place outside the regular classroom hours (Freiermuth & Huang, 2021) (p. 202). As Freiermuth and Huang (2021) report, in such cases, some of the learners wanted to bring the TC back to the classroom (p. 203).

Importantly, time seems to have a substantial positive impact on the growth of language skills (Jung et al., 2019) (p. 303). Likewise, according to several RAs, time is required to allow learners to reflect which, in turn, enhances learner autonomy (Hagley, 2020; Vurdien & Puranen, 2016). On the other hand, Flowers et al. (2019) conclude that TC participants "feel comfortable enough" (p. 234) to work with each other on controversial topics only after a certain amount of time. Similarly, a lack of noticeable transformations of learners' perspectives or personalities is attributed to the brief duration of some TCs (Ke, 2016) (p. 289). Fuchs (2019) establishes that this is because the short duration of TCs does not allow the TC participants for exhaustive conversations (p. 86). Additionally, contradictory findings were found in terms of the interplay of ICC and time. Waldman et al. (2019) argue that ICC "takes time to develop" (p. 178) while Jung et al. (2019) state that time is "not a significant predictor" (p. 303) of ICC growth.

Lastly, due to the reasons listed above, some RAs question whether TCs can become a regular educational practice (Bueno-Alastuey & Kleban, 2016; Grau & Turula, 2019).

5.5.5 Telecollaboration Modes (n = 19)

One of the most important choices that has to be made early on when organizing a TC project is the selection of the appropriate mode of the TC exchange. Apart from the classic synchronous and asynchronous dichotomy, RAs have also differentiated and discussed oral and written TCs as well as multimodal TC exchanges, all of which are outlined below along with their advantages and disadvantages.

5.5.5.1 Synchronous Telecollaboration (n = 8). Several RAs identify the synchronous mode of TC as the most appropriate and effective (Bueno-Alastuey & Kleban, 2016; Nguyen et al., 2020). Jung et al. (2019) specifically state that synchronous TCs are helpful in enhancing students' cultural knowledge (p. 303-304). Fuchs (2019) reports that, according to the learners, synchronous communication is beneficial to them, regardless of technical

issues (p. 86). Demir and Kayaoğlu (2021) highlight that students' "knowledge, attitudes and skills" (p. 30) can be used during synchronous TCs.

Nevertheless, a number of authors point to the difficulties associated with synchronous TCs. Such undertakings are often problematic to schedule and organize due to their nature, even if the participants are located in the same time zone (Demir & Kayaoğlu, 2021; Gajek & Calderón-Quindós, 2018). In the RA of Grau and Turula (2019), for instance, the idea of having a synchronous TC was abandoned by its organizers, mostly due to organizational issues and too much preparation and time required to hold such an exchange (p. 107). Yet, Smith and Keng (2017), who organized an asynchronous TC instead of the synchronous one, state that holding the latter one would, most probably, have been more enjoyable for their students (p. 36).

5.5.5.2 Asynchronous Telecollaboration (n = 5). Several RAs, for example, that of Dendenne (2021), Kelsen and Flowers (2017), or Vurdien and Puranen (2016), regard asynchronous TCs as a suitable approach. Dendenne (2021) argues that they guarantee flexibility in actively engaging students in the conversation (p. 164). Moreover, Kelsen and Flowers (2017) draw attention to the fact that asynchronous TCs might be appropriate for learners who "favor less structured communication activities" (p. 147) and "prefer less structured communication" (p. 157). Vurdien and Puranen (2016) point out that Facebook can be a good tool for such TCs, highlighting that it facilitates asynchronous collaboration (p. 46, p. 47).

On the other hand, O'Dowd et al. (2020) argue that asynchronous TCs are limited and have a huge potential for cultural and linguistic miscommunication (p. 165). O'Dowd et al. (2020) point out that careful reading is essential in such TCs (p. 165). Additionally, as Smith and Keng (2017) indicate, asynchronous TCs can often be the only viable TC mode due to multiple limitations of synchronous exchanges and difficulties with scheduling such TC sessions (p. 40). However, they likewise emphasize that synchronous TCs would, most likely, be more entertaining for students than asynchronous ones (Smith & Keng, 2017) (p. 36).

5.5.5.3 Oral vs. Written Telecollaboration (n = 1). In terms of oral and written communication in TC, Kohn and Hoffstaedter (2017) point out that oral communication allows TC participants to take part in "open and flexible topic development" (p. 359) as well as increasing the degree of students' involvement in the TC (p. 358). Kohn and Hoffstaedter (2017) report that oral and written conversations have similar durations but the volume of

the former can be “five to seven times higher” (p. 358) than the latter (Kohn & Hoffstaedter, 2017). Further, Kohn and Hoffstaedter (2017) underline that students autonomously introduce new conversation subjects much more frequently in oral communication than in the written type (p. 359). Kohn and Hoffstaedter (2017) also emphasize that for some students it might be easier to either talk or write due to their individual learner differences (p. 358). In turn, as Kohn and Hoffstaedter (2017) suggest, such individual predispositions can be taken advantage of to differentiate skills development during the TC, for instance, by using the preferred or more advanced skill at the beginning of the TC and improving the least developed one later on (p. 358).

5.5.5.4 Multimodal Telecollaboration (n = 7). Multimodality is one of the most frequently discussed notions among the RAs under scrutiny. First of all, according to several RAs, multimodal settings facilitate TCs and online interactions, allowing learners to collaborate efficiently (Austin et al., 2017; Ke, 2016). This is particularly useful if students’ proficiency is low because an additional layer of communication can be used and, in turn, ease the discourse (Ke, 2016) (p. 291). As Pouromid (2019) reports, students’ deficiencies in vocabulary and issues resulting from them can be overcome by introducing multimodality (p. 634) since it allows TC participants to change the mode of communication, for instance, from spoken to other, non-spoken mode, what is later called transduction (p. 633). And if the students believe that their partners’ proficiency in English is low, Pouromid (2019) suggests that they can use a variety of multimodal resources, such as gaze and CF, to maintain interaction (p. 633). As per Dooly and Davitova (2018), multimodality can also facilitate the resolution of missed communication (p. 233). According to them, this can be achieved through repair actions orchestrated between the TC participants and include, for example, students sending messages in the chat or showing objects to the web camera (Dooly & Davitova, 2018) (p. 232).

According to some RAs, students use various linguistic and non-linguistic communication strategies in multimodal settings (Ke, 2016; Pouromid, 2019). These include, for example, changing the tone of the voice, drawing and showing what has been drawn, presenting certain objects, using body language, or utilizing onomatopoeia, all of which can foster the conversation and contribute to the development of oral skills (Austin et al., 2017; Pouromid, 2019). Austin et al. (2017) emphasize that when oral communication is supplemented by other channels, the cognitive load of the conversation is more efficiently

distributed (p. 100). Likewise, Austin et al. (2017) draw attention to the fact that communication comprises both linguistic and non-linguistic components and that both of them have to be conveyed during TCs in order for efficient communication to take place (p. 100). The RA of Austin et al. (2017) also concludes that learners need to be visible to each other and able to use non-linguistic channels along with linguistic ones to voice their opinions (p. 100). In particular, Austin et al. (2017) found gestures to be irreplaceable by oral communication and crucial for the partners to establish the meaning of an utterance (Austin et al., 2017) (p. 93, 95). Likewise, according to Austin et al. (2017), multimodal TCs are particularly effective among children (p. 93).

Dooly and Davitova (2018) note an increase in the occurrence of multimodal actions over the course of their TC (p. 232). Initially, only the use of oral communication is observed but other communication channels, such as text and images, are used in subsequent stages as well (Dooly & Davitova, 2018) (p. 233). Similar findings, namely that "more mixing utterances" (p. 292) appear as the TC progresses, are also reported by Ke (2016) (p. 292).

Ke (2016) points out that ELFTC participants are less anxious to use English in multimodal settings than in traditional FL classrooms (p. 280, p. 289). Further, Ke (2016) concludes that multimodal TCs "shift [learners'] focus away from linguistic accuracy" (p. 297), which can also positively contribute towards the enjoyment of TC. Scott-Monkhouse et al. (2021) report that students value this shift as they also start to appreciate the benefits stemming from non-verbal communication (p. 24).

Pouromid (2019) states that if students' L1s are different, then characteristics of multimodal communication are even more evident in their conversations than if they shared a mother tongue, in addition to translanguaging (p. 627). Similarly, Ke (2016) concludes that multimodality facilitates translanguaging (p. 297). Further, Ke (2016) argues that multimodality allows learners to abandon a common belief that language is "a fixed system owned by NSs" (p. 297).

Pouromid (2019) argues that learners "need to become aware" (p. 634) of multimodality and should be instructed in it. In this vein, Ke (2016) suggests that this can be done through proper training which, in turn, can also positively affect the participants' "linguistic confidence" (p. 291).

When it comes to the benefits and effectiveness of multimodality, Austin et al. (2017) point out that it enriches students' discussions, boosts teamwork, and allows learners to

better comprehend the roles they have during conversations (p. 93, 97). Further, according to Austin et al. (2017), multimodality facilitates the understanding of the meaning and getting the message across, even if it cannot be expressed orally (p. 93). The RA of Waldman et al. (2019) provides statistically significant findings concerning the growth of multimodal skills among TC participants over the course of exchanges (p. 176). Similarly, Ke (2016) argues that using "various semiotic resources in multimodal communication helped the students apply their linguistic knowledge into functional use in authentic contexts" (p. 291). On the other hand, Jung et al. (2019) stress that despite the multimodal character of the TC, students do not frequently use Internet resources or textbooks (p. 305). Nevertheless, as Ke (2016) concludes, multimodality should be encouraged in TCs while multimodal TCs can be a great addition to regular FL teaching practices (p. 297).

5.5.6 Tools Used in Telecollaboration (n = 18)

Another key decision that has to be made when organizing a TC project is the appropriate selection of the TC tools to be used throughout the exchange. Several RAs, for example, Gajek and Calderón-Quindós (2018) (p. 49) or Nguyen et al. (2020) (p. 101), emphasize that basic technological skills are required from participants to run a successful TC. In general, TC participants across all RAs did not have significant problems in working with computers or using the assigned or self-selected TC tools since their digital literacy was high, as underlined, for instance, by Chen and Yang (2016) (p. 273-274). Most of the time, learners already knew how to use different TC tools and did not have to be instructed on how to use them (Chen & Yang, 2016; Nguyen et al., 2020). Nevertheless, a number of RAs report improvement in the use of TC tools (Demir & Kayaoğlu, 2021) (p. 20). TC participants perceive the efficient use of such tools as important (O'Dowd et al., 2020) (p. 163) and frequently rank the use of tools among the skills that they developed the most thanks to their involvement in TC (Nguyen et al., 2020) (p. 100). Students are also happy to use different tools throughout exchanges (Nguyen et al., 2020) (p. 100) and, on occasion, proposed the use of additional TC tools that they were already familiar with and found to be useful in the TC project (Demir & Kayaoğlu, 2021) (p. 21).

There are, however, some issues associated with TC tools. Some participants were disappointed with the tools suggested to them by their instructors and wanted to use different ones (Bozdağ, 2018; Dendenne, 2021). On other occasions, some learners were not satisfied with the proposed TC tools and lost interest in them while carrying out the

envisioned activities (Demir & Kayaoğlu, 2021) (p. 31). Students also complained about the poor design and slow working speed of the software they had to use, which led to dissatisfaction (Dendenne, 2021) (p. 165-166). Most of the time, as a result of such problems, alternative tools had to be found (Dendenne, 2021) (p. 166). However, changing tools during the TCs was also reported to cause new problems (Fuchs, 2019) (p. 82-83). Some participants were not in favor of such alterations and if they agreed to switch tools, they often did so unwillingly (Fuchs, 2019) (p. 82). In other cases, students disagreed on which TC tools they should use if the choice was left to them (Fuchs, 2019; Priego & Liaw, 2017b). Conflicts about the choice of tools led to TC participants' disappointment and lower motivation towards the project (Fuchs, 2019) (p. 82). Sometimes, students' choice of tools was also influenced by the prior instructions of the teachers, including the mandate to use or not to use specific tools (Priego & Liaw, 2017b) (p. 380). Similarly, students might have not used some tools due to the lack of knowledge about their existence or the inability to access them (Fuchs, 2019; Jung et al., 2019). Inexperience in or limited familiarity with certain tools impeded the interactions of some participants (Fuchs, 2019) (p. 74). Students who were able to autonomously pick the TC tools for their project often selected the software that they were already familiar with or even proficient in (Gajek & Calderón-Quindós, 2018) (p. 49). As a result, students frequently reported no improvement in terms of their digital competencies (Gajek & Calderón-Quindós, 2018; Priego & Liaw, 2017b). Also, their partners usually did not report any gains in this respect since they relied on more-skilled students who were the only ones to utilize the given software (Priego & Liaw, 2017b) (p. 380-381). Nevertheless, according to students, technological tools offer more advantages than disadvantages (Fuchs, 2019) (p. 84).

The most commonly used TC tools among the RAs in the corpus included video-conferencing software, such as Skype and Zoom. Nearly all findings concerning these tools are positive. Skype is perceived as a suitable tool for ELFTCs by multiple RAs (Austin et al., 2017; Bueno-Alastuey & Kleban, 2016; Fuchs, 2019; Nguyen et al., 2020). It is reported to facilitate TCs, ease the practice of the TL, and boost the development of oral skills (Austin et al., 2017; Nguyen et al., 2020). Further, as Nguyen et al. (2020) note, it creates an authentic learning experience by connecting students located around the world (p. 96, 101). Importantly, Skype offers additional layers of communication to the learners, such as gestures and visuals, which enhances and facilitates collaboration (Austin et al., 2017) (p. 95-

96). Thanks to Skype, students are able to visually communicate what would be difficult for them to convey otherwise (Austin et al., 2017) (p. 96). Skype is also reported to boost students' cross-cultural comprehension (p. 88) and help them to develop 21st-century skills (Nguyen et al., 2020) (p. 101, 102). The only minor drawback that the students point out while using Skype is that they wish to see live subtitles during their conversations which, they believe, would increase their comprehension[24] (Nguyen et al., 2020) (p. 101).

Similarly, Zoom is considered an appropriate tool for TCs since it allows participants to easily engage learners in authentic and meaningful exchanges with foreign partners (Freiermuth & Huang, 2021) (p. 186). Learners appreciate that this software is "interactive, switches speakers automatically, and provides instant access to the uploaded videos" (p. 203) after the TC sessions end (Freiermuth & Huang, 2021).

Apart from video-conferencing tools, social media are also frequently used in TC exchanges. RAs generally find them to be suitable for this kind of project and FL teaching (Fuchs, 2019; Kulavuz-Onal & Vásquez, 2018). It was often pointed out that social media are readily available and students are mostly comfortable when using them (Fuchs, 2019) (p. 85). Flowers et al. (2019) argue that collaborating through social media requires TC participants "to engage in polite conversation with strangers" (p. 159) while Gholami Pasand et al. (2021) emphasize that it can increase learners' "awareness of the culture of other people" (p. 583). Other benefits of using social media include boosted intercultural sensitivity (Gholami Pasand et al., 2021) (p. 583), "multimodality, one-to-many communication, increased negotiation of meaning, and instant or delayed interaction" (Kulavuz-Onal & Vásquez, 2018) (p. 253). Despite their numerous benefits, Fuchs (2019) suggests that the very nature of social media may be their most important limitation (p. 85). According to Fuchs (2019), some learners are reluctant to use social media (p. 83), regarding them as "'unstructured' and 'confusing'" (p. 94). Social media were also reported to cause "'interpersonal issues' […] and 'misunderstandings'" (Fuchs, 2019) (p. 81).

Several RAs provide detailed insights into the use of one of the social media – Facebook. The RAs of Kelsen and Flowers (2017) (p. 159) and Vurdien and Puranen (2016) (p. 42, 46, 47) identify it as a suitable tool for TC projects and cross-cultural education. In particular, Vurdien and Puranen (2016) emphasize the authenticity and motivational

[24] At the time of writing, Skype already supports such function.

capabilities of Facebook as well as pointing out that it can offer a comforting learning environment (p. 46). Vurdien and Puranen (2016) also consider Facebook to be suitable for enhancing learners' cooperative abilities, considered important in self-directed learning (p. 46). Moreover, Vurdien and Puranen (2016) draw attention to the fact that students can adjust their learning to the desired pace thanks to Facebook (p. 47). Vurdien and Puranen (2016) also point out that this TC tool increases "the feeling of proximity and mutual support" (p. 47) and, as a result, learners feel more comfortable to voice their opinions (p. 47). Kelsen and Flowers (2017) bring to light the idea that the honesty-humility domain correlates positively with students' participation in Facebook-based TCs to a great extent (p. 156). Kelsen and Flowers (2017) perceive these findings as surprising since shy students are generally considered to be less likely to engage in activities such as TC, in contrast to their extrovert peers (p. 156-157). Further, Kelsen and Flowers (2017) point out that some students might not enjoy using Facebook as it already is a commonly used tool and, therefore, "lacks novelty" (p. 157). Similarly, in the RA of Fuchs (2019), participants maintain that Facebook is meant for personal and private use and not work- or school-related activities (p. 82). Some region- or nation-specific preferences regarding the use of certain social media over others are also evident (Fuchs, 2019) (p. 81, 82, 84). Nevertheless, according to Vurdien and Puranen (2016), Facebook can be considered pedagogically effective in TC (p. 46) and particularly suitable for asynchronous TCs (Vurdien & Puranen, 2016) (p. 46, 47).

Various LMSs constitute another category of TC tools. Overall, software such as Edmodo,[25] Microsoft Teams, Moodle, or Wiki platforms is regarded as appropriate and effective in TC (Chen & Yang, 2016; Nguyen et al., 2020). Such LMSs are found to provide TC participants with good structure which allows them to better organize and direct their learning process (Chen & Yang, 2016) (p. 272). Further, they often facilitate interactions among students and permit them to learn from each other (Chen & Yang, 2016) (p. 273). Participants also found the learning environment of LMSs to be less stressful for students (Chen & Yang, 2016) (p. 272). From the teachers' perspective, LMSs offer the ability to effortlessly provide learners with a wide range of learning resources and information concerning the TC project (Nguyen et al., 2020) (p. 88). Importantly, LMSs give both students

[25] Shut down in 2022.

and teachers the ability to monitor the progress being made throughout the TC (Nguyen et al., 2020) (p. 88, 101). Some learners, however, do not find Moodle suitable for them and prefer to use other tools instead (Gajek & Calderón-Quindós, 2018) (p. 49-50).

Evidence confirming the appropriateness of the use of several other TC tools, such as Google+, Google Docs, Google Drive, and Wix, was also found (Fuchs, 2019; Sevilla-Pavón & Nicolaou, 2017). According to the relevant RAs, TC participants enjoy working with all of them and emphasize that these tools help them in communicating, collaborating, designing, editing, learning, sharing, and writing (Fuchs, 2019; Sevilla-Pavón & Nicolaou, 2017).

5.5.7 Curriculum (n = 5)

After selecting the appropriate tools for the project, TC instructors are often faced with the necessity to implement a specific curriculum, particularly if the exchange takes place in a school context. A number of RAs show that national curricula can be successfully implemented during TCs and motivate students towards intercultural learning (Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Pouromid, 2019). However, as Scott-Monkhouse et al. (2021) (p. 23) as well as Vahed (2020) (p. 31) highlight, it is often the curriculum that limits TC. Nevertheless, the RAs of Pouromid (2019) (p. 634) and Scott-Monkhouse et al. (2021) (p. 27) argue that TC itself constitutes a novel and promising approach that should be included in national FL curricula.

5.5.8 Topics (n = 26)

The topics of TC projects often reflect the curriculum. As multiple RAs show, TC allows learners to engage in interesting topics and so topic selection is crucial since it impacts participants' motivation and involvement (Demir & Kayaoğlu, 2021; Jung et al., 2019; Kelsen & Flowers, 2017; Scott-Monkhouse et al., 2021). As several RAs report, TC topics should be as applicable to students' interests and fields of study as possible (Bozdağ, 2018; Sevilla-Pavón & Nicolaou, 2017). Usually, at the beginning of TCs, conversations tend to revolve around the set central topic, however, when students lose interest in it, they continue the conversation with another topic of their choice (Austin et al., 2017; Kohn & Hoffstaedter, 2017; Sevilla-Pavón & Nicolaou, 2017). Freiermuth and Huang (2021) argue that such events are quite natural and can involve both cultural and linguistic matters (p. 195). Similarly, Austin et al. (2017) underline that it is acceptable to change the topic of the conversation and depart from the assigned task for the sake of avoiding communication breakdown (p. 194-195). Kohn and Hoffstaedter (2017) state that students might, in fact,

derive satisfaction from such “thematic autonomy” (p. 362). Similarly, Vurdien and Puranen (2016) highlight that students’ willingness to obtain information about the specific subject from the partner indicates learner autonomy (p. 45). Kohn and Hoffstaedter (2017) also argue that such thematic deviation is vital for learners’ transformation from a language learner to a language user (p. 362). However, Kohn and Hoffstaedter (2017) stress that such phenomena might not occur if the change of the topic is antagonized, either by the instructor or another learner (p. 362). Consequently, as the RAs suggest, such self-initiated thematic changes should be permitted while students should be able to (or, in fact, be encouraged to) freely select the topics for their conversations (Kelsen & Flowers, 2017; Kohn & Hoffstaedter, 2017). As Kohn and Hoffstaedter (2017) emphasize, students start new conversation topics more often in oral than written discussions (p. 359) while genesis is, most often, an interesting statement or a question directed at a learner from a partner (p. 358).

As already mentioned in the qualitative results, most (n = 16) of the TC projects from RAs collected in the corpus of this study were devoted to cultural topics (Alghasab & Alvarez-Ayure, 2021; Bozdağ, 2018; Chen & Yang, 2016; Clavel-Arroitia & Pennock-Speck, 2021; Flowers et al., 2019). Other TCs revolved around one specific topic (n = 11), such as ecology (Alcaraz-Mármol, 2020; Porto, 2016) or education (Fuchs, 2019; Vurdien & Puranen, 2016; Waldman et al., 2019); or included various topics within the same exchange (n = 6) (Demir & Kayaoğlu, 2021; Kelsen & Flowers, 2017; Sevilla-Pavón & Nicolaou, 2017). It was also often the case that the subject of TCs between student-teachers was related to education and included a practical component, such as preparing activities, lesson plans, or tasks (Bueno-Alastuey & Kleban, 2016; Kurek & Müller-Hartmann, 2019; O'Dowd et al., 2020). Some of the participants pointed out that the topics that had been chosen for their TCs were too restrictive and that they were not happy with them (Dendenne, 2021; Turula, 2017). Consequently, as Bueno-Alastuey and Kleban (2016) emphasize, instructors should be careful when choosing topics for their TCs (p. 159). According to Dooly and Davitova (2018), teachers should also be mindful that the change of the set topic might occur as soon as they leave their students unsupervised (p. 232). Additionally, as Nguyen et al. (2020) highlight, some of the participants might want to receive conversation topics prior to TCs so that they could prepare them better, for instance, by searching for relevant vocabulary (p. 101).

5.5.9 Task Design (n = 9)

Task design in TC likewise requires special attention (Nguyen et al., 2020) (p. 102), mostly due to the fact TC exchanges are highly complex initiatives (Grau & Turula, 2019) (p. 110). Overall, blended learning and flipped classroom approaches are suitable for TC and enjoyed by the students, as reported by several RAs (Kohn & Hoffstaedter, 2017; Kulavuz-Onal & Vásquez, 2018). Particularly, blended learning is reported to enhance instructors' conflict management skills and to foster the use of multiple pedagogical strategies (Kurek & Müller-Hartmann, 2019) (p. 65). Likewise, the ARCS (Attention, Relevance, Confidence, and Satisfaction) model of instructional design (Keller, 1987) was found to be appropriate for TC in the RA of Chen and Yang (2016) since it allows instructors to provide their students with "the necessary support and assistance" (p. 272), which learners value substantially (p. 273). In the very same RA, learners expressed appreciation towards the technological elements of TC projects, particularly with regard to task design (Chen & Yang, 2016) (p. 272). Overall, Dooly and Sadler (2016) emphasize that TC task design should be well thought out and carefully constructed to allow learners to fully benefit from it (p. 73). Likewise, Jung et al. (2019) underline that engagement-inducing elements should also be accounted for when planning TC activities (p. 306). On the other hand, the RA of Dendenne (2021) shows that some students found the TC project and, in particular, its tasks, to be poorly designed, which, in turn, had a negative impact on the exchange (p. 165, 166, 177).

5.5.10 Tasks (n = 13)

In terms of TC tasks, several RAs, for instance, Turula (2017) (p. 32) and Vurdien and Puranen (2016) (p. 47), suggest that they should have unambiguous goals and purposes. What is more, some RAs state that offering an assortment of tasks during TC exchanges is an entertaining, gratifying, inspiring, and productive solution (Demir & Kayaoğlu, 2021; Nguyen et al., 2020; Vurdien & Puranen, 2016). Hagley (2020) argues that tasks in TCs should be simple so that they can be inclusive and easy to run (p. 85) since, as Austin et al. (2017) point out, they often serve as springboards for further conversation (p. 98-99). In the same vein, Vurdien and Puranen (2016) note that TC activities have to be adequately engaging for students (p. 44) while participation in self-management tasks was shown to increase students' motivation (p. 44). According to Kurek and Müller-Hartmann (2019), the beginning of TCs should include some ice-breaking and team-building activities (p. 68). These, in turn, should allow TC participants to eliminate any divisions that might become problematic during the subsequent stages of the project (Kurek & Müller-Hartmann, 2019) (p. 60, 68).

Moreover, Kurek and Müller-Hartmann (2019) emphasize that developing positive relations and trust towards each other and towards instructors, in addition to establishing social presence, is crucial at the beginning of TC projects (p. 60, 68). Similarly, and as already highlighted above, Turula (2017) argues that TCs should allow students to both take part in pre-designed in-class activities with "clearly defined educational purpose[s]" (p. 32) as well as "unrestrained and unfocused private exchanges" (p. 32). Parallel conclusions are reached by Bueno-Alastuey and Kleban (2016) who state that some students like to engage in unstructured conversations in addition to set tasks (p. 159). Also, Kelsen and Flowers (2017) assert that in-class activities are beneficial for TCs, particularly for shy learners who experience difficulties with actively participating in such exchanges (p. 159). Moreover, Kelsen and Flowers (2017) emphasize that tasks which require interaction can stimulate all TC participants and not only those who are naturally predisposed regarding active involvement (p. 159). Additionally, Vurdien and Puranen (2016) conclude that students value instructors' help and feedback in terms of tasks (p. 47) while Demir and Kayaoğlu (2021) add that TC instructors should be the ones who design the tasks (p. 15). Sevilla-Pavón and Nicolaou (2017) communicate also that follow-up tasks should be included towards the end of TCs to collect learners' deliverables and bring resolution to the exchange (p. 56).

Correspondingly, several RAs identified potential issues related to tasks in TCs. Turula (2017) reports that some students can find certain tasks "unclear" (p. 28) and/or "uninteresting" (p. 28). Likewise, Vurdien and Puranen (2016) notice that TC participants can complete their tasks only shallowly or fail to accomplish some of them due to insufficient collaboration (p. 44). Gajek and Calderón-Quindós (2018) inform that participants' teamwork was involuntary due to the need to perform the tasks assigned by the instructors (p. 49). Further, Scott-Monkhouse et al. (2021) suggest that activities which necessitate the TC participants to use their logical reasoning as well as investigative, output-oriented, and absorptive skills, can be problematic for some of them (p. 25). Bueno-Alastuey and Kleban (2016) conclude that choosing appropriate tasks for the TC can be difficult for the instructors (p. 159). This was especially true in the TC of Demir and Kayaoğlu (2021) who determined that some tasks were mundane and monotonous for the older students in a mixed-age group (p. 31). Demir and Kayaoğlu (2021) suggest that the difficulty of the tasks should, therefore, correspond to participants' level of English (p. 28). Likewise, Kurek and Müller-Hartmann (2019) identify students' profiles as a probable factor that can make it significantly

harder for instructors to select appropriate tasks for their learners (p. 62) while Vurdien and Puranen (2016) suggest that students' learning styles can impact their ability to successfully complete the activities set to them (p. 46). Lastly, O'Dowd et al. (2020) argue that the substance of the TC activities, among others, might negatively impact the use of some mentoring strategies (p. 160).

5.5.11 Feedback (n = 6)

Numerous RAs discuss the role of feedback in TC. According to Jung et al. (2019), students appreciate feedback, be it from partners or instructors, since it helps them to acknowledge and later rectify their errors, which is favorable for their linguistic growth (p. 301). Similarly, as reported by Jung et al. (2019) (p. 301), Ke (2016) (p. 292), and Pouromid (2019) (p. 633), feedback facilitates mitigating and overcoming miscommunications. Further, Pouromid (2019) informs that CF can have a positive effect on communication (p. 633) while, according to Scott-Monkhouse et al. (2021), feedback is "among the most important stimuli for learning" (p. 21) in TC settings. The RA of Jung et al. (2019) shows that thanks to participation in TC projects students can learn how to deliver feedback to their partners and actively pursue feedback for themselves (p. 301). What is more, according to the results provided by Smith and Keng (2017), the fact that students know that they will receive feedback from their partners encourages them to engage in TC projects and complete assigned tasks (p. 38). Lastly, Dendenne (2021) draws attention to the fact that learners are upset if they are not provided with feedback or if the obtained response differs from their anticipations (p. 166).

5.5.12 Critical Reflection (n = 14)

Apart from feedback, critical reflection also plays an important role in the reviewed RAs. Several of them, for example, Bueno-Alastuey and Kleban (2016) (p. 162) and Kohn and Hoffstaedter (2017) (p. 363), argue that such practice should be incorporated in TC projects. Hagley (2020) emphasizes that reflections are crucial to avoid the reinforcement of antagonisms, polarizations, and stereotypes (p. 81-82, 84, 85). Similarly, Bueno-Alastuey and Kleban (2016) add that learning from negative experiences is not automatic and, therefore, requires reflection (p. 162). According to Flowers et al. (2019), a guided approach can be adopted during TCs to train students in reflective practices, thus, allowing them to avoid conflicts throughout the project (p. 232). TCs can also help students in contemplating on their own behaviors (Dooly & Davitova, 2018) (p. 232) and linguistic production (Scott-

Monkhouse et al., 2021) (p. 20-21), as well as in improving their reflection skills (Sevilla-Pavón & Nicolaou, 2017) (p. 54). Moreover, Bueno-Alastuey and Kleban (2016) argue that asking participants to reflect on their experiences related to TC projects increases their appreciation of these exchanges (p. 162). Reflections can also increase students' consciousness (O'Dowd et al., 2020) (p. 163-165), tolerance towards other cultures (Flowers et al., 2019) (p. 232), and are vital for self-identification evolution (Ke, 2016) (p. 295). In terms of form, Bueno-Alastuey and Kleban (2016) suggest that written reflections are a viable option (p. 162). According to Gajek and Calderón-Quindós (2018), creating written reflective reports throughout TCs can enhance students' reflective skills (p. 51). Likewise, creating cyclical personal or group evaluations or updates, in addition to collecting any form of data that resulted from students' interactions over the course of TCs, is encouraged (Nguyen et al., 2020; O'Dowd et al., 2020). This is not only for the purpose of facilitating the subsequent reflection, but also to enable the monitoring and analysis of students' progress and individual contributions by the TC instructors (Nguyen et al., 2020; O'Dowd et al., 2020). In-class reflections and shared assignments were also found to constitute a beneficial impetus for anxious or introverted students as well as contemplating on perspectives of all participants of the TC project (Kelsen & Flowers, 2017; Vurdien & Puranen, 2016). Similarly, reflective activities can be helpful in recognizing issues in students' collaboration and equalizing group dynamics if learners' profiles differ significantly from each other (Kurek & Müller-Hartmann, 2019) (p. 63). Above all, several RAs stress that reflection requires sufficient time which, if provided, contributes to the growth of students' autonomy (Bueno-Alastuey & Kleban, 2016; Hagley, 2020; Vurdien & Puranen, 2016). There is, however, one major drawback associated with critical reflections – students do not enjoy producing them (Ke, 2016) (p. 289). Learners perceive them as an additional and unnecessary workload that offers limited gains (Gajek & Calderón-Quindós, 2018; Ke, 2016). In the RA of Ke (2016), for instance, after the introduction of reflective essays, some learners discontinued their participation in the (voluntary) TC project (p. 289). Correspondingly, Gajek and Calderón-Quindós (2018) conclude that this kind of activity allows learners to reflect on the exchange yet add that it is a very time-consuming task that can even be rejected by some learners based on their perspectives that written reflective reports "do not contribute to the growth of linguistic or cultural knowledge and skills" (p. 50).

5.5.13 Assessment (n = 4)

Assessment is yet another important variable that falls under the task-related aspects of TC projects. Bueno-Alastuey and Kleban (2016) draw attention to the fact that different evaluation methods for distinct partner groups are generally not well-received by TC participants and do not have a positive impact on the TC exchange (p. 160-161, 162). Similarly, Fuchs (2019) notes that dissimilar evaluation is not recommended since it can erode the degree of learners' involvement in TC projects – first the non-graded or the non-strictly graded group(s), then the other group(s) (p. 86). This point is likewise raised by Scott-Monkhouse et al. (2021) whose RA shows that different assessment methods, or the complete lack thereof, should be avoided (p. 24). Moreover, Scott-Monkhouse et al. (2021) point out that awarding grades or credits to a large number of students can be problematic and, as a result, teachers might be forced to limit the number of participants who will be able to take part in TC (p. 24). Nevertheless, Fuchs (2019) concludes that all groups within TC should be assessed and/or graded equally (p. 86-87). Additionally, Kohn and Hoffstaedter (2017) suggest that apart from the preparation for compulsory external examinations, students should also be assessed from the lingua franca perspective, thus, allowing them to actually learn for life (p. 364).

5.5.14 Group Characteristics (n = 6)

When designing a TC, instructors need to also consider the appropriate ways to divide and group their students. In terms of group size, Vurdien and Puranen (2016) conclude that pair work or groups consisting of just a few learners are the preferred solution (p. 44, 46). Vurdien and Puranen (2016) also advise against having too many students in one group for the sake of maximized TC experience which can be diminished if too many parties are involved at once (p. 44, 46). This proved to be the case, for example, in the RA of Fuchs (2019). Consequently, Demir and Kayaoğlu (2021) suggest that teachers should "group [their students] strategically" (p. 16) and avoid mixing different educational groups together not to hinder TC management and participants' collaboration (p. 31). As, for instance, the RA of Demir and Kayaoğlu (2021) shows, learners are not always happy to have students from other grades as national partners (p. 28, 31). When it comes to group characteristics, O'Dowd et al. (2020) point to the importance of group identity (p. 163) while Hagley (2020), also referring to the words of Lewis et al. (2011), argues that TCs should be multinational to avoid a phenomenon in which TC participants recognize each other solely as the ambassadors of different cultures (p. 84). Nevertheless, Fuchs (2019) warns about the

problems involved in having too many students of the same nationality in the same group as this might negatively impact the balance of power and, in turn, the whole TC (p. 86). Similarly, the RA of Smith and Keng (2017) shows that having an uneven number of learners in partner groups is not advisable (p. 36). Consequently, Fuchs (2019) recommends keeping the number of participants with distinct nationalities as equal as possible (p. 86).

5.5.15 Workload (n = 7)

RAs report different findings in terms of the workload that TC involves. Participants in the RA by Hagley (2020) did not consider that TC required too much effort and perceived its content as rather uncomplicated (p. 83). On the other hand, Chen and Yang (2016) inform us that TCs can be perceived as difficult and demanding endeavors (p. 282) while Sevilla-Pavón and Nicolaou (2017) state that they constitute a significant amount of work and a challenge for their participants (p. 55). Similarly, some learners in the RA of Scott-Monkhouse et al. (2021) were afraid that TC would become an additional substantial duty for them (p. 24). As the RA of Gajek and Calderón-Quindós (2018) shows, students' complaints are particularly noticeable if the workload is not equally distributed among the TC participants and some of them have to work harder than the others (p. 50). Fuchs (2019) underlines that participants are likewise not happy with the scale of the information they have to process during the exchange (p. 86). Scott-Monkhouse et al. (2021) emphasize that TC is also a supplementary effort for its organizers (p. 24). Nevertheless, Grau and Turula (2019) conclude that despite the significant amount of added work and all the associated risks, TCs are worth implementing (p. 106).

5.5.16 Technical Issues (n = 10)

Various technical difficulties concerning TC exchanges are frequently reported in RAs (Freiermuth & Huang, 2021; Sevilla-Pavón & Nicolaou, 2017). Most of them are regarded as unavoidable and usually they do not significantly impact TCs (Vahed, 2020) (p. 33). The most common problems concern poor Internet quality and connectivity issues (Dendenne, 2021; Freiermuth & Huang, 2021; Nguyen et al., 2020; Vahed, 2020). Also, the lack of sufficient technological infrastructure for TC projects was frequently a concern (Bozdağ, 2018; Demir & Kayaoğlu, 2021). Moreover, the lack of sufficient ICT knowledge among both students and teachers constitutes a significant problem (Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017; Vahed, 2020). Several students required the assistance of their teachers or peers to be able to complete the assigned tasks (Demir & Kayaoğlu, 2021; Sevilla-Pavón &

Nicolaou, 2017). It was also pointed out that TC projects might require additional support from technical staff in case of technical issues (Kohn & Hoffstaedter, 2017; Scott-Monkhouse et al., 2021). In response to the above, Waldman et al. (2019) conclude that, from the technological standpoint, institutional support is required for the successful implementation of TC and its provision allows TC participants to avoid potential problems of this nature during the exchange (p. 179). Likewise, Nguyen et al. (2020) stress that adequately provisioned FL classrooms and, above all, a reliable Internet connection, are vital for successfully organizing TCs exchanges (p. 101).

5.5.17 Instructors' Role (n = 20)

What seems to be the basic requirement concerning TC instructors is their willingness to welcome the novelty of TC exchanges in their usual FL classrooms (Grau & Turula, 2019) (p. 106). As Priego and Liaw (2017b) report, the role of instructors in TCs is far more complex than in traditional FL classrooms (p. 386). This point is also addressed in detail by Demir and Kayaoğlu (2021) who argue that TC instructors are no longer the only source of information and, therefore, need to take on multiple roles, such as logistical, methodological, relational, and technological ones (p. 15, 30). As several RAs emphasize, TC instructors should also be aware of the changeable nature of TC projects and, thus, ready to manage the unforeseen by being adaptable and resilient (Austin et al., 2017; Grau & Turula, 2019; Scott-Monkhouse et al., 2021). Waldman et al. (2019) suggest that to be able to effectively conduct TCs, instructors should possess "digital pedagogical skills" (p. 178). As Grau and Turula (2019) add, the instructors' favorable mindset helps TC participants to overcome various problems (p. 106).

According to O'Dowd et al. (2020), TC instructors should instruct all TC participants about the general good practices of communication, including the expected degree of contribution and involvement to the TC project, responsiveness, as well as rules of online conduct, at the very beginning of the exchange (p. 167). What is more, as Demir and Kayaoğlu (2021) highlight, instructors should also guarantee appropriate learning conditions for their students and attempt to boost team-based education (p. 16). Likewise, several RAs suggest that depending on the given situation and setting, instructors should choose the suitable mode of the TC as well as providing the participants with appropriate TC tools along with proper training on how to use them (Bozdağ, 2018; Demir & Kayaoğlu, 2021; O'Dowd et al., 2020). Austin et al. (2017) suggest that the topic of the TC should also be set by the TC

instructors, but participants should be able to continue their conversations freely (p. 100). Similarly, as already mentioned earlier, Demir and Kayaoğlu (2021) underline that instructors should be the ones who design TC tasks (p. 15). Further, Vurdien and Puranen (2016) report that learners appreciate the support and feedback from their instructors, especially in terms of the activities they are faced with (p. 47).

According to Alghasab and Alvarez-Ayure (2021), TC instructors should actively motivate TC participants to be involved in the TC projects (p. 22). As Bozdağ (2018) suggests, this should be done in accordance with students' capabilities and willingness (p. 686). Importantly, Kelsen and Flowers (2017) stress that learners who, for example, are introverted, might need additional help from their teachers (p. 158). This is due to the fact that, as Demir and Kayaoğlu (2021) claim, instructors' presence and assistance can reduce students' anxiety in TCs (p. 17). Similarly, as Vurdien and Puranen (2016) highlight, learners whose degree of involvement is not satisfactory, should be further motivated by the teachers to ensure that they benefit from TCs (p. 47). Kelsen and Flowers (2017) (p. 157-158) and Kurek and Müller-Hartmann (2019) (p. 67) identify TC instructors as the ones responsible for correcting any inequalities among TC participants, including those stemming from the differences in their personality profiles. Kurek and Müller-Hartmann (2019) report also that educators can enhance learners' cognitive presence, learning presence, and social presence (p. 68). According to Kurek and Müller-Hartmann (2019), students' learning presence, for instance, can be enhanced through a number of instructional undertakings, particularly, reflective activities (p. 63). Likewise, Kurek and Müller-Hartmann (2019) underline that teachers can increase the learning presence of their students by offering them emotional assistance or providing them with affirmatory comments and, in turn, facilitating their learning capabilities (p. 63). Similarly, Vurdien and Puranen (2016) suggest that some students might require help due to the lack of certain skills that would allow them to efficiently participate in the TC (p. 47). In such case, Grau and Turula (2019) point to teachers as the ones accountable for providing learners with the necessary assistance (p. 110). Additionally, several RAs emphasize that teachers should provide their students with appropriate strategies that will allow all of them to effectively participate and communicate in TC projects and, therefore, acquire new knowledge and skills (Alghasab & Alvarez-Ayure, 2021; Austin et al., 2017; Priego & Liaw, 2017a, 2017b). In particular, this concerns language assistance (Demir & Kayaoğlu, 2021) (p. 17).

According to several RAs, TC instructors should help learners understand their partners as well as corresponding cultures and, thus, become more culturally aware and open-minded people (Alghasab & Alvarez-Ayure, 2021; Ke, 2016; O'Dowd et al., 2020). This process includes, for instance, diminishing stereotypes, promoting tolerance, and combating discrimination (Alghasab & Alvarez-Ayure, 2021; Demir & Kayaoğlu, 2021). As several RAs stress, teachers should help students to acknowledge and appropriately respond to cultural differences, thus, helping them to avoid potential misunderstandings (Priego & Liaw, 2017b; Turula, 2017; Vurdien & Puranen, 2016). Yet, if the latter occur, RAs recommend that TC instructors provide learners with appropriate conflict resolution strategies (Priego & Liaw, 2017b; Turula, 2017; Vurdien & Puranen, 2016). Kurek and Müller-Hartmann (2019) also suggest that teachers can act as mediators (p. 68).

According to Austin et al. (2017), teachers should not control the flow of TCs since it would limit students' ability to express themselves (p. 100). Dooly and Davitova (2018) add that learners can control the discussion on their own, without the supervision of TC instructors (p. 232). However, as Austin et al. (2017) argue, instructors should intervene if the participants are unable to continue the discussion (p. 100). Nevertheless, in general, RAs suggest switching from the teacher- to the learner-centered approach (Bozdağ, 2018; Dooly & Davitova, 2018).

A number of RAs, as appearing below in this paragraph, outline the negative aspects of instructors' involvement in TCs that should be avoided, if possible. Bozdağ (2018) reports on teachers' poor choice of TC tools, which were not approved by the students, and suggests that instructors should get to know their students better by, for example, discovering their goals, needs, and skills, prior to TC (p. 686). As the RA of Bozdağ (2018) shows, some TC participants can find TCs dull if the teachers are the only active participants in such exchanges (p. 685). As reported in this particular case, teachers were happy with the outcomes of the TC while the TC participants were not (Bozdağ, 2018) (p. 687). As already mentioned before, Bueno-Alastuey and Kleban (2016) suggest that selecting tasks and topics for TCs is usually troublesome for TC instructors – they need to be extremely cautious in this respect since it has a significant impact on the success of the TC (p. 159). Additionally, Demir and Kayaoğlu (2021) found that mixing various classes or grades at one partner institution not only adds more work for the teachers but is also less enjoyable for the students who prefer to learn with their usual classmates (p. 28). Moreover, the RAs of Demir and Kayaoğlu

(2021) (p. 29) and Dooly and Davitova (2018) (p. 232) stress that the absence of the teacher during the TC can cause students to misbehave and change the assigned conversation topic. On the other hand, Flowers et al. (2019) highlight that even the passive presence of teachers during TCs might raise participants' anxiety levels (p. 233). On occasion, as the RA of Dooly and Davitova (2018) shows, learners might also ignore their teachers' instructions (p. 233). However, above all, the RAs under scrutiny prove that the presence of the instructor in TC projects is vital and that students generally acknowledge the aid of their teachers (Chen & Yang, 2016; Scott-Monkhouse et al., 2021). Additionally, Kulavuz-Onal and Vásquez (2018) report that as a result of implementing a TC project, teachers perceive it not only as an activity through which their students can learn English but also as a way to transform them into cosmopolitans (p. 253).

5.5.17.1 Teachers' Monitoring (n = 5). As Nguyen et al. (2020) point out, monitoring by teachers deserves increased focus (p. 102). Priego and Liaw (2017b) argue that teachers should closely observe how their students collaborate with each other during TC projects (p. 386). Several RAs encourage TC instructors to monitor their TCs, particularly in search of teachable moments (Austin et al., 2017; O'Dowd et al., 2020; Priego & Liaw, 2017a). However, Austin et al. (2017) highlight that teachers should limit their involvement to the minimum and rather resort solely to observing, thus, allowing the learners to control the flow of the TC by themselves (p. 100). Nguyen et al. (2020) (p. 101) as well as Priego and Liaw (2017a) (paragraph 40)[26] also suggest that TC instructors should monitor their students' progress and individual inputs, for example, by using LMSs or asking the students to periodically write reports.

5.5.17.2 Pedagogical Mentoring and Teaching Presence (n = 5). According to O'Dowd et al. (2020), teachers should be able to lead their students, particularly in terms of "language-technocultural competence" (p. 166). Similarly, Kelsen and Flowers (2017) argue that with the appropriate training and guidance, learners can effectively take part in TCs (p. 147). In relation to the above, Turula (2017) points out that teaching presence requires attention in TC (p. 31). Likewise, Kurek and Müller-Hartmann (2019) note that teaching presence can serve a demonstrator role in TC exchanges and, as a result, help learners to better respond to the encountered difficulties (p. 68). Further, Kurek and Müller-Hartmann

[26] This RA was published only online and does not contain any page numbers. Instead, each of its paragraphs has a number and these numbers are presented here, if applicable.

(2019) and Turula (2017) conclude that students can benefit from distributed teaching presence, which can boost students' autonomy, active learning approach, and internal motivation (Turula, 2017) (p. 31), as well as personal regulation and collaborative guidance (Kurek & Müller-Hartmann, 2019) (p. 60). Additionally, the RA of Grau and Turula (2019) emphasizes that nearly all learner views concerning teaching presence distribution shifted from teacher- to student-agency thanks to taking part in the TC (p. 104). Similarly, in the RA of Kurek and Müller-Hartmann (2019), teaching presence increased as a result of introducing changes to the exercise planning and implementation of TCs (p. 60). Moreover, Turula (2017) reveals that teaching presence can be comprehended dissimilarly by TC partner groups due to local characteristics or the TC itself (p. 21, 31). Should that be the case, Turula (2017) advises "flexibility or distributed teaching presence" (p. 31). Additionally, according to Kurek and Müller-Hartmann (2019), instructing future educators about teaching presence can be beneficial for them (p. 52).

5.5.17.3 Cooperation Between Partner Teachers (n = 6). A number of RAs emphasize the importance of cooperation between the partner teachers, which, according to Kurek and Müller-Hartmann (2019), is vital for the success of TC (p. 68). Above all, RAs such as Scott-Monkhouse et al. (2021) (p. 26) or Turula (2017) (p. 31) highlight that partner teachers should be like-minded. Moreover, Priego and Liaw (2017b) (p. 386-387) and Turula (2017) (p. 31) conclude that partner teachers should agree on their goals and the ways to achieve them as well as adopting a set of rules for their TC and cooperation prior to the TC. As O'Dowd et al. (2020) underline, the latter should concern, among others, data collection and sharing (p. 167). What is more, O'Dowd et al. (2020) note that partner teachers should communicate with each other systematically before, during, and after the exchange (p. 167). Examples of poor cooperation between partner teachers, as listed by Demir and Kayaoğlu (2021), include communication breakdowns, disregarding partners, and insufficient teamwork, which, in turn, led to annoyance, frustration, and diminished enthusiasm toward the TC project (p. 28-29).

5.6 Qualitative Results: Participant-Related Aspects (n = 26)

This section discusses the findings concerning the core actors of TC projects, that is their participants.

5.6.1 Participation (n = 14)

Several RAs report a number of variables that affect the level of students' participation in TC exchanges, arguing that they are crucial for the success of the TC (Bueno-Alastuey & Kleban, 2016) (p. 161). The findings concerning this matter are presented in the following paragraphs.

5.6.1.1 Compulsory vs. Elective (n = 2). One of the factors that TC instructors need to consider when organizing a TC exchange and aiming to ensure the proper levels of participation is to whether make it compulsory or elective for their students. Here Fuchs (2019) suggests that whether participation in TC is compulsory or not can affect the way learners approach the TC project and can lead to imbalances in their involvement (p. 86). Correspondingly, Bueno-Alastuey and Kleban (2016) argue that TCs organized outside regular class hours should be made compulsory to ensure proper motivation and involvement of the students (p. 162).

5.6.1.2 Goals vs. No Goals (n = 1). Secondly, in terms of goals for TC projects or the lack thereof, Bueno-Alastuey and Kleban (2016) notice that students who participate in TCs voluntarily and for whom involvement in the TC is the only way to reach the aims set by the teacher, do so more enthusiastically than other students who do not have any specific goals to complete throughout the exchange (p. 160-161). As the RA of Bueno-Alastuey and Kleban (2016) shows, for the majority of the students in the latter case, the TC exchange was reported to constitute merely an opportunity to practice the TL, without the need to fulfil any goals (p. 160-161).

5.6.1.3 The Same vs. Different Goals (n = 4). Thirdly, in parallel to the above, the RA of Bueno-Alastuey and Kleban (2016), in which the participants had different learning goals, reported mixed, yet rather negative findings (p. 162). The difference in perceptions in that RA was clearly influenced by the alignment with the type of aims (Bueno-Alastuey & Kleban, 2016) (p. 161-162). As Bueno-Alastuey and Kleban (2016) suggest, having distinct goals for different partner groups in the same TC exchange can be both advantageous and disadvantageous and can lead to both positive and negative project results (p. 148). Similarly, different perceptions regarding the gains from the TC project can be experienced (Bueno-Alastuey & Kleban, 2016) (p. 156-157). As Bueno-Alastuey and Kleban (2016) point out, setting different objectives within the same exchange can even raise tensions between the partner groups (p. 160). Demir and Kayaoğlu (2021), however, advocate rather the opposite approach, i.e., that setting the same expectations for all participants of the same TC

projects is recommended since it makes them equal and, thus, is beneficial for them (p. 18-19). Further, as Demir and Kayaoğlu (2021) claim, with the same goals in mind, interactions among the TC participants are complementary (p. 19). Bozdağ (2018) also warns about the negative implications of TCs if the goals of students and their teachers differ (p. 686). Lastly, Kohn and Hoffstaedter (2017) conclude that accomplishing common aims is among the key aspects for TC participants (p. 362).

5.6.1.4 Credit for Participation (n = 1). Fourthly, Bueno-Alastuey and Kleban (2016) argue that crediting and, thus, rewarding students for their commitment to the TC project is crucial from the perspective of their involvement (p. 161). As Bueno-Alastuey and Kleban (2016) highlight, this is particularly important in the case of TCs that take place beyond the usual classroom hours, which due to their nature, are susceptible to poor participation and motivation (p. 162). Bueno-Alastuey and Kleban (2016) also suggest that appropriate crediting solutions should be adopted in the event that one of the TC participants does not sufficiently commit to TC and, as a result, the other partner student does not have a chance to fully benefit from the exchange, experiences difficulties in completing the required project work, and/or is unable to demonstrate the regular involvement levels because of the existing external factors (p. 161). Likewise, Bueno-Alastuey and Kleban (2016) note that learners' involvement is linked to their end-of-course marks (p. 161).

5.6.1.5 Telecollaboration in the Classroom, After Classes, or at Home (n = 5). Fifthly, Kelsen and Flowers (2017) state that TCs should be organized in the classroom environment and with a significant role of the teacher, especially if the exchange is projected to be short (i.e., less than eight weeks) (p. 158). However, other RAs, such as Kohn and Hoffstaedter (2017) (p. 364) or Nguyen et al. (2020) (p. 94), advocate the possibility of organizing successful TCs outside the traditional classroom environment, for example, from participants' homes. Similarly, Demir and Kayaoğlu (2021) claim that participants of their RA enjoyed being a part of a TC that was organized after regular classes (p. 31). Kohn and Hoffstaedter (2017) point out that a TC organized from participants' homes inspires learners to venture outside the discussion subjects assigned to them and explore also other matters that appeal to them (p. 359). Nevertheless, as already outlined above, Bueno-Alastuey and Kleban (2016) warn that if TCs are to be organized outside the usual school hours then they should be made obligatory or credit should be given for participating in them (p. 162). Otherwise, as Bueno-Alastuey and Kleban (2016) warn, poor involvement and/or motivation

to take part in these activities can ensue (p. 161). Bueno-Alastuey and Kleban (2016) also warn that organizing TCs outside regular class hours does not guarantee complete involvement of participants, which is mostly due to their numerous other duties (p. 162). Similarly, Kohn and Hoffstaedter (2017) report that TC participants can experience additional issues if TCs do not take place in FL classrooms, mainly in terms of language understanding and generation (p. 359). According to Kohn and Hoffstaedter (2017), also the variety of topics that learners choose to discuss during TCs from home can contribute to their inability to effectively communicate their thoughts to their partners (p. 359).

5.6.1.6 Introverts vs. Extroverts (n = 1). In addition, Kelsen and Flowers (2017) claim that participation in TC projects demonstrates a favorable connection with the modesty and honesty-humility domain as well as an unfavorable one with sincerity and organization (p. 147, 156). Consequently, Kelsen and Flowers (2017) suggest that introverts take part in TCs to a higher degree than extroverts who "may not possess the advantage in communication, especially in non-verbal contexts" (p. 157). Moreover, Kelsen and Flowers (2017) point out that the assistance of the teacher contributes to mitigating any differences among the TC participants that stem from their individual traits which, in turn, leads to their greater engagement in the TC project, and, thus, increases their gains (p. 158). As Kelsen and Flowers (2017) conclude, no matter what the personal traits the TC participants have, the appropriate pedagogical affordances of TCs, for instance, the structure of such projects, tasks, and follow-up activities, can allow them to be equally involved in the exchange (p. 158).

5.6.1.7 Unequal Participation (n = 8). Nguyen et al. (2020) and Sevilla-Pavón and Nicolaou (2017), among other RAs, report complaints from TC participants about the unequal involvement of some students (Sevilla-Pavón & Nicolaou, 2017) (p. 55, 56) or the absence of appropriate teamwork within the TC groups (Nguyen et al., 2020) (p. 101). According to Bueno-Alastuey and Kleban (2016) (p. 157, 161, 162), Demir and Kayaoğlu (2021) (p. 29, 31), and Fuchs (2019) (p. 86), such behaviors are, in turn, frequent causes of frustration and overall negative comments towards the TC practice. As the RA of Priego and Liaw (2017b) shows, learners frequently had to choose between waiting for the partners' response or continuing the TC project individually (p. 382). Similarly, as Vurdien and Puranen (2016) emphasize, the lack of partners' responses to the questions posed by students is often unsatisfactory for TC participants (p. 44). Another undesirable phenomenon, noted by

Gajek and Calderón-Quindós (2018), is the switch to working within national groups and delegating only one person to contact the other group, thus, leading to no actual international collaboration for the rest of the TC participants (p. 50). According to Fuchs (2019), also rivalry within the same national group might lead to poor collaboration and involvement in TC projects (p. 86).

5.6.1.8 Lack of Participation (n = 4). The lack of student participation in TC exchanges can also be a major obstacle that prevents learners from fully benefiting from such undertakings. As reported by Bueno-Alastuey and Kleban (2016), members of the group who fail to adequately engage in the TC project might cause dissatisfaction among the others (p. 158). According to Bueno-Alastuey and Kleban (2016), this limited participation usually degrades motivation which, consequently, results in low satisfaction of learners with the exchange (p. 161). As Demir and Kayaoğlu (2021) further explain, different levels of participation among partner students frequently diminish their relations (p. 29). As Demir and Kayaoğlu (2021) state, this can be caused by, for instance, indifferent involvement or insufficient engagement in the TC project (p. 29). Alghasab and Alvarez-Ayure (2021) suggest that a potential solution to this situation, which is likely to ensure effective participation of all students, is the inclusion of pedagogical mentoring before TC (p. 1). According to Alghasab and Alvarez-Ayure (2021), pedagogical mentoring can equip TC participants with the much-needed cooperative skills (p. 1). As Kohn and Hoffstaedter (2017) note, active engagement, which constitutes a demonstration of student autonomy, supports the willingness of TC participants to work together for their mutual understanding (p. 357).

5.6.1.9 Benefits Linked to Students' Participation in Telecollaboration (n = 7). In terms of the benefits of participating in TC projects, Demir and Kayaoğlu (2021) report that TC improves students' involvement, which, in turn, surges their enthusiasm to learn English (p. 25, 30). Similarly, Kelsen and Flowers (2017) (p. 154) and Nguyen et al. (2020) (p. 102) highlight that since TC offers students experiential learning and a chance to practice their TL in an authentic and absorbing environment, learners' engagement in TC projects is usually satisfactory. What is more, the RA of Demir and Kayaoğlu (2021) shows that students are happy to collaborate with other NNSs who usually also commit errors while using English (p. 18-19). Likewise, Bueno-Alastuey and Kleban (2016) (p. 158) and Porto (2016) (p. 406) emphasize that equal contributions of TC participants towards and accountability for TCs, which indicate their significant engagement in the exchange, can lead learners to

satisfactory project outcomes as well as positive feedback about the TC and its benefits. Similarly, Priego and Liaw (2017a) (paragraph 26) and Sevilla-Pavón and Nicolaou (2017) (p. 51-52) stress that successful TC projects should include inputs from all groups (or even participants) and for this to take place, their full participation is required.

5.6.2 Participants' Proficiency in English (n = 12)

Several RAs discuss the role of student proficiency in English in TCs. According to Gajek and Calderón-Quindós (2018), sufficient proficiency is among the most important capabilities enhancing successful communication and, in turn, successful TCs (p. 49). As numerous RAs conclude, students at all proficiency levels are able to successfully take part in TCs (Clavel-Arroitia & Pennock-Speck, 2021; Hagley, 2020; Scott-Monkhouse et al., 2021), although more proficient learners generally report higher gains (Scott-Monkhouse et al., 2021) (p. 25). Correspondingly, however, Nguyen et al. (2020) claim that there are no measurable discrepancies between low- and high-proficiency learners in terms of autonomous skills growth (p. 102).

Clavel-Arroitia and Pennock-Speck (2021) argue that mixed-proficiency TCs are quite common (p. 246). Bueno-Alastuey and Kleban (2016) suggest that if TC groups differ regarding their English proficiency, they can be offered diverse aims for the TCs, however, their end-of-project perceptions might vary (p. 162). Multiple RAs highlight that participation in TCs can be beneficial especially for low-proficiency learners, particularly in mixed-proficiency settings (Clavel-Arroitia & Pennock-Speck, 2021; Dooly & Davitova, 2018; Hagley, 2020). According to the findings of these RAs, such students can increase their communication skills, cross-cultural awareness, cultural knowledge, desire to acquire English language skills, self-assurance, and vocabulary range by interacting with proficient English users during TCs (Clavel-Arroitia & Pennock-Speck, 2021; Dooly & Davitova, 2018; Hagley, 2020). Bueno-Alastuey and Kleban (2016) also note that, overall, low-proficiency learners are more eager about taking part in TCs than proficient English users (p. 161). Further, Kurek and Müller-Hartmann (2019) emphasize that less proficient students can be assisted through corrections, among others (p. 61), however, Clavel-Arroitia and Pennock-Speck (2021) caution that proficient TC participants might perceive themselves as their educators (p. 245). Correspondingly, Hagley (2020) advocates that once students become more proficient in English they should be offered more advanced forms of TCs, focused on the development of skills other than just linguistic ones (p. 85). Likewise, Ke (2016) argues that in the case of

older students, who generally tend to be more proficient in English, the focus of TC should be on preparing the students to use English in real-life situations (p. 297). As Ke (2016) suggests, even highly-proficient students might need help in this respect (p. 297). Ke (2016) also cautions that proficient English users might experience various identity issues throughout the duration of TCs, particularly when they have to present themselves to the others (p. 295, 297). Pouromid (2019) proposes that communication problems resulting from proficiency deficiencies should be overcome by changing the mode of the conversation, for instance, from spoken to non-spoken or solely linguistic to multimodal (p. 634).

Several RAs, for instance, Nguyen et al. (2020) (p. 98) and Vahed (2020) (p. 31), highlight that less proficient or even intermediate English learners are frequently confined during TCs – some of them have difficulties in expressing themselves and engaging in discussions in TC environments which usually leads to lack of understanding and negative emotions. Accordingly, organizing TCs between students at various proficiency levels, among other factors, is not advisable by some authors, for example, Demir and Kayaoğlu (2021) (p. 28). What is more, the participants of some RAs (Bueno-Alastuey & Kleban, 2016; Gajek & Calderón-Quindós, 2018) did not report significant linguistic gains as a result of taking part in TCs due to the fact that their partners were less proficient than them, which further reinforces the above conclusion. Consequently, as Bueno-Alastuey and Kleban (2016) suggest, TC participants should have similar proficiencies in the TL (p. 156).

5.6.3 Future Teachers Training (n = 7)

Multiple RAs highlight that TC can be an applicable solution also in teacher education (Bueno-Alastuey & Kleban, 2016; Grau & Turula, 2019). According to them, such a hands-on learning approach gives student-teachers an insight into the advantages and disadvantages of TCs as well as equipping them with all the necessary knowledge and skills to organize their own TC exchanges, such as collaborative and communication skills, among others (Bueno-Alastuey & Kleban, 2016; Grau & Turula, 2019; O'Dowd et al., 2020; Waldman et al., 2019). For the reasons listed above, several RAs postulate that TCs are integrated within teacher training programs (Demir & Kayaoğlu, 2021; O'Dowd et al., 2020; Waldman et al., 2019). In particular, several RAs, for example, Demir and Kayaoğlu (2021) (p. 32) or Kurek and Müller-Hartmann (2019) (p. 62), suggest that student-teachers should be taught how to boost their learners' ICC, deal with conflicts and misinterpretations, detect and troubleshoot issues, as

well as improving task management and coordination techniques. Likewise, Demir and Kayaoğlu (2021) emphasize that future educators should possess at least basic technological knowledge to be able to organize and run TCs smoothly (p. 32). Kurek and Müller-Hartmann (2019) underline also that using direct instruction and evoking teacher presence can be especially helpful in the process of shaping future educators (p. 52). Overall, in the RAs under scrutiny, student-teachers perceived the idea of TC favorably and as valuable for their upcoming career as educators, although it was still new to many of them (Bueno-Alastuey & Kleban, 2016) (p. 159). As several RAs show, thanks to the exposure to TC during university training, a lot of future educators were willing to conduct such projects in their own classes as well as making use of various TC tools in such undertakings (Bueno-Alastuey & Kleban, 2016; Gajek & Calderón-Quindós, 2018; Waldman et al., 2019). The RA of Grau and Turula (2019) provides evidence that knowledge and skills acquired by a student-teacher during a TC held as a part of a university course can, in fact, be used afterwards to organize an exchange in a school environment (p. 107, 109).

In terms of potential drawbacks associated with such experiential learning, according to Waldman et al. (2019), student-teachers reportedly did not amass the envisioned abilities, expertise, and mindsets fully (p. 182). What is more, Waldman et al. (2019) conclude that teacher candidates felt unprepared to organize TCs on their own in their classes (p. 183). Waldman et al. (2019) suggest that the most likely cause of such results was the brief length of the training (p. 183).

5.6.4 Current Teachers Training (n = 3)

Demir and Kayaoğlu (2021) (p. 32) and Kohn and Hoffstaedter (2017) (p. 364) emphasize also that current teachers should undergo training in TC as well, stressing the need for constant professional development of educators. Similarly, Freiermuth and Huang (2021) (p. 204) and Kohn and Hoffstaedter (2017) (p. 364) draw attention to the relationship-building and collaborative partnerships between teachers worldwide in the context of spreading lingua franca approach.

5.7 Qualitative Results: Advantages and Disadvantages of English as a Lingua Franca Telecollaboration Projects (n = 37)

The following section presents various advantages and disadvantages of TC projects. The findings are divided into seven main topics pertaining to, for instance, learning,

language, and culture. This section, and also this chapter, end with a summary of findings pertinent to the success of TC exchanges.

5.7.1 Learning Environment (n = 27).

5.7.1.1 More Authentic Learning Environment (n = 17). Nearly half of the RAs in the corpus report that TC constitutes an authentic learning environment and experience (Chen & Yang, 2016; Jung et al., 2019; Sevilla-Pavón & Nicolaou, 2017; Waldman et al., 2019). Both students and their instructors frequently highlight that TC constitutes a setting that closely resembles real-life contexts (Kohn & Hoffstaedter, 2017) (p. 351, 357). According to Dendenne (2021), TC exposes learners to real and often problematic events that they might encounter in their lives and gives them a chance to practice their reactions and TL in such situations (p. 160). As a result, as Jung et al. (2019) conclude, students are more willing to use and practice English in TC than in the traditional classroom and are more likely to experience substantial learning during the former (p. 303-304, 305, 306).

Several RAs highlight that TC allows its participants to engage in real, open, and authentic communication (Demir & Kayaoğlu, 2021; Ke, 2016; Kohn & Hoffstaedter, 2017; Nguyen et al., 2020). As Kohn and Hoffstaedter (2017) explain, this specific feature of TC is vital for FLL from the socio-constructivist perspective (p. 351). Demir and Kayaoğlu (2021) (p. 17), as well as Jung et al. (2019) (p. 299), point out that most FL learners worldwide usually do not have many occasions to practice their TL; and even if they do, they are mostly limited to practicing English with their regular classmates. On the other hand, as multiple RAs show, TCs offer a more authentic learning environment which is highly comparable with real-life context and communication (Bueno-Alastuey & Kleban, 2016; Demir & Kayaoğlu, 2021; Freiermuth & Huang, 2021; Gajek & Calderón-Quindós, 2018; Jung et al., 2019). Several RAs underline also that TC enables authentic interaction with other students (Freiermuth & Huang, 2021; Jung et al., 2019; Kohn & Hoffstaedter, 2017; Sevilla-Pavón & Nicolaou, 2017). According to them, TCs can connect students from different countries worldwide for extended periods of time with the aim of practicing TLs together. Moreover, Sevilla-Pavón and Nicolaou (2017) emphasize that TCs facilitate direct and, thus, authentic contact with foreign students (p. 56). According to Kohn and Hoffstaedter (2017), this proves to be beneficial for FL learning since thanks to TCs students are exposed to new people, often also FL learners, which adds even further to the authenticity of TCs (p. 357, 361). As Kohn and Hoffstaedter (2017) state, students highlight this aspect because thanks to interactions with

real people, the learning experience becomes more meaningful and personal (p. 357). Freiermuth and Huang (2021) also note that the authenticity and meaningfulness of TCs with foreign partners contribute positively to the development of relations between TC participants (p. 204).

Jung et al. (2019) conclude that both linguistic and cultural growth are present during TCs (p. 303) and link them to authenticity. Consequently, these two interplays will be further explored below.

The findings of the several RAs show that authenticity interplays with all language skills. Demir and Kayaoğlu (2021) report that reading authentic texts boosts learner's enthusiasm for reading (p. 18). Likewise, findings of the RA of Smith and Keng (2017) suggest that students who read their partners' written production can also benefit linguistically from it (p. 38). Several RAs suggest that writing for real audiences and aims is more motivating and meaningful for learners than writing for no actual reason or if the only reader is the teacher (Demir & Kayaoğlu, 2021; Dendenne, 2021; Jung et al., 2019). According to Jung et al. (2019), this finding is especially relevant given what has already been said above, namely, that students usually do not have many chances to practice their TL with audiences other than their standard classmates outside their regular FL classrooms (p. 299). Consequently, as several RAs highlight, any chance to do so, even in written form, is much appreciated by the learners (Demir & Kayaoğlu, 2021; Dendenne, 2021; Jung et al., 2019). Further, as Demir and Kayaoğlu (2021) conclude, the exposure to more realistic situations through TC, which is otherwise uncommon in traditional FL classrooms, facilitates the development of students' speaking skills (p. 31).

As far as the authenticity – culture link is concerned, a number of RAs conclude that authenticity of TC exchanges positively contributes to the cultural dimension of TCs and communication in them (Chen & Yang, 2016; Freiermuth & Huang, 2021; Gholami Pasand et al., 2021; Jung et al., 2019; Kohn & Hoffstaedter, 2017; Sevilla-Pavón & Nicolaou, 2017). Multiple RAs highlight that thanks to TCs, learners are directly exposed to foreign students and, therefore, foreign cultures, which allows them to actively participate in and benefit from authentic intercultural interaction (Chen & Yang, 2016; Freiermuth & Huang, 2021; Gholami Pasand et al., 2021; Jung et al., 2019; Kohn & Hoffstaedter, 2017; Sevilla-Pavón & Nicolaou, 2017).

What is more, some RAs report that TC tasks expose students to real-life experiences (Demir & Kayaoğlu, 2021) (p. 25), have a real-world influence (Dendenne, 2021; Porto, 2016, 2018), and fulfill genuine educational goals (Smith & Keng, 2017) (p. 39). Further, as Kohn and Hoffstaedter (2017) stress, TCs offer the chance to pursue additional learning opportunities and explore other topics of the students' own choice, which, in turn, makes TCs more authentic and personalized experiences (p. 359). Additionally, Freiermuth and Huang (2021) point out that since information is conveyed directly between TC participants, such acquisition of knowledge is greater, more sensible, and more gratifying than learning from a textbook (p. 204).

According to Grau and Turula (2019), authenticity of TCs acts as a strong motivator regarding FLL and is precisely what makes them such an appealing approach (p. 106). Further, Kohn and Hoffstaedter (2017) claim that authenticity positively contributes to learners' willingness to communicate (WTC) (p. 361). Demir and Kayaoğlu (2021) report that once students are able to communicate in English in circumstances that resemble real life, such as those that TCs allow them to engage in, their self-confidence is enhanced (p. 19). Ke (2016) suggest that real-life settings of TCs force their participants to use English and think in ways other than in traditional FL classrooms and their mother tongues which, in turn, facilitates the development of their L2 identities (p. 294). Nevertheless, Kohn and Hoffstaedter (2017) underline that authenticity necessitates concentration on the underlying message (p. 361).

Despite the existence of numerous benefits of authenticity in TCs, Bueno-Alastuey and Kleban (2016) suggest that, for some students, the authenticity of TCs might not be enough to compensate for other drawbacks of such projects (p. 160). Still, Bueno-Alastuey and Kleban (2016) are convinced that, in general, the more authentic nature of TCs is beneficial and can be appreciated by the learners (p. 160).

5.7.1.2 Safe and Supportive Learning Environment (n = 5). Several RAs emphasize that TC constitutes a safe and supportive learning environment. Kurek and Müller-Hartmann (2019) suggest that participants of TC exchanges, as well as their instructors, should work towards establishing such conditions from the very beginning of the project (p. 61). As Kurek and Müller-Hartmann (2019) suggest, this can be done, for instance, through the development of supportive bonds and reliance among the learners – and with the teachers – as well as the introduction of social presence (p. 61). Further, Kurek and Müller-Hartmann

(2019) highlight that teachers should assist learners who face any issues as well as employing discursive strategies, such as complimenting their actions, to create the desired learning atmosphere (p. 61). Likewise, Demir and Kayaoğlu (2021) emphasize the importance of the teachers establishing tranquil and joyful learning conditions (p. 16). According to Kurek and Müller-Hartmann (2019), good task design that fosters the development of cohesive teams is also likely to positively contribute to establishing the anticipated learning conditions (p. 61). Similarly, the RA of Dooly and Sadler (2016) draws attention to the importance of socially constructed learning which can only be built within a safe learning environment (p. 69). Fuchs (2019) further points to the importance of creating a secure and encouraging educational setting that allows TC participants "for exploration" (p. 87). Fuchs (2019) adds also that establishing an "emotional equilibrium" (p. 87) among the students should likewise be a goal to ensure optimal learning conditions (p. 87). Lastly, the RA of Scott-Monkhouse et al. (2021) concludes that TC projects tend to be demanding but risk-free and well-supervised settings (p. 25) which allow students to abandon their personal safe spaces and move into their ZPDs (p. 22) with the help of other TC participants and instructors (p. 25).

5.7.1.3 Innovative Teaching Approach (n = 6). Several RAs note the innovative nature of TC projects. Pouromid (2019) perceives TC as a modern educational program for FL classrooms (p. 634) while Kohn and Hoffstaedter (2017) state that TCs are inventive enough to augment FL education and instruction (p. 363). Flowers et al. (2019) argue that TC projects constitute a novel approach to using TLs through more realistic practices (p. 205). As the RA of Chen and Yang (2016) reports, TC exchanges are still a new approach for their participants (p. 281). Despite this, Nguyen et al. (2020) (p. 100) as well as Sevilla-Pavón and Nicolaou (2017) (p. 56) report the growth of participants' innovative skills.

5.7.1.4 Traditional Classroom Activities vs. Telecollaboration Projects (n = 6). According to Demir and Kayaoğlu (2021), traditional English classes are not sufficiently stimulating for students anymore (p. 16). In the same vein, Austin et al. (2017) conclude that communication in traditional FL classes varies significantly from that found in the real-world and TCs (p. 100). As a result, Kohn and Hoffstaedter (2017) (p. 357) and Waldman et al. (2019) (p. 177) argue that TCs can transcend the constraints of traditional FL classes and allow learners to take part in more genuine and relatable encounters instead of simulated and scripted ones. Austin et al. (2017) note that students might initially find TCs confusing and confined due to a number of differences they have in comparison to the traditional

classrooms (p. 100). As Vurdien and Puranen (2016) suggest, learners might find traditional means of communication more suitable in some cases, and, for instance, opt for offline activities (p. 45). Nevertheless, Vahed (2020) claims that English is used more intensely in TCs than in traditional FL settings (p. 28).

5.7.1.5 Connectivity (n = 2). Freiermuth and Huang (2021) point out that TCs contribute to the connectivity of students around the globe (p. 204). More specifically, Freiermuth and Huang (2021) argue that TCs, due to their coupling nature, support learners' interactions and allow them to enhance their linguistic and cultural knowledge, among others (p. 204). Further, Kelsen and Flowers (2017) state that TCs permit learners to transcend physical separation and constitute a cost-efficient solution that connects students located in different parts of the world (p. 158).

5.7.1.6 Telecollaboration as an Alternative to Study Abroad (n = 4). Correspondingly to the above, several RAs (Freiermuth & Huang, 2021; Kelsen & Flowers, 2017; Nguyen et al., 2020; Pouromid, 2019) suggest that thanks to TCs the need to physically leave the classroom to experience other cultures no longer exists (Nguyen et al., 2020) (p. 99) and a lot of time and effort can be saved thanks to TCs (Kelsen & Flowers, 2017) (p. 158). What is more, Nguyen et al. (2020) highlight that the teacher is available in the classroom to assist the students, unlike in the real world (p. 99). Freiermuth and Huang (2021) (p. 204) as well as Pouromid (2019) (p. 634) claim that TCs can serve as a good substitute for mobility if it is not feasible, for whatever reason, and can still allow students to experience foreign cultures as well as practicing the language satisfactorily.

5.7.2 Learning Aspects of Telecollaboration (n = 27)

5.7.2.1 Learner Autonomy (n = 16). Learner autonomy is among the most commonly discussed notions in the reviewed set of RAs. As Flowers et al. (2019) highlight, autonomous learning is an important aspect of TCs (p. 234). Several RAs report that TCs foster learner autonomy (Demir & Kayaoğlu, 2021; Dendenne, 2021; Nguyen et al., 2020; Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017; Vurdien & Puranen, 2016). Further, Vurdien and Puranen (2016) argue that appropriate information flow, problem-solving skills, and selection of activities (p. 47) as well as mindful self-assessment and sufficient time (p. 46) are vital for autonomous learning and achieving learning aims in TCs (p. 47). According to Kohn and Hoffstaedter (2017), the TC environment is helpful in the transition from a teacher-dependent learner to a collaborative and independent English user (p. 362). Several RAs

maintain also that the tools used in TC projects, such as LMSs or social media, can contribute positively towards the development of learner autonomy – they allow students to take control of their own learning process (Chen & Yang, 2016; Flowers et al., 2019; Vurdien & Puranen, 2016). Similarly, Flowers et al. (2019) report that more independent learners tend to use the TC tools of their own choice, and, as a result, often prevent their instructors from monitoring their conversations (p. 233). As Flowers et al. (2019) add, this lack of supervision increases the eagerness of TC participants to interact with their partners (p. 233) According to several RAs, learner autonomy can likewise be demonstrated through the choice of the students' own discussion topics which are frequently self-generated and beyond the envisioned scope of the task (Dendenne, 2021; Kohn & Hoffstaedter, 2017; Vurdien & Puranen, 2016). This leads Kelsen and Flowers (2017) to the conclusion that learners are able to, and, in fact, should be encouraged to autonomously select the topics for their conversations (p. 158). The RA of Dooly and Davitova (2018) also shows that once students complete the required tasks, they frequently continue in conversation with the topics of their choice (p. 233). Consequently, Vurdien and Puranen (2016) suggest that TC tasks should utilize this manifestation of learner autonomy through proper design that facilitates their individualism (p. 45, 46).

A number of RAs discuss the crucial role of the teacher in the process of making FL learners more and more autonomous in TCs. Paraphrasing Flowers et al. (2019), TC instructors should assist their students in this endeavor by directing them towards appropriate aims, deliberation, and strategies that will, in turn, allow them to gain linguistic independence (p. 234). As reported by Demir and Kayaoğlu (2021) (p. 19) as well as Dendenne (2021) (p. 162-163), students should be permitted to seek assistance at the beginning of the TC exchange, however, they should slowly take on more responsibilities and minimize their reliance on the teachers. Several RAs also show that TC participants are able to successfully control their conversations without the involvement of the teacher (Dooly & Davitova, 2018; Grau & Turula, 2019; Vahed, 2020). Further, Grau and Turula (2019) (p. 104-105) and Turula (2017) (p. 31) maintain that distributed teaching presence can facilitate students' autonomy while most of their perceptions concerning teaching presence shift towards increased learner empowerment through the duration of the TCs (Grau & Turula, 2019) (p. 104-105). According to Dendenne (2021) (p. 162-163) and Freiermuth and Huang (2021) (p. 199), TC participants frequently report that they enjoy learning individually, not

from educational materials or educators, and are proud of their steps towards independence. In several RAs, for example, Flowers et al. (2019) (p. 231-232, 233) and Vurdien and Puranen (2016) (p. 45), autonomous learners have significantly developed communication skills, cultural traits, interactional confidence, language skills, and relations with other students, among others.

There are, however, several negative reports concerning learning autonomy in TCs. Vurdien and Puranen (2016) highlight that the absence of proper skills to adequately handle learner objectives can negatively affect students' autonomy (p. 45). Flowers et al. (2019) point out that some autonomous learners did not report significant cultural gains due to the fact that their conversations were not followed by a reflection (p. 232). Further, Dendenne (2021) (p. 164) and Vurdien and Puranen (2016) (p. 46) stress that some of the students might be more eager to assume responsibility and control their own learning path due to either natural predispositions or negative perceptions about their own linguistic capabilities, among others. Lastly, Gajek and Calderón-Quindós (2018) report that the participants of their TC "would have preferred more autonomy" (p. 50) than they were given.

5.7.2.2 Motivation (n = 15). Gains in students' motivation for FL learning, which occurred as a result of taking part in TCs, are reported in a number of RAs (Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Dooly & Sadler, 2016; Freiermuth & Huang, 2021; Hagley, 2020; Nguyen et al., 2020; Sevilla-Pavón & Nicolaou, 2017; Vurdien & Puranen, 2016). According to, for example, Austin et al. (2017) (p. 97) and Grau and Turula (2019) (p. 106), TC participants frequently emphasize that authentic communication is among the top factors that encourage them to learn English. Appropriate choice of TC topics and tools is likewise reported by several RAs to be important for boosting students' motivation (Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Jung et al., 2019; Vurdien & Puranen, 2016). Similarly, multiple authors claim that the suitable design of TC activities and tasks can significantly contribute towards increasing learners' motivation in TC projects (Kelsen & Flowers, 2017; Smith & Keng, 2017; Vurdien & Puranen, 2016). According to the RAs, they should be diverse, inspiring, and thought-provoking (Kelsen & Flowers, 2017; Smith & Keng, 2017; Vurdien & Puranen, 2016). The RA of Demir and Kayaoğlu (2021) shows that students' enjoyment of TC can likewise motivate them to involve themselves further in the project (p. 25). According to Grau and Turula (2019), the assistance of the teachers can also be beneficial in terms of overcoming the lack of motivation (p. 106). As Grau and Turula (2019)

(p. 106), as well as Kelsen and Flowers (2017) (p. 157-158), argue, this can be achieved through, for example, formalizing the TCs, holding mandatory in-class activities, as well as providing students with further directions and explanations. The RA of Nguyen et al. (2020) suggests that the presence of the teacher in the classroom during TC projects can also positively contribute towards motivation and students' willingness to engage in the exchanges (p. 99). Further, as Turula (2017) highlights, distributed teaching presence can boost the internal motivation of TC participants (p. 31). Additionally, Gajek and Calderón-Quindós (2018) (p. 49) conclude that the degree of engagement of the students in TCs relies heavily on their motivation. Finally, Chen and Yang (2016) report no positive change in motivation towards learning English among TC participants, most probably due to a number of difficulties experienced during the exchange (p. 280).

5.7.2.3 Rapport, Face, and Voice (n = 5). Several RAs address the role of rapport in TCs. Freiermuth and Huang (2021) emphasize that establishing a positive face is vital for successful cooperation (p. 198) while Dendenne (2021) argues that mere participation in TC projects allows its participants to understand the significance of rapport (p. 167-168). Kohn and Hoffstaedter (2017) highlight that rapport is imperative during communication breakdowns as the resolution of such incidents is heavily determined by partners' actions (p. 360). Several RAs report the improvement of students' rapport throughout TC projects (Demir & Kayaoğlu, 2021; Dendenne, 2021; Kohn & Hoffstaedter, 2017). Demir and Kayaoğlu (2021) suggest that if the deterioration of rapport occurs, it is usually caused by dissimilar levels of involvement in the TC exchange (p. 29). According to Kohn and Hoffstaedter (2017), most TC participants are able to create supportive collaborative environments with high rapport by, for instance, supporting each other through face-saving actions (p. 360). For Freiermuth and Huang (2021), these include the use of compassionate language, denial of competence, establishing personal connections, self-deprecation, and sympathizing, all with the aim of creating a friendly atmosphere of cooperation in TCs (p. 197, 201). Additionally, Ke (2016) reports that using the partners' native language during TC conversations contributes positively towards the construction of rapport (p. 293).

5.7.2.4 Learning Presence (n = 1). According to Kurek and Müller-Hartmann (2019), in TC exchanges learning presence can increase students' friendliness and "cognitive engagement" (p. 68) as well as offsetting the difficulties that are encountered (p. 68). As Kurek and Müller-Hartmann (2019) argue, learning presence can be augmented by exposing

students to certain activities that require compromising, self-managing, and/or strategizing (p. 60, 67). Kurek and Müller-Hartmann (2019) also highlight that the lack of self-discipline impacts the growth of learning presence and, in turn, requires increased teaching presence (p. 67).

5.7.2.5 Misunderstandings and Learning Chances (n = 5). Several RAs report on various communication failures, discrepancies, crisis situations, conflicts, and misinterpretations among TC participants (Fuchs, 2019; Priego & Liaw, 2017b). However, some RAs stress that all of the above shortcomings can, in fact, be beneficial for learning if treated as occasions for further improvement (O'Dowd et al., 2020; Priego & Liaw, 2017b). However, in the opinion of Bueno-Alastuey and Kleban (2016), learners often do not think about them this way (p. 162). As a result, O'Dowd et al. (2020) (p. 168) and Priego and Liaw (2017b) (p. 386) identify teachers' involvement as crucial and suggest that instructors should guide their students in this process. Some of the problem-resolution strategies, suggested by Priego and Liaw (2017b), include: cultivating teamwork, introducing jokes and anecdotes, proposing and discussing solutions, and providing assistance to each other (student to student) (p. 386). As Kurek and Müller-Hartmann (2019) point out, the students' ability to cope with such issues is usually evidenced by their learning presence (p. 67-68).

5.7.3 Linguistic Aspects of Telecollaboration (n = 28)

5.7.3.1 Language Skills (n = 12). Multiple RAs report that TCs facilitate language learning (Chen & Yang, 2016; Hagley, 2020; Sevilla-Pavón & Nicolaou, 2017; Smith & Keng, 2017) and positively contribute towards linguistic growth (Bueno-Alastuey & Kleban, 2016; Chen & Yang, 2016; Freiermuth & Huang, 2021; Grau & Turula, 2019; Kohn & Hoffstaedter, 2017; Scott-Monkhouse et al., 2021; Vahed, 2020). According to a number of RAs, TCs can also improve English skills (Demir & Kayaoğlu, 2021; Freiermuth & Huang, 2021; Jung et al., 2019; Sevilla-Pavón & Nicolaou, 2017), including:

- reading (n = 2) (Chen & Yang, 2016; Demir & Kayaoğlu, 2021);
- listening (n = 4) (Bueno-Alastuey & Kleban, 2016; Demir & Kayaoğlu, 2021; Freiermuth & Huang, 2021; Sevilla-Pavón & Nicolaou, 2017);
- writing (n = 6) (Bueno-Alastuey & Kleban, 2016; Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Dendenne, 2021; Sevilla-Pavón & Nicolaou, 2017; Smith & Keng, 2017);
- speaking (n = 5) (Bueno-Alastuey & Kleban, 2016; Demir & Kayaoğlu, 2021; Freiermuth & Huang, 2021; Jung et al., 2019; Sevilla-Pavón & Nicolaou, 2017).

Similarly, manifold RAs report that TCs can improve students' vocabulary (n = 6) (Bueno-Alastuey & Kleban, 2016; Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Dooly & Sadler, 2016; Jung et al., 2019; Sevilla-Pavón & Nicolaou, 2017), pronunciation (n = 3) (Bueno-Alastuey & Kleban, 2016; Demir & Kayaoğlu, 2021; Sevilla-Pavón & Nicolaou, 2017), as well as knowledge of grammar (n = 1) (Jung et al., 2019).

5.7.3.1.1 Reading (n = 3 / n = 4).[27] In terms of reading, Demir and Kayaoğlu (2021) highlight that TC participants seem to value the original materials they are exposed to (p. 18) while the RA of O'Dowd et al. (2020) stresses that attentive reading is particularly vital in asynchronous TCs (p. 165). Dendenne (2021) also cautions that frequent linguistic and typographic mistakes can make it difficult for students to read the entries of their partners (p. 169).

5.7.3.1.2 Writing (n = 10 / n = 11). TC participants are frequently satisfied with the ability to improve their writing skills in authentic and real-life contexts (Demir & Kayaoğlu, 2021; Dendenne, 2021; Smith & Keng, 2017). Further, as stated in several RAs, students value practicing writing through TCs since it is meaningful and motivating for them (Demir & Kayaoğlu, 2021; Dendenne, 2021; Smith & Keng, 2017). Moreover, they often praise the possibility of receiving written feedback from their partners (Demir & Kayaoğlu, 2021; Dendenne, 2021; Smith & Keng, 2017). Several of the reviewed RAs also highlight that TC allows learners to carry out collaborative writing (Priego & Liaw, 2017a; Sevilla-Pavón & Nicolaou, 2017; Smith & Keng, 2017), broadens their understanding of diverse literary forms in English (Smith & Keng, 2017) (p. 38, 40), and teaches them how to be brief in their writing (Scott-Monkhouse et al., 2021) (p. 23).

Several RAs report on issues related to writing in TC projects. The participants of the RA of Gajek and Calderón-Quindós (2018) state that their exchange involved too much writing and, therefore, was too "impersonal" (p. 50). Consequently, as the RA of Gajek and Calderón-Quindós (2018) underlines, students regret it if they are not able to make any connections with their partners since such relations can lead them to cultural and linguistic development (p. 50). However, the participants of the RA of Gajek and Calderón-Quindós

[27] While the first number presents the number of RAs that address the following TC aspect in the given section, the second number, presented in this and the three following paragraphs, is the sum of the RAs discussed in the given paragraph and the number of RAs assigned to each language skill in the "language skills" paragraph. The second number is often only slightly higher than the first number due to the fact that these two sets of RAs partially overlap.

(2018) specify that writing activities allowed them to reflect on the exchange (p. 50). In the RA of Chen and Yang (2016), students also complain about the need to rewrite their texts multiple times to make them comprehensible for their partners (p. 281). Similarly, the RA of Scott-Monkhouse et al. (2021) reports that students have difficulties using some of the single-person verb conjugations, following capitalization and punctuation principles, as well as avoiding the use of contracted forms (p. 20-21). In the RA of Dendenne (2021), learners also complain about the maximum word count set for their essays (p. 166). Moreover, Vurdien and Puranen (2016) claim that descriptive writing assignments can be quite problematic for some students (p. 46) while Freiermuth and Huang (2021) conclude that taking notes is rather unnecessary during TCs and, thus, not advisable (p. 202). Dendenne (2021) emphasizes that some learners might not be as autonomous as others in terms of writing due to their negative perceptions of their own writing skills (p. 164). Lastly, Chen and Yang (2016) draw attention to the fact that adopting inadequate writing approaches, as a result of which learners utilize translation, might, in fact, become an impediment to using English (p. 281). Nevertheless, according to Scott-Monkhouse et al. (2021), students regard the ability to manifest themselves through writing as one of the top benefits of TCs (p. 25).

5.7.3.1.3 Speaking (n = 5 / n = 8). According to several RAs, learners greatly appreciate being able to practice their speaking skills in real-life situations with other students of English during TCs (Demir & Kayaoğlu, 2021; Scott-Monkhouse et al., 2021). As Demir and Kayaoğlu (2021) (p. 16-17) and Scott-Monkhouse et al. (2021) (p. 24) conclude, during TCs learners have to get rid of the fear of talking to strangers and this increases their belief in their own speaking skills. Yet, as the RAs of Demir and Kayaoğlu (2021) (p. 16-17) and Scott-Monkhouse et al. (2021) (p. 24) show, a number of students experience some problems in this sense. In the RA of Gajek and Calderón-Quindós (2018), students complain that not enough time of the TC was devoted to speaking and point out that the number of such activities should be higher (p. 49, 50). As Jung et al. (2019) highlight, students usually do not have many occasions to practice their TLs and often their only chance to do so is in FL classrooms, which do not always accurately simulate real-life situations (p. 299). Similarly, learners in the RA of Scott-Monkhouse et al. (2021) report at the end of TC that they still have to develop their speaking skills (p. 25). Kohn and Hoffstaedter (2017) note that participants of their TC encountered multiple problems during their conversations, for instance, concerning the articulation of some words (p. 359). Nevertheless, according to

Scott-Monkhouse et al. (2021), students find gains in the area of speaking as one of the most important benefits of TCs, similarly to writing (p. 25).

5.7.3.1.4 Vocabulary (n = 4 / n = 7). Regarding vocabulary acquisition, the RA of Jung et al. (2019) suggests that learners appreciate exposure to a new topic each week of the TC exchange which allows them to significantly increase their lexicon (p. 300-301). In particular, however, students' eagerness to participate in the TC activities, during which they enhance their vocabulary, is increased when the given topic is of their interest (Jung et al., 2019) (p. 300-301). Further, Dooly and Sadler (2016) report that participants of their TC were using highly specialized vocabulary at the end of the exchange. On the other hand, Chen and Yang (2016) identify the learner's narrow word pool as one of the potential hindrances in communication among TC participants (p. 281) while Kohn and Hoffstaedter (2017) stress that certain words and phrases can be troublesome for certain learners (p. 359).

5.7.3.2 Language-Related Episodes (LREs) (n = 1). Jung et al. (2019) argue that linguistic knowledge can be developed through LREs and that students are mindful of this (p. 301). According to Jung et al. (2019), students' beliefs about language acquisition can increase as a result of taking part in TCs and are influenced by the number of successfully handled grammatical and lexical LREs and unsuccessfully resolved grammatical LREs (p. 299-300). Moreover, Jung et al. (2019) state that a high number of the former can lead students to positive perceptions regarding language learning while many of the latter can lead them to less positive conclusions (p. 299-300). As the RA of Jung et al. (2019) reports, participants did not find the basic linguistic output satisfactory enough to be useful for them and their linguistic growth while they perceive emphasis on structures and joint growth through LREs as meaningful (p. 305).

5.7.3.3 Linguistic Accuracy (n = 2). As for linguistic accuracy in TCs, the RAs of Ke (2016) (p. 291) and Kohn and Hoffstaedter (2017) (p. 361) agree that students seem to rarely pay much attention to it – being comprehended is of greater significance for them than making mistakes in English. As Ke (2016) underlines, students are able to focus on getting the meaning across instead of correctness which, in turn, leads them to the conclusion that their English level is gradually improving (p. 291).

5.7.3.4 English as a Tool of Communication (n = 7). Several RAs highlight that in ELFTCs English is used as a tool and medium of communication (Demir & Kayaoğlu, 2021; Scott-Monkhouse et al., 2021). As Freiermuth and Huang (2021) (p. 204) and Porto (2018) (p.

326) point out, language can also play a crucial part in TC, acting as a booster for interaction and a bonding tool, particularly since English is the only language they can use to communicate. Further, Alghasab and Alvarez-Ayure (2021) (p. 12-13) and Porto (2018) (p. 326) state that English can be used to identify resemblances and distinctions, gain knowledge together, as well as fostering reciprocal comprehension and relations, for instance, through the use of informal greetings. Likewise, Austin et al. (2017) (p. 98-99) and Dooly and Davitova (2018) (p. 233) report on the use of various communication means which can foster creating stronger relations among the participants.

5.7.3.5 Foreign Language Enjoyment (FLE) (n = 9). Overall, the reviewed RAs report great enjoyment or even excitement among TC participants in relation to their involvement in TC projects (Bueno-Alastuey & Kleban, 2016; Demir & Kayaoğlu, 2021; Dooly & Sadler, 2016; Freiermuth & Huang, 2021; Gajek & Calderón-Quindós, 2018). Likewise, the RAs generally highlight more positive than negative feelings of TC participants towards learning English as a result of taking part in TCs, mostly because this activity allows them to practice their TL (Chen & Yang, 2016; Jung et al., 2019). As Demir and Kayaoğlu (2021) (p. 25) and Dendenne (2021) (p. 164) point out, students enjoy participating in a variety of activities together, being complimented for their English proficiency, as well as serving as the representatives of their nations. What is more, according to Scott-Monkhouse et al. (2021), TCs enhance participants' knowledge about how they can use emotions to their own advantage (p. 22).

5.7.3.6 Foreign Language Anxiety (FLA) (n = 10). Chen and Yang (2016) (p. 281-282) and Ke (2016) (p. 297) stress that some of the students feel worried and uneasy at the beginning or even before TC projects, especially if they are taking part in such initiatives for the first time. Several RAs report that TCs proved to be difficult for their learners who were afraid of taking part in TCs, were unsure whether they would be understood by their partners, and were stressed about speaking to strangers via a camera, even if their English proficiency was relatively high (Bozdağ, 2018; Demir & Kayaoğlu, 2021; Freiermuth & Huang, 2021; Ke, 2016). However, in several RAs, learners' anxiety decreased over time and turned into excitement, also adding to their confidence, enjoyment, and communication skills of TC participants (Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Jung et al., 2019; Ke, 2016). In general, Scott-Monkhouse et al. (2021) regard TC communication as organized, secure, and encouraging students' growth (p. 22) while Ke (2016) argues that ELFTC environments are

less stressful than TCs with NSs due to the fact that NNSs are less likely to spot their mistakes than NSs (p. 292, 296). Similarly, Kohn and Hoffstaedter (2017) highlight that using English as a lingua franca throughout TC exchanges simplifies them (p. 361). Ke (2016) suggests also that multimodality might positively contribute towards lowering learners' anxiety (p. 289). Moreover, Dendenne (2021) underlines that the high frequency of messages exchanged between TC participants suggests that they are not afraid to communicate in TC settings (p. 170). Kelsen and Flowers (2017), however, remind us that students who are introverts or withdrawn might require the teachers' special attention (p. 158). As reported by Scott-Monkhouse et al. (2021), students value the ability to learn how to defeat their timidity or alleviate stress, especially when presenting in front of strangers and via an online link (p. 22, 24). In particular, however, Scott-Monkhouse et al. (2021) note that the learner-user shift contributes towards overcoming students' anxieties (p. 23).

5.7.3.7 Negotiation of Meaning (NoM) (n = 10). Several RAs claim that NoM takes place in TCs (Dooly & Sadler, 2016; Scott-Monkhouse et al., 2021; Vahed, 2020). As Austin et al. (2017) state, TC participants need to be inventive when trying to express themselves (p. 100). As a result, according to Dooly and Davitova (2018), amusing situations tend to occur quite frequently during TCs, but they prove to be an important part of such interactions which ensures their continuation (p. 232). Following the findings of Austin et al. (2017), NoM can be facilitated through, among others, gaze, gestures, showing objects and signs, as well as verbal communication (p. 94-95, 97). A number of RAs also point to several TC tools, such as videoconferencing software and social media, that can support NoM (Austin et al., 2017; Kulavuz-Onal & Vásquez, 2018; Vurdien & Puranen, 2016). Since making mistakes is natural in the language learning process, various RAs from the corpus suggest that students should focus on NoM and make sure that their thoughts are understood by their partners (Freiermuth & Huang, 2021; Ke, 2016; Kohn & Hoffstaedter, 2017).

5.7.3.8 Translanguaging, L1, and L3 Use (n = 8). Instances of L1 and L3 use as well as translanguaging can be noted on multiple occasions in TCs. Consequently, several RAs discuss the role of such occurrences, and these findings are presented below.

5.7.3.8.1 L1 Use (n = 3). Paraphrasing Austin et al. (2017), L1 is used in TCs mainly to establish connections and communication with partner students (p. 98-99). Yet, as Pouromid (2019) emphasizes, if the students "do not share an L1, they make use of semiotic resources other than the verbal or linguistic encoding of information to make themselves understood"

(p. 631). Kulavuz-Onal and Vásquez (2018) highlight that L1 use should not be punished if it serves as way of providing a translation from English, constitutes a clarification, serves an educational role, or aims to inform about the L1 itself or the culture of the TC participant, even if the goal of the TC is solely to practice the TL (p. 247-248). Moreover, as Kulavuz-Onal and Vásquez (2018) point out, conducting a TC entirely in the TL might be impossible and, in fact, goes against the multilingual nature of the current world, and especially the Internet (p. 253). However, according to Kulavuz-Onal and Vásquez (2018), it should be borne in mind that the use of L1 might lead to incomprehensibility among some of the TC participants, thus, it should be limited (p. 247). In fact, Kulavuz-Onal and Vásquez (2018) claim this very problem is the reason why TC participants should use the TL (p. 247).

5.7.3.8.2 L3 Use (n = 5). L3 was also frequently used in the reviewed RAs and respective TCs. RAs by Dendenne (2021) (p. 161) and Gajek and Calderón-Quindós (2018) (p. 49) highlight that students and teachers alike are happy to learn and use L3 when communicating with their foreign partners in TCs, especially if they have some previous knowledge of it. Kulavuz-Onal and Vásquez (2018) attribute the use of L3 in TCs mainly to addressing foreign partners and casual communication, in particular, the opening and closing statements (p. 250, 251). According to Kulavuz-Onal and Vásquez (2018), other L3 uses in TCs include, among others, emphasizing the multilingual character of the project, fostering group cohesion, and expressing compliments (p. 251). Ke (2016) concludes that using words and phrases in partners' language helps to form bonds and contributes positively to the overall atmosphere of the TC which highlights the role of multilingual discourse in cross-cultural contexts (p. 293). Similarly, Kulavuz-Onal and Vásquez (2018) underline that TC instructors in their RA were in favor of using L3 during TC exchanges since, according to them, this strengthens the multilingual and multinational character of the project and the development of diverse profiles of its participants (p. 253). Moreover, Ke (2016) reports that learners disregard the quality of their English when they are also using other FLs (p. 292). Consequently, Ke (2016) concludes that such linguistic arrangement leads to lower communication anxiety (p. 292). However, Fuchs (2019) informs that some TC participants were inundated with chat messages that their partners exchanged among themselves in their native language (p. 82). Further, Fuchs (2019) adds that learners regretted their decision to permit partner students to converse in their native language between themselves since it worsened collaboration with them (p. 82).

5.7.3.8.3 L1 and L3 Use (n = 3). Kulavuz-Onal and Vásquez (2018) report that L1 and L3 can be used together for, among others, addressing the target groups, guiding interactions, and building unity (p. 252). Similarly, Kulavuz-Onal and Vásquez (2018) (p. 251, 253) and Porto (2016) (p. 404-405) state that several languages can be used at the same time to address all participants in the given TC project, and, thus, acknowledge the heterogeneity of TC, as well as for drawing similarities and differences. According to Ke (2016), students realize the benefits stemming from using several languages to communicate in TCs (p. 292-293).

5.7.3.8.4 Translanguaging (n = 3). According to Pouromid (2019), the use of translanguaging in TC exchanges usually occurs in instances when a given error cannot be corrected linguistically or through non-linguistic actions (p. 633). Further, Pouromid (2019) claims that when students are not certain if their messages were understood by their partners, they turn to cross-linguistic interaction or ask their teacher for help (p. 633). As Ke (2016) highlights, initially, TC participants find translanguaging odd but they adapt to it over time (p. 292-293). Likewise, Ke (2016) reports that the use of ELF decreases over time and is substituted with instances of L3 use and/or translanguaging, which supplement conversations in English (p. 288, 292-293). Kulavuz-Onal and Vásquez (2018) note also that multilingual communication connects TC participants (p. 253).

5.7.3.9 English as a Lingua Franca Environment (n = 7). As several RAs highlight, for example, Demir and Kayaoğlu (2021) (p. 30), TC participants feel content in ELF environments. In particular, as Bueno-Alastuey and Kleban (2016) note, students are happy to observe how other NNSs use English (p. 156). RAs by Ke (2016) (p. 289, 292) and Scott-Monkhouse et al. (2021) (p. 23) show that learners do not concentrate much on their linguistic correctness in ELF contexts, which has both positive and negative implications. Moreover, several RAs emphasize the motivating capabilities of ELFTCs, allowing students to gain new, different perspectives on FLL as well as more courage to use English (Dendenne, 2021; Ke, 2016; Kohn & Hoffstaedter, 2017). In particular, the ELF setting was found to be more open and contain fewer linguistic norms than students would have to follow in, for instance, environments guided by the rules of NSs (Kohn & Hoffstaedter, 2017) (p. 361). Similarly, as Demir and Kayaoğlu (2021) underline, in ELFTC contexts learners feel empowered to collaborate with their partners, also NNSs of English, precisely because they are NNSs and, likewise, are prone to making errors when communicating in English (p. 18-

19). What is more, Demir and Kayaoğlu (2021) note that such a state of affairs is likely to "reduce anxiety towards making errors" (p. 19), thus, boosting students' confidence and engagement levels in such TC exchanges (p. 19). Kohn and Hoffstaedter (2017) also emphasize that the relaxed atmosphere of ELFTCs can shape learners' NNS identity, which can be manifested through, for example, their willingness to collaborate or inventiveness in utilizing language resources when communicating (p. 361, 362). Kohn and Hoffstaedter (2017) stress, however, that the above is contingent upon the presence of mutual understanding, sincerity, teamwork, and transparency among TC participants (p. 363).

Nevertheless, Dendenne (2021) points out that after the end of the TC exchange, some learners still preferred to collaborate with NSs, mainly due to the fact that NNSs proved not to be the best sources of exemplary English (p. 169). Complaints reported in the RAs of Dendenne (2021) (p. 170-171) and Gajek and Calderón-Quindós (2018) (p. 49) include deficient articulation, grammar, lexical diversity, and various other errors that are often committed by NNSs, as a result of which they are sometimes not perceived as reliable TC partners. Ke (2016) remarks that such perspectives might also exist due to the expectations towards English learners to eventually use native-like language (p. 292).

In addition to the above, RAs also mentioned that TCs can boost:

- verbosity (Freiermuth & Huang, 2021);
- the ability to clearly and concisely express own ideas in English (Chen & Yang, 2016; Scott-Monkhouse et al., 2021);
- WTC (Flowers et al., 2019; Kohn & Hoffstaedter, 2017).

5.7.3.10 Language Learner – Language User Transformation (n = 2). According to Ke (2016) (p. 297) and Scott-Monkhouse et al. (2021) (p. 23), TCs facilitate the shift from a language learner to a language user. Moreover, Ke (2016) states that TCs can strengthen participants' "relationship with English" (p. 296). Ke (2016) underlines that the journey of constructing the English user identity is an extended and difficult one, in addition to being related to learners' attitudes toward English and self-assurance (p. 294, 296). Among the potential changes associated with it, Ke (2016) highlights that learners can express themselves more straightforwardly when using English, in comparison to their mother tongue, noting that most of them are not aware of this (p. 293-294). Ke (2016) claims that students might also choose to continue their adherence to NSs' norms instead of adopting the ELF and NNSs' ones and, thus, experience difficulties in "develop[ing] a comfortable

relationship with a language" (p. 297). Consequently, Ke (2016) urges language teachers to be mindful of, observe, and, should that be necessary, assist in this transformation, particularly among intermediate language users since such change is most likely to occur at this proficiency level (p. 297). Lastly, Ke (2016) emphasizes that NNS identity allows students to use English with ease (p. 291) while their participation in TC projects substantially contributes to its evolution (p. 296).

5.7.3.11 Language and Culture (n = 4). As multiple RAs show, the learning of both language and culture can be successfully combined in TC projects (Chen & Yang, 2016; Freiermuth & Huang, 2021; Jung et al., 2019; Vahed, 2020). Jung et al. (2019) highlight that even though language and culture learning in TCs seem to be autonomous processes, they still strengthen each other (p. 306). The potential gains associated with the cultural domain in TC exchanges are outlined below.

5.7.4 Cultural Aspects of Telecollaboration (n = 26)

5.7.4.1 Cultural Awareness (n = 22). According to several RAs, TC projects can develop cultural consciousness among their participants (Chen & Yang, 2016; Dendenne, 2021; Freiermuth & Huang, 2021; Porto, 2018). Likewise, manifold RAs specify that TC exchanges allow students to explore different cultures (Chen & Yang, 2016; Dendenne, 2021; Freiermuth & Huang, 2021; Jung et al., 2019), mainly thanks to the personal interaction with representatives of other nations (Nguyen et al., 2020; Sevilla-Pavón & Nicolaou, 2017). The RAs underline that showcasing own cultures to TC partners commonly takes place in TCs (Alghasab & Alvarez-Ayure, 2021; Dendenne, 2021). As frequently reported by the RAs under scrutiny, TC participants are able to learn more not only about the cultures of their partners but also their own cultures (Chen & Yang, 2016; Dendenne, 2021; Hagley, 2020). Importantly, as some RAs note, learners should know their own cultures in-depth prior to engaging in the exploration of other ones (Chen & Yang, 2016; Nguyen et al., 2020). Consequently, several RAs highlight that TCs, in fact, allow students to learn about multiple cultures by means of differentiating and equating (Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Nguyen et al., 2020) and, as a result, discover cultural analogies and distinctions (Freiermuth & Huang, 2021; Gajek & Calderón-Quindós, 2018; Vurdien & Puranen, 2016). Numerous RAs emphasize that TCs can increase students' interest in other cultures (Chen & Yang, 2016; Dendenne, 2021; Freiermuth & Huang, 2021; Grau & Turula, 2019; Hagley, 2020; Ke, 2016), promote acceptance of new cultures (Chen & Yang, 2016) (p. 277), and, therefore,

allow learners to comprehend them more fully (Alghasab & Alvarez-Ayure, 2021) (p. 18). Likewise, as Freiermuth and Huang (2021) accentuate, TCs permit learners not only to expand their cultural knowledge but also to reestablish their existing cultural perceptions (p. 205).

As frequently reported by the RAs under the scrutiny of this dissertation, TCs can also positively contribute towards intercultural understanding (Chen & Yang, 2016; Nguyen et al., 2020; Vahed, 2020; Vurdien & Puranen, 2016) and intercultural skills of learners (Dendenne, 2021; Flowers et al., 2019; Gholami Pasand et al., 2021). Numerous RAs also report on the growth of cultural knowledge among TC participants (Alghasab & Alvarez-Ayure, 2021; Chen & Yang, 2016; Freiermuth & Huang, 2021; Hagley, 2020; Jung et al., 2019). Likewise, the development of cultural skills and overall cultural progress is observed among the RAs reviewed (Chen & Yang, 2016; Dendenne, 2021; Flowers et al., 2019; Freiermuth & Huang, 2021; Vurdien & Puranen, 2016). Both TC tasks and tools also prove to have an impact on cultural learning (Chen & Yang, 2016; Gholami Pasand et al., 2021; Nguyen et al., 2020; Vurdien & Puranen, 2016). In terms of TC tasks, Chen and Yang (2016) (p. 273-274) and Nguyen et al. (2020) (p. 101) advise variety and relevance to personal interests. With respect to TC tools, social media seem to be among the most commonly recommended ones due to their suitability and cultural awareness-raising capabilities (Gholami Pasand et al., 2021; Vurdien & Puranen, 2016). Some RAs highlight that TCs increase participants' respect for foreign cultures (Flowers et al., 2019; Hagley, 2020) as well as diminishing the fear of other cultures (Freiermuth & Huang, 2021; Hagley, 2020; Nguyen et al., 2020; Waldman et al., 2019). Similarly, Porto (2016) (p. 404) and Porto (2018) (p. 326) report that TC participants gain cross-cultural citizenship skills. Overall, multiple RAs, for instance, Freiermuth and Huang (2021) (p. 193, 196, 198, 199, 202, 203) and Scott-Monkhouse et al. (2021) (p. 25) agree that involvement in such cultural exchanges proves to be beneficial and gratifying to students.

Despite numerous likely cultural benefits, several RAs also point out a number of potential limitations in this respect. RAs frequently report cultural differences as barriers for efficient communication and collaboration (Demir & Kayaoğlu, 2021; Sevilla-Pavón & Nicolaou, 2017; Waldman et al., 2019). According to Vahed (2020), students who had no prior contact with other cultures are often insecure about taking part in TCs (p. 31). According to Chen and Yang (2016), the responses of several participants from the initial

stages of TCs, suggest their limited cultural perceptions, prejudices, and reliance on stereotypes, among others (p. 277-279). In other TC exchanges, for instance, the one described by Nguyen et al. (2020), learners held only superficial conversations and, as a result, they felt unmotivated to continue the project (p. 99). Similarly, Bozdağ (2018) stresses that shallow TC exchanges curb the potential gains of the students from such undertakings and inhibit the development of intercultural tolerance (p. 677). Further, the RA of Bozdağ (2018) does not report any significant cultural advances among participants of the TC project (p. 687). Rather, among the very few "culturally-rich" moments that occurred during that exchange, Bozdağ (2018) informs us about the reinforcement of the already possessed assumptions and perceptions about other cultures instead of their elimination (p. 687). Likewise, Fuchs (2019) claims that cultural differences between the participating students were too big for the TC exchange to be successful in some aspects (p. 85).

5.7.4.2 Intercultural Communicative Competence (ICC) (n = 18). A substantial number of RAs report significant gains by TC participants in terms of ICC (Alcaraz-Mármol, 2020; Bueno-Alastuey & Kleban, 2016; Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Flowers et al., 2019; Freiermuth & Huang, 2021; Ke, 2016; Kohn & Hoffstaedter, 2017; Porto, 2016, 2018; Vahed, 2020; Vurdien & Puranen, 2016; Waldman et al., 2019). Among the factors that contribute to or indicate the development of ICC, several RAs list: abandoning stereotypes, asking (detailed) questions, changing attitudes and perspectives, curiosity, establishing interpersonal relations, flexibility, high motivation, high verbosity, interest in other cultures, openness, using polite language, and willingness to acquire new knowledge (Alghasab & Alvarez-Ayure, 2021; Freiermuth & Huang, 2021; Vahed, 2020). Additionally, Jung et al. (2019) point out that conversations among NNSs and the presence of a large number of culture-related episodes contribute to the enhancement of students' ICC levels, the latter being a better solution than simple comparisons between cultures (p. 302, 305, 306). TC tasks and curriculum are likewise found to positively contribute to learners' ICC growth by a number of RAs (Chen & Yang, 2016; Hagley, 2020; Pouromid, 2019; Vurdien & Puranen, 2016). Demir and Kayaoğlu (2021), among others, encourage teachers to boost ICC among their students (p. 15-16). However, Waldman et al. (2019) stress that the enhancement of ICC takes a significant amount of time (p. 178). Nevertheless, several RAs report no increase in students' ICC levels and attribute such results to a likely occurrence of the ceiling effect (Gajek & Calderón-Quindós, 2018; Jung et al., 2019; Waldman et al., 2019).

5.7.4.3 Intercultural Sensitivity (IS) (n = 3). Similarly to ICC, Gholami Pasand et al. (2021) (p. 578, 583) and Hagley (2020) (p. 85) claim that TC projects can significantly increase participants' IS levels. Similarly, with respect to IS, Alcaraz-Mármol (2020) states that language can be perceived as "a gateway to other cultures" (p. 165).

5.7.5 Knowledge and Skills (n = 31)

5.7.5.1 Collaboration and Teamwork (n = 12). Multiple RAs provide findings which confirm that TCs facilitate the development of vital teamwork skills in a collaborative environment (Demir & Kayaoğlu, 2021; Gajek & Calderón-Quindós, 2018; Grau & Turula, 2019; O'Dowd et al., 2020; Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017; Smith & Keng, 2017). Testimonies of numerous participants confirm that they enjoy and treasure collaborating and rank teamwork skills among the most important benefits of TCs (Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017). According to some RAs, teamwork can lead to the improvement of students' skills and qualities, such as accountability, assigning tasks to others, forbearance, interpersonal skills, openness, planning skills, reaching consensus, social awareness, task scheduling, and tolerance (Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017; Vurdien & Puranen, 2016). Additionally, Kurek and Müller-Hartmann (2019) stress that the development of reliance on others, maintenance of group cohesion, and the appropriate assignment of duties among all TC participants facilitate students' collaboration (p. 61, 62). Further, Dooly and Davitova (2018) report that any misunderstandings in TCs can often be resolved by mediation and cooperation of learners (p. 232). Additionally, Vurdien and Puranen (2016) draw attention to the fact that teamwork "is beneficial for meaningful learning to take place" (p. 46).

On the other hand, Priego and Liaw (2017b), warn that in unsuccessful TCs students might try to impose their decisions on each other, which might impede the achievement of consensus (p. 385). Similarly, according to Priego and Liaw (2017a) (paragraph 38), adopting an authoritative stance can negatively impact students' interactions in TCs. Lastly, in the RA of Gajek and Calderón-Quindós (2018), several students admitted that they had not advanced their collaborative skills significantly during TCs (p. 49). Gajek and Calderón-Quindós (2018) explain that this was due to the distribution of work among group members (each of them completed the assigned tasks individually) or nominating only one person to exchange information with the other group per country (p. 49).

5.7.5.2 Communication Skills (n = 15). Numerous RAs report a boost in participants' communication skills and strategies as a result of taking part in TCs (Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Dooly & Davitova, 2018; Flowers et al., 2019; Gajek & Calderón-Quindós, 2018; Ke, 2016; Kohn & Hoffstaedter, 2017; Nguyen et al., 2020; Sevilla-Pavón & Nicolaou, 2017). In particular, several RAs highlight the students' increased ability to communicate with foreign partners and, thus, practice the TL in TCs (Austin et al., 2017; Chen & Yang, 2016; Kohn & Hoffstaedter, 2017; Nguyen et al., 2020). Kohn and Hoffstaedter (2017) stress that effective communication in TC projects may necessitate learners to make some sacrifices, for instance, abandoning their own, initially set goals, since successful dialogue and accomplishing mutual goals seem to be the top priority of TC partners (p. 362-363). As Priego and Liaw (2017a) suggest, the collaborative approach contributes positively regarding effective communication in TC exchanges since learners are able to freely discuss their thoughts and opinions (paragraph 38). Freiermuth and Huang (2021) conclude that participation in TC projects might lead students to an understanding that they are, in fact, capable of competently interacting in the TL (p. 204).

However, different RAs also point to a number of factors that might impede the development of students' communication skills during TCs. Various examples of interactional issues and ineffective dialogue are commonly reported by the RAs under review (Bueno-Alastuey & Kleban, 2016; Gajek & Calderón-Quindós, 2018; Turula, 2017). According to these RAs, TC participants are not always able to fully express themselves, for instance, due to technical issues, difficulties in understanding their partners, not hearing a part of their partners' utterance, poor listening or writing skills, or their own restricted lexicon (Austin et al., 2017; Chen & Yang, 2016; Nguyen et al., 2020). Priego and Liaw (2017a) point out that during unsuccessful communication learners are not open and try to enforce only their own solutions, without even listening to the ideas of the others or attempting to reach an agreement (paragraphs 35, 36). As Priego and Liaw (2017a) also emphasize, adopting an authoritative stance in TC exchanges does not allow collaboration to take place, which, in turn, is detrimental to communication (paragraph 38). Moreover, according to Turula (2017), TC participants identify their partners' avoidance, disengagement, and passive attitude as major obstacles to effective collaboration (p. 28). On occasion, RAs report absence of communication or meaningful dialogue among TC participants (Demir & Kayaoğlu, 2021; Vurdien & Puranen, 2016).

5.7.5.3 Confidence (n = 9). A number of RAs discuss the growth of confidence of TC participants (Bueno-Alastuey & Kleban, 2016; Dendenne, 2021; Ke, 2016; Kohn & Hoffstaedter, 2017; Scott-Monkhouse et al., 2021). As Demir and Kayaoğlu (2021) (p. 16, 16-17, 19) and Jung et al. (2019) (p. 299) report, learners became confident that they are able to effectively interact in English in real-life scenarios, actively participate in discussions, and present their ideas on the forum as a result of participating in TCs. Likewise, four RAs (Demir & Kayaoğlu, 2021; Flowers et al., 2019; Hagley, 2020; Ke, 2016) claim that students' interactional and intercultural confidence improved thanks to their participation in TCs. Ke (2016) states that even the students who are uneasy about the TC project at the beginning can gain more self-assurance over time and become more agreeable with using English as a tool to communicate (p. 289, 291). Flowers et al. (2019) report also that through TCs learners can become more confident in exploring topics that are new to them (p. 231-232). Lastly, Ke (2016) stresses that confidence, among others, which learners can gain through participation in TCs, is vital in the process of becoming an English language user (p. 295, 296).

5.7.5.4 Curiosity (n = 6). Several RAs discuss the interplay of curiosity and ICC growth in TC projects. According to them, TC exchanges draw and enhance students' curiosity in other cultures and, in turn, increase learners' ICC levels and/or interests in foreign cultures (Alghasab & Alvarez-Ayure, 2021; Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Freiermuth & Huang, 2021; Vurdien & Puranen, 2016). Likewise, RAs report that asking specific questions that pursue detailed answers during TCs might be a sign of elevated curiosity of students (Alghasab & Alvarez-Ayure, 2021; Chen & Yang, 2016; Vahed, 2020).

5.7.5.5 Various (n = 18). Several RAs report on the improvement of other aspects among TC participants, for instance (in alphabetical order):

- 21st-century skills (n = 6) (Bozdağ, 2018; Dooly & Davitova, 2018; Nguyen et al., 2020; Sevilla-Pavón & Nicolaou, 2017; Vurdien & Puranen, 2016; Waldman et al., 2019);
- Awareness raising (n = 4) (Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Gholami Pasand et al., 2021; Kohn & Hoffstaedter, 2017);
- Comparative interpretation (n = 1) (Porto, 2018);
- Consciousness (n = 2) (Porto, 2018; Scott-Monkhouse et al., 2021);
- Creativity (n = 3) (Kohn & Hoffstaedter, 2017; Nguyen et al., 2020; Sevilla-Pavón & Nicolaou, 2017);

- Critical thinking (n = 6) (Chen & Yang, 2016; Gajek & Calderón-Quindós, 2018; Nguyen et al., 2020; Porto, 2018; Sevilla-Pavón & Nicolaou, 2017; Vurdien & Puranen, 2016);
- E-safety and netiquette (n = 2) (Demir & Kayaoğlu, 2021; O'Dowd et al., 2020);
- ICT skills (n = 5) (Alcaraz-Mármol, 2020; Demir & Kayaoğlu, 2021; Dooly & Davitova, 2018; Sevilla-Pavón & Nicolaou, 2017; Waldman et al., 2019);
- Identifying own weaknesses (n = 3) (Chen & Yang, 2016; Kohn & Hoffstaedter, 2017; Scott-Monkhouse et al., 2021);
- Negotiating skills (n = 4) (Grau & Turula, 2019; Kohn & Hoffstaedter, 2017; Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017);
- Organizational skills (n = 2) (Gajek & Calderón-Quindós, 2018; Sevilla-Pavón & Nicolaou, 2017);
- Peer-assessment skills (n = 1) (Sevilla-Pavón & Nicolaou, 2017);
- Presentation skills (n = 1) (Scott-Monkhouse et al., 2021);
- Problem-solving skills (n = 2) (Gajek & Calderón-Quindós, 2018; Nguyen et al., 2020);
- Research skills (n = 3) (Chen & Yang, 2016; Sevilla-Pavón & Nicolaou, 2017; Smith & Keng, 2017);
- Self-efficacy (n = 1) (Flowers et al., 2019);
- Sense of achievement (n = 1) (Chen & Yang, 2016);
- Specialist knowledge (n = 2) (Flowers et al., 2019; Gajek & Calderón-Quindós, 2018).

5.7.6 Social Aspects of Telecollaboration (n = 18)

5.7.6.1 Meeting New People, Making New (International) Friends (n = 16).

According to multiple RAs, TC allows its participants to easily make new (international) friends and work with them (Demir & Kayaoğlu, 2021; Dendenne, 2021; Flowers et al., 2019; Freiermuth & Huang, 2021; Jung et al., 2019; Nguyen et al., 2020; Sevilla-Pavón & Nicolaou, 2017). Several RAs agree that students are usually happy and willing to interact with other learners from foreign countries as well as being a part of an international working environment (Chen & Yang, 2016; Gajek & Calderón-Quindós, 2018; Hagley, 2020). According to Porto (2016) (p. 405) and Porto (2018) (p. 325-327), TC participants often discover that they have a lot in common, share interests, and have mutual learning goals. In addition, a number of RAs report on the increased sense of responsibility, a motivating sense of belonging, distributed among all TC participants (Demir & Kayaoğlu, 2021; Gajek &

Calderón-Quindós, 2018; Grau & Turula, 2019). Alghasab and Alvarez-Ayure (2021) (p. 16) and Vurdien and Puranen (2016) (p. 43) also highlight that student interactions in TCs and various types of affiliative behavior have a positive impact on community- and relationship-building. As Freiermuth and Huang (2021) note, sharing affirmative emotions with TC partners can help students to establish ties among themselves (p. 193). On the other hand, Gajek and Calderón-Quindós (2018) underline that the lack of sufficient contact between TC participants can lead some of them to complain about this fact (p. 49). According to Porto (2018), English, used as a lingua franca, is the main impulse behind transnational exchange between the participants and an instrument that brings them closer to each other throughout the duration of the project, thus, developing a sense of inclusiveness and cohesive community among TC participants (p. 326). As Freiermuth and Huang (2021) highlight, this sparks amusement and thrill among the students (p. 193). Likewise, Dendenne (2021) (p. 164) and Hagley (2020) (p. 83) observe that thanks to the involvement in TC projects, learners can make new friendships and are likely to remain in contact even after the end of the exchange. Lastly, Scott-Monkhouse et al. (2021) emphasize that students perceive the chance to work with foreign partners as one of the biggest advantages of TCs (p. 25).

5.7.6.2 Social Presence (n = 3). Kurek and Müller-Hartmann (2019) stress that creating a sense of presence among learners is vital in TCs and especially at the beginning of the exchange (p. 61-62). Kurek and Müller-Hartmann (2019) (p. 61, 68) and O'Dowd et al. (2020) (p. 159) state that multiple factors contribute towards the growth of social presence and include, among others, taking part in appropriate activities, developing relations with and credibility towards TC partners, as well as intelligibility of the project. Additionally, the RA of Kurek and Müller-Hartmann (2019) underlines that social presence, boosted, for instance, through team-bonding activities and allowing learners for unstructured discussions, can ease conflicts that arise during TCs (p. 60). Likewise, the RA of Grau and Turula (2019) reports on significant gains of TC participants in terms of social presence (p. 104).

5.7.7 Values (n = 23)

5.7.7.1 Eliminating Stereotypes (n = 10). The most commonly reported example of supplementary TC gain, featured in several RAs, is the elimination of stereotypes (Alghasab & Alvarez-Ayure, 2021; Chen & Yang, 2016; Hagley, 2020; Ke, 2016; Waldman et al., 2019).

As Demir and Kayaoğlu (2021) (p. 16) and Flowers et al. (2019) (p. 232) stress, teachers should be involved in this process and should appropriately instruct their students prior to TC to avoid the potential reinforcement of stereotypes. Chen and Yang (2016) (p. 277-279) and Flowers et al. (2019) (p. 232) draw attention to the fact that closed-mindedness, cultural aversion, and numerous biases are frequently evident during TCs, particularly at their beginning, yet they can be addressed, for example, by organizing classroom follow-up sessions. Overall, according to Chen and Yang (2016), TC can gradually reduce stereotypes and, in turn, increase students' ICC (p. 279). Gajek and Calderón-Quindós (2018) maintain that stereotypes were not an issue during their exchange (p. 49) while other RAs, for example, Bozdağ (2018) (p. 687) and Turula (2017) (p. 28), imply that stereotypes might have, in fact, been reinforced.

5.7.7.2 Various (n = 11). Several RAs identify also numerous other values and qualities that can be developed thanks to TCs, for instance, (in alphabetical order):

- Ecological citizenship (n = 1) (Porto, 2016);
- Global citizenship and education (n = 1) (Alcaraz-Mármol, 2020);
- Human values (n = 1) (Demir & Kayaoğlu, 2021);
- Openness (n = 2) (Alghasab & Alvarez-Ayure, 2021; Chen & Yang, 2016);
- Politeness (n = 2) (Alghasab & Alvarez-Ayure, 2021; Freiermuth & Huang, 2021);
- Tolerance (n = 1) (Vahed, 2020);
- Transnational identification (n = 2) (Porto, 2016, 2018);
- Trust (n = 2) (Grau & Turula, 2019; Kurek & Müller-Hartmann, 2019).

Lastly, as Bueno-Alastuey and Kleban (2016) conclude, some students are not aware of the advantages that TC can offer them which validates the necessity to address this issue, for instance, through increased awareness-raising (p. 157-159).

5.7.8 Success of Telecollaboration Projects (n = 24)

To sum up this chapter, a number of negative, mixed, and positive opinions of participants and outcomes of TC projects were collected from RAs to determine the overall success of TC exchanges. These findings are presented thematically underneath in the outlined order.

Occasionally, as evidenced by the findings of several RAs, students voice negative opinions regarding various aspects of TC projects – some of them did not know what TC was

prior to taking part in it and after the exchanges they were still disappointed with them (Bueno-Alastuey & Kleban, 2016; Grau & Turula, 2019; Turula, 2017; Vahed, 2020). As Bueno-Alastuey and Kleban (2016) point out, students report that they had different anticipations as to what they could gain from TCs and that sometimes these hopes were not fulfilled (p. 160, 162). Bozdağ (2018) highlights, for example, that students and teachers had different expectations towards the TC project (p. 677), even though that should never be the case since this limits the TC experience. Bozdağ (2018) also emphasizes that TC participants frequently complain about the mismatch between their anticipations and the actual TC activities which, according to them, are not authentic and, thus, not satisfactory enough (p. 685). As Sevilla-Pavón and Nicolaou (2017) report, some learners did not perceive TC as applicable to their course (p. 55). Nevertheless, Bueno-Alastuey and Kleban (2016) suggest that students' unhappiness with TC projects should be treated with caution since it can stem from an exaggerated focus on the negative TC experiences with little to no attention to the positive aspects (p. 158).

Some of the RAs, for example, that of Fuchs (2019), report successful TCs, yet inform that the opinions of the participants were mixed (p. 81). In the RA of Priego and Liaw (2017b), for instance, several groups of students encountered problems during their TCs but most of them were able to successfully resolve them (p. 382). As a result, RAs, for instance, Kelsen and Flowers (2017) (p. 159), Scott-Monkhouse et al. (2021) (p. 26), and Vahed (2020) (p. 33), generally regard TC as a valuable experience for both participants and instructors which offers significant gains in multiple areas but also point out that various and unavoidable issues might appear during TC projects simply due to their nature. Most of the analyzed RAs report that TCs are enjoyable and provide students with satisfaction in spite of some problems, dissatisfactions, or minor issues, which commonly occur over the course of TCs (Fuchs, 2019; Sevilla-Pavón & Nicolaou, 2017; Turula, 2017).

The majority of TC projects under scrutiny can be perceived as successful as well as constituting a positive experience for both TC participants and instructors (Grau & Turula, 2019; Hagley, 2020; Ke, 2016; Kelsen & Flowers, 2017; Vahed, 2020). According to Nguyen et al. (2020), students, in general, demonstrate a willingness to take part in TC projects through the exchange of cultural and linguistic knowledge (p. 94). This concerns particularly the learners who had not taken part in such undertakings before, as evidenced, for example, by

Nguyen et al. (2020) (p. 94). Moreover, as stated by Nguyen et al. (2020), participants become more interested in TCs and alike projects if their exchange is successful (p. 94).

Multiple RAs (Dooly & Sadler, 2016; Gholami Pasand et al., 2021; Jung et al., 2019; Nguyen et al., 2020) perceive TC as a favorable and advantageous approach that leads to, among others, significant performance enhancement and content assimilation by students. In the RA of Sevilla-Pavón and Nicolaou (2017), for instance, all evaluated variables yield positive findings (p. 51). Dooly and Sadler (2016) highlight that TC can increase students' productivity (p. 73) while Demir and Kayaoğlu (2021) report that TC allows learners to use their TL eagerly (p. 20). According to several RAs, TCs are also inspiring and limitless environments that widen participants' perspectives (Chen & Yang, 2016; Sevilla-Pavón & Nicolaou, 2017; Vahed, 2020). In particular, however, TCs can positively affect learners' approach towards FLL and empower their identification as English users (Jung et al., 2019; Ke, 2016). According to Demir and Kayaoğlu (2021), learners are also able to "put the theory into practice" (p. 20) through TCs.

Overall, TC participants report very good impressions of TC projects, rating their experiences highly and expressing mostly positive opinions and satisfaction about the exchanges they took part in, as evidenced by manifold RAs (Freiermuth & Huang, 2021; Fuchs, 2019; Hagley, 2020; Kelsen & Flowers, 2017; Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017; Vurdien & Puranen, 2016). Numerous RAs report that students regard their TC experiences as a captivating, entertaining, and satisfying endeavor, among other comments (Demir & Kayaoğlu, 2021; Sevilla-Pavón & Nicolaou, 2017). Kohn and Hoffstaedter (2017) observe that, above all, the source of learners' enjoyment is the ability to interact in English with other students (p. 361). Vahed (2020) points out that even the novelty of TCs and their different character, if compared to other, traditional FLL approaches, does not discourage the learners from getting involved in them and they enjoy taking part in such undertakings immensely (p. 31-32). Several RAs (Chen & Yang, 2016; Dooly & Sadler, 2016; Sevilla-Pavón & Nicolaou, 2017) report that TCs meet the anticipated outcomes of their participants. Importantly, in the case of 12 RAs, towards the end of the TC participants expressed their willingness to take part in such a project again in the future or stated that they would recommend taking part in such an initiative to other students (Bueno-Alastuey & Kleban, 2016; Chen & Yang, 2016; Demir & Kayaoğlu, 2021; Dendenne, 2021; Freiermuth & Huang, 2021; Fuchs, 2019; Gajek & Calderón-Quindós, 2018; Hagley,

2020; Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017; Smith & Keng, 2017; Vahed, 2020).

The findings of the qualitative analysis are summarized in Appendix 25.

5.8 A Retrospective Analysis: Research Articles Which Contribute Most Findings

Lastly, the results of the retrospective analysis reveal that the RA of Demir and Kayaoğlu (2021), in addition to being the highest contributing RA of all in the corpus of this study, is the most opinion-generating and comprehensive RA of all, addressing 44 different aspects of TC and accounting for approximately 7% of all reported results. Each of the following three RAs, i.e., Bueno-Alastuey and Kleban (2016), Scott-Monkhouse et al. (2021), and Kohn and Hoffstaedter (2017), account for approximately 5% of the results of this dissertation and for providing information on 35, 32, and 29 distinct aspects of TC respectively. On average, the RAs addressed approximately 16 distinct aspects of TC (M = 16.60; SD = 9.12), although this number varied substantially (Min = 2; Max = 44).

In the results of the second analysis, the RA of Sevilla-Pavón and Nicolaou (2017), takes the lead (ratio = 2.12) and is followed by the RAs of Bueno-Alastuey and Kleban (2016) (ratio = 1.96), which is also closely followed by the RAs of Smith and Keng (2017) (ratio = 1.88), Scott-Monkhouse et al. (2021), (ratio = 1.83), and Gajek and Calderón-Quindós (2018) (ratio = 1.81). In this case, the higher the ratio, the more TC aspects the given RA discusses. The average impact ratio across all RAs is approximately 1 (M = 1.00; SD = 0.49) and varies from approximately 0.2 to 2.1 (Min = 0.16; Max = 2.12).

As far as the third (the average) measure is concerned, the RA of Bueno-Alastuey and Kleban (2016) takes the lead (average score = 4) and is followed by, ex aequo Demir and Kayaoğlu (2021) and Scott-Monkhouse et al. (2021) (average score = 7). Here, the lower the average score, the better. The average score across the RAs is approximately 39 (M = 39; SD = 20.60) while the range of average scores is quite large (Min = 4; Max = 76).

Detailed results related to the retrospective analysis can be found in Appendix 26 and Appendix 27.

Chapter Six: Discussion

This chapter discusses the findings stemming from the analysis of the 38 ELFTC RAs under scrutiny in this dissertation. Where applicable, the obtained results are placed in wider contexts, aiming for their generalization. Moreover, a short reference to the past reviews is included at the end of the following paragraphs, unless the given aspect was not covered by them. This procedure aims at connecting the existing secondary research on TC with the findings of this thesis.

6.1 Journals in Which the Reviewed Research Articles Were Published

Only five different journals made up exactly one half (n = 19) of the reviewed RAs, the other half being published in 19 other journals. This suggests that research on ELFTCs is not only concentrated in several major journals devoted to CALL and AL but is also equally frequently published in various other periodicals. Moreover, this finding shows that previous research syntheses and/or meta-analyses, such as those of Lewis and O'Dowd (2016), Çiftçi and Savaş (2018), or Piri and Riahi (2018), which reviewed only the RAs published in four selected CALL and AL journals, had a limited scope and might have omitted approximately 50% of the relevant studies simply due to the fact that they were published in other, less-known journals. The results of this study partially overlap with the findings of Barbosa and Ferreira-Lopes (2021) devoted to the same aspect.

6.2 Number of Research Articles Published per Year

The distribution of RAs per year suggests that they are spread rather equally in time and that around seven RAs devoted to ELFTCs are published every calendar year.

6.3 Characteristics of English as a Lingua Franca Telecollaborative Projects

6.3.1 Duration of Telecollaboration

With respect to the duration of ELFTC exchanges, such projects tend to last, on average, around 10 weeks, which coincides with the findings of Akiyama and Cunningham (2018). Importantly, however, as many as 12 authors indicate that the duration of their project (which ranged between six and 15 weeks in this context) was not sufficient enough to fully accomplish all the envisioned goals. This view is also supported by numerous opinions of TC participants who likewise thought that TC projects were too short to be able to fully benefit from them. These findings once more spark a discussion about the optimal duration of TC projects since abundant evidence, both from TC organizers and their participants, suggest that such exchanges are often too brief, which does not allow learners

to fully utilize them. The results of this dissertation related to the duration of TC projects reflect the trends captured also in the previous reviews in the field of TC.

6.3.2 Character of Telecollaboration

In terms of the character of ELFTC projects, it is not surprising that taking part in the vast majority of them was compulsory for most of the participants given their institutional character. It is, however, important to note that researchers who opted to give their students the freedom to take part in projects frequently observed a lack of motivation to engage in the exchanges among their students. Such issues were not reported on in the RAs where participation in TC had a compulsory character and/or was graded. Thus, the optional or obligatory character of the TC project should be considered an important factor that influences the degree of students' involvement in TC exchanges. Consequently, it is advisable that participation in ELFTC projects should be compulsory for the students given the findings presented here.

6.3.3 Telecollaboration Modes

With regard to the TC mode among the reviewed RAs, it can be concluded that the findings of this study resonate with the overall trends in the evolution of TC exchanges, i.e., the gradual move from text-based to video-based projects. This is supported by the greater number of studies being held synchronously than asynchronously but also that most of the RAs utilized both modes at the same time. It appears that both TC modes are frequently included in TC exchanges because TC organizers aim to be more flexible as to what and how can be done during projects, in particular, how their students can communicate. Given the fact that synchronous communication channels are more susceptible to breakdowns than asynchronous ones, the inclusion and use of the latter in TC projects is a valid strategy to ensure the continuity of exchanges despite the potential and, in fact, very likely issues that might occur in synchronous communication. Moreover, it is noticeable that by using both TC modes, TC organizers want to appeal to wider audiences and maximize the positive outcomes of their TCs. It is evident that certain learners might have a personal preference for working in one of the TC modes, which can also stem from their individual differences. Consequently, TC organizers can increase the chances of meeting students' preferences, and, thus, elevating their gains stemming from projects, by employing both TC modes in their exchanges. Another valid reason for frequent inclusion of both TC modes in TC projects is the fact that TCs can facilitate the development of various skills. With respect to, for

instance, language skills, TC organizers might need or simply want to use both synchronous or asynchronous TC modes to implement their learning goals and, for example, the development of particular language skills. As already discussed in earlier chapters of this dissertation, certain language skills can be advanced easier or to a greater extent with the use of particular TC modes. Thus, if more than one such skill is aimed at being improved over the course of the given TC, it is logical that both TC modes should be implemented in it. Not less important is also the positive impact of multimodality on FL learning, likewise already explored, which can be evoked by including both TC modes in the given exchange. Nevertheless, the difference in the frequency of use of each TC mode is quite insignificant, with a small advantage of synchronous TC over asynchronous TCs (27 vs. 25 in total).[28] In contrast to most of past secondary literature in the field of TC, this dissertation provides evidence that synchronous TC is used more frequently than asynchronous TC, which can be considered an important and novel finding. Moreover, the collected results allow us to conclude that both synchronous and asynchronous TC modes are now frequently used together, which was not always the case in the past.

6.3.4 Telecollaboration Tools

Similarly, the findings concerning the TC tools used in the RAs under review suggest there is a clear trend and evolution towards holding video-based TCs over text-based TCs, as evidenced by the results related to the use of specific TC tools over time. Among the RAs examined, video-conferencing software was used far more frequently to communicate than, for instance, email (20 vs. 7), which was commonly used for this purpose in the past. The number and variety of TC tools used in the reviewed TCs also deserves attention. It demonstrates not only the immense learning opportunities provided by a myriad of TC tools now available but also the hard work and dedication of teachers and researchers who aim to enhance and facilitate the learning process of their learners by staying up-to-date with the contemporary trends and offering 21st-century teaching methodologies to their students. Further, this phenomenon can be explained by the growth of the so-called EdTech industry and the large number of easily available TC tools online. What is also noteworthy is the frequent use of social media and instant messaging applications, the second and the fourth

[28] The number of RAs which featured both TC modes were added to individual counts of only asynchronous and only synchronous TCs. Thus, the total number of the partial counts presented here exceeds the overall number of RAs under scrutiny.

biggest groups of TC tools, in TC exchanges, a phenomenon that is in line with some of the reviews on TC published to date. The frequency of use of LMSs, Padlet, and presentation creators across all assessed RAs suggests that they might have become the standard tools that are used in TCs. The selection and addition of other TC tools to particular projects seem to be rather a reflection of the nature of the given exchanges and/or the specific idea(s) of their author(s).

Although the number of TC tools used in TC projects varies greatly from study to study, using only one TC tool per exchange is often the case. This can be explained by the fact that video-conferencing tools or social media, which were used the most frequently if only one TC tool was employed in the given TC, are comprehensive enough to be used on their own. On the other hand, the decision of the remaining, and the majority, of TC organizers to use two or more TC tools in their exchanges can be explained by their willingness to facilitate the communication and collaboration between the participants of their TC projects. What is more, such exchanges, on average, include three core components: a video-conferencing tool; an instant messaging app and/or social media, which allows for the rapid exchange of messages; and an LMS or other tool that allows TC participants to write collaboratively and store information, such as Padlet or Google Docs. This is because these TC tools complement each other and allow TC participants to cooperate in more than one way. Other TC tools, again, can be perceived as supplementary to these core elements and depend on the aims and character of the specific TC project. Notably, email seems to serve as an alternative TC tool if either social media, LMSs, or neither of them are included in the given TC exchange. Lastly, the list of TC tools used by ELFTCs to date, outlined in Table 3 may serve as a good resource, starting point, and inspiration for TC practitioners who are considering their engagement in projects of this kind in the future.

As far as the findings pertaining to the use of particular TC tools over time are concerned, there is, once again, a clear switch towards video-based TCs over text-based TCs. This change is reflected in the evident significant presence of the video-conferencing software in the analyzed sample, which remains high and constant over time. Such a state of affairs can be explained by the improving quality of IT infrastructure and Internet connections globally which facilitates the organization of video-based TCs. Moreover, as further explained by the qualitative findings pertaining to this matter, video-based TCs prove

to be more appealing to TC participants and lead to their higher gains in various aspects, which warrants their use over their alternatives. Moreover, the continuous common use of social media and LMSs can be explained by the usefulness and reliability of these tools in TC contexts, as already proved in the publications published to date. The absence of social media in the RAs from 2020 onwards can be explained by the lack of further interest in verifying the usefulness of this specific tool in TC environments as it has already been proved to be of great use in such contexts. Alternatively, it can be concluded that the restrictions on social media use, introduced in many countries worldwide, might have prohibited or discouraged TC organizers from using such tools in their exchanges. The lower, yet stable across time, frequency of use of email, instant messaging applications, and Padlet, can be interpreted by the relatively supplementary role of these tools, which are not always crucial to be used if their affordances can be covered by other TC tools. The absence of email and Padlet in some years under scrutiny can be justified by the delays related to the publishing process of some RAs, or their publish date being close to the end of the given year, which results in their accumulation in other, subsequent years. The lack of presence of instant messaging applications and Padlet in the corpus of this study prior to 2017 can be explained by their relative novelty in earlier years and their gradually increasing popularity post-2017 in comparison to the previous years, according to the data offered by Google Trends.

6.3.5 Total Number of Participants per Telecollaboration

There is a wide variety in terms of the total number of participants that took part in each study, however, most included several dozen students. Out of 29 RAs where it was possible to establish the total number of participants, six included fewer than 30 students, thus, failing to meet the minimum number of people in the given sample group, set by the central limit theorem, and, in particular, the distributions of Student's t-test (D'agostino et al., 1988; Kwak & Kim, 2017; Livingston & Cassidy, 2005; Lumley et al., 2002; Stewart-Oaten et al., 1992), and making it difficult to perform reliable calculations in their case (Corder & Foreman, 2011). This indicates that a number of RAs included in the corpus of this investigation was, in fact, case studies, which is in line with the statements of, for instance, Dooly and Vinagre (2021). This, in turn, suggests that ELFTC projects are frequently rather limited in terms of the number of students that take part in them. This is, most probably, because TC exchanges that focus on language learning are difficult to organize and, thus, cannot include a large number of students, as also evidenced in the results of this

dissertation. Moreover, since such projects are held in institutional settings, they are frequently limited by the already established social groups, such as classes in schools or groups/majors at the universities, which often are additionally constrained by a certain age limit. With regard to primary and secondary education, language learning classes in some countries of the world are smaller than other non-language classes, sometimes constituting up to a half of the latter. Similarly, language learning majors in tertiary education tend to have a lower number of students per group than other majors. Accordingly, this domain-specific characteristic of language learning groups explains the rather low total number of participants in my corpus of TC projects. As noted earlier, four RAs in the corpus of this study reported more than 100 participants in total, however, these cases were either multi-year projects or a combination of groups rather than examples of individual TCs. Consequently, it can be determined that ELFTC projects, on average, tend to have around 40 participants in total, although this number can vary significantly – between several and a couple dozen students. Such mean total number of TC participants is unlikely to change due to the nature and complexity of TC exchanges, the various pre-TC institutional group arrangements, as well as a number of social and institutional constraints that warrant particular group sizes.

Regrettably, there are also a number of problems that have to be reported with respect to the total number of participants per study. As many as seven RAs in the corpus failed to include such core information anywhere in the text. In most of these cases, the TC project was presented from the perspective of only one researcher and one group of participants, which poses a severe limitation regarding the opinions, findings, and overall success of the given exchange. Further, in 11 other RAs the information on the total number of participants that took part in the study was not presented explicitly anywhere in the text but instead had to be manually calculated on the basis of other available data. Such a process can be significantly more difficult or even impossible to complete if the given publication includes contradictory information regarding the number of participants, which was the case in two RAs. Although the inclusion of such basic information as the total number of participants in a study might not be perceived by some authors as a crucial, from a secondary research perspective such data is extremely valuable. No less important is the fact that findings of unilateral reports on TC exchanges have a severely limited perspective and can, perhaps, even come to biased conclusions.

Findings of past reviews on this topic, although sparse, mostly reflect the same trends as the results of this study. Nevertheless, this dissertation offers a significantly more detailed outlook on the subject variables than its predecessors.

6.3.6 Number of Groups per Country per Telecollaboration

With regard to the findings concerning the number of groups per study, it is evident that ELFTCs are mostly held between only two groups of participants rather than three or more groups. This state of affairs can be explained by the increasing complexity of multi-group projects and the difficulty to find more than one partner institution that would be willing to join the project, both of which are likely to persuade TC organizers to keep their projects rather limited in scope. It is likewise possible that the teachers may want to limit the focus of their exchanges to only one specific country and culture instead of multiple ones, hoping to obtain better, more concrete, or more evident results of the project, which can be less obvious and hard to notice if exchanges were to take place between several partners. In comparison to the previous reviews, the results pertaining to the number of groups per study are new since none of past reviews explored the given corpus of studies in such detail.

6.3.7 Number of Participants in Groups per Country

From the results concerning the number of participants per group it can be inferred that groups in ELFTC exchanges tend to include around 19 students and usually less than 25. This number can also vary significantly depending on the study. Such figures are likely a consequence of the existence and sizes of specific learning groups at the institutions where these TCs were organized. As already explained above, the results reflect the typical number of students in institutional groups under scrutiny. Similarly to the above aspect, these findings are new, in comparison to past reviews.

6.3.8 Configurations of Groups That Took Part in Telecollaborations

The results pertaining to the configurations of collaborative groups suggest that the most common arrangement in ELFTCs is, in fact, group work. In particular, most commonly, TCs involved the work of four international students in total, i.e., the two vs. two configuration. This is likely due to the belief that working in groups is beneficial for students' language learning, evidenced by a number of studies (Johnson et al., 2014; Kuh et al., 2007; Laal & Ghodsi, 2012). Whether group work is more beneficial than pair work, which was the second most common collaboration arrangement, in this respect deserves its own investigation. In relation to past studies, the results of this dissertation are mostly similar.

6.3.9 Number of Collaborating Multinational Groups per Telecollaboration

The number of collaborating multinational groups in the given ELFTC is closely linked to the total number of participants in the given exchange as well as the type of assignment of students, for instance, a group or a pair. Most ELFTCs involved several (around seven) collaborating multinational groups which indicates that such exchanges are frequently small- and medium-scale projects, with large-scale undertakings being rare. A likely conscious decision of the TC organizers to keep their projects rather condensed in size is, again, most probably a result of the will to control the complexity of such exchanges since it increases with the number of groups.

6.3.10 Number and Ratio of Participants in a Multinational Group per Telecollaboration

As far as the number of participants per collaborating multinational group is concerned, the mean was around six students and, similarly to the total number of participants per study, it varied strongly. Such findings once again point to the large representation of case studies among the RAs devoted to ELFTCs.

The fact that the value of the ratio of TC participants was often equal to or close to one shows that most of the TC organizers aimed and/or preferred to have a 1:1 ratio between their participants which would allow them for more personal 1-on-1 (or approximate) collaborations, rather than 1-to-many partnerships. Thus, it can be concluded that a 1:1 (or a very close) participant ratio is the most frequent and preferred setting in ELFTCs.

6.3.11 Number and Frequency of Telecollaboration Sessions

The findings concerning the number of collaborative sessions per ELFTC suggest great variability among ELFTCs. Thus, there are no clear trends in the number of TC sessions across the reviewed RAs. On average, however, ELFTC exchanges tend to include around seven collaborative sessions and, most of the time, one TC session is held every week of the project. Whether this is enough should be explored along with the corresponding duration of the given TC exchange, as already mentioned above, since these variables are closely linked, particularly because most of the time the number of TC sessions corresponds to the duration of the given exchange expressed in weeks. Likewise, these results should be taken into consideration with the duration of each TC session, which is discussed below. Although the RAs in the corpus of this study do not provide much insight into the decision behind the number and frequency of TC sessions in each TC project, it is safe to assume that their

number correlates with the number of available classes or lectures, depending on the institutional background of the given exchange, i.e., simply the time available for it. Whether weekly, biweekly, or other arrangements of TC sessions are more or less effective than the others is yet to be established since this could not be determined based on the sparse data available in the RAs under scrutiny. Nevertheless, it is clear that the number of TC sessions is related to the purpose of TC projects and the goals that TC organizers set for them. If the given TC exchange is expected to be merely a showcase of what TC is and be a fun unconventional activity, for instance, in a FL classroom, then the number of TC sessions required to effectively fulfil the set aim is likely to be low. On the other hand, if the given TC project is expected to be a real aid for learners in their FLL process, then it can be assumed that a greater number of TC sessions would be required to successfully implement such a goal. Nevertheless, it has to be borne in mind that time is a finite resource, thus, only a certain number of TC sessions can be organized given other commitments and duties of students. Hence, it is advisable to maintain equilibrium in this matter and organize a number of TC sessions that reflects the needs of the learners and the TC exchange, which, above all, is expected to benefit them. Also, given the fact and the results stemming from this study, which suggest that certain processes, such as the accumulation of cultural knowledge, ICC development, or FLL, are time-consuming, it is clear that to achieve some of the goals, TC projects need to include more than one TC session, possibly several of them. The exact number, however, is impossible to be (ever) determined given the complex nature of TCs and the presence of multiple variables that can interplay with the number of TC sessions. The results of this thesis related to these aspects are mostly in line with the findings of the previous reviews and offer a more in-depth perspective than the past secondary research publications.

6.3.12 Duration of Telecollaboration Sessions

As far as the duration of TC sessions is concerned, the results of this study suggest that they commonly last for approximately 60 minutes, however, can vary significantly. Notably, in several cases, TC sessions lasted for precisely 30, 50, or 90 minutes, all of which directly correspond to or fit into the typical durations of classes in formal education contexts. Like the frequency of TC sessions, their duration seems to be constrained and dictated by the limitations of traditional FL classrooms in most cases.

6.3.13 Topics of Telecollaboration Projects

As far as the topics of ELFTC projects are concerned, it is understandable that cultural matters are the most popular. This is because the aims of TC exchanges are frequently to increase students' ICC and knowledge about other cultures. It is also often the case that the goals of TC projects are to broaden students' cultural awareness and horizons, as well as sparkling openness towards foreign traditions and customs. Importantly, enhancing students' cultural growth through TCs can be, and often was, a complementary action to FL learning. The presence of other, highly varied topics among the reviewed RAs highlights the fact that TC projects are suitable for implementing a myriad of ideas and curricula, which makes them applicable in diverse teaching contexts.

The reviewed RAs do not provide specific reasons behind the selection of the topics of their projects. Nevertheless, some general assumptions can be made here. First, it can be assumed that TC organizers choose cultural topics as the subjects of their TC exchanges because this way they can address the goals that they set for themselves in their TCs. In other words, TC organizers commonly hold TC exchanges with the aim to observe whether TCs can lead their students to any cultural gains and, logically, they also set cultural topics as the subjects of their learners' collaborations. Second, since a number of TCs are organized in FLL contexts, it is highly likely that TC organizers select the topics for their exchanges from the teaching materials they use in their FL classrooms on a regular basis. This way, they are also able to implement the curriculum, which is their primary goal in institutionalized educational contexts, where TC projects are commonly held. Third, it is evident from some RAs that the topic of TC exchanges was purposefully selected by TC organizers to match the interests or needs of their learners, for instance, by organizing a TC around a topic that corresponded to students' degrees, majors, or fields of study. Here, it is evident that ELFTCs can address the needs of English for Specific Purposes (ESP), English for Academic Purposes (EAP), English as a Medium of Instruction (EMI), and alike fields, a trend that can be noticed in the RAs included in the corpus of this study (Scott-Monkhouse et al., 2021; Sevilla-Pavón & Nicolaou, 2017; Smith & Keng, 2017) and elsewhere in the literature (Montaner-Villalba et al., 2022; Nicolaou & Sevilla-Pavón, 2016; Sevilla Pavón, 2016; Vinagre, 2016). This is also reflected in the case of TCs between student-teachers, collected in the corpus of this study, where the dominant topic of the exchanges was related to education (Bueno-Alastuey & Kleban, 2016; Kurek & Müller-Hartmann, 2019; O'Dowd et al., 2020). Lastly, the findings of

this dissertation related to the topics of TC projects are consistent with the content of past literature on this aspect.

6.4 Characteristics of Participants in Telecollaborative Projects

6.4.1 Participants' Gender

Regrettably, only eight out of 36 RAs reported on the gender of their participants. From a secondary research standpoint, much data was lost with regard to this aspect, and it might have allowed me to, for instance, reach certain conclusions linked to gender. Nevertheless, the dominance of females among the participants in the reviewed RAs where gender is reported can be explained by the observation that females constitute the majority of students in language-related and teacher education majors at a tertiary level[29] and this is likely to have occurred also in this case. Like the results of the secondary research on TC published to date, among which only one study addressed the aspect of gender, also this study encountered significant obstacles in investigating this concept. In contrast to the significant historical improvement in the reporting on age, the same cannot be said about gender.

6.4.2 Participants' Countries of Residence and Regions of Origin

The findings concerning the countries of residence of participants in RAs under scrutiny reveal that such TCs are organized around the whole globe. The fact that such exchanges were held, in particular, in advanced European and Asian countries can most likely be explained by the high level of development of these countries, evidenced, for instance, by the Human Development Index (HDI) or the Gini index. The economic status of these nations translates to the suitability and, thus, the likelihood of taking part in TC exchanges. This is because TC projects are complex and demanding, particularly in terms of the necessary IT equipment, which limits the number of countries and institutions that are able to participate in them. Educational organizations located in well-developed countries are more likely to be able to take part in TC projects due to, for instance, the widespread availability of high-quality IT equipment both at these institutions and among their students, the general availability of a reliable broadband Internet connection, and the common

[29] https://www.amacad.org/humanities-indicators/higher-education/gender-distribution-degrees-english-language-and-literature
https://www.statista.com/statistics/967826/number-bachelors-degrees-awarded-gender-subject-us/
https://www.npr.org/sections/money/2014/10/28/359419934/who-studies-what-men-women-and-college-majors

presence of well-established international contacts among the TC instructors in these countries. The elevated number of European countries among the top countries of residence of participants in my corpus of RAs can also be attributed to the active role of the European Commission in promoting TC through the eTwinning scheme at the primary and secondary education level, as already outlined before. As Hagley (2020) points out, TC initiatives are also promoted and funded by the governments of some Asian countries and that seems to be the likely reason why they appear frequently on said list. Another potential factor that contributes to the popularity of ELFTCs in certain countries over others is the status of English among their societies and multiple socio-economic factors that influence the perceptions of these societies towards the English-speaking countries, thus, inspiring students to learn English (Nunan, 2003).[30] The popularity of English as a global language and its lingua franca status can likewise be considered a factor that contributes towards the popularity and engagement of participants in ELFTCs from certain countries.

Due to the specific focus of this dissertation, i.e., on ELFTCs, the list of participants' countries of residence is different from the ones outlined in the past reviews. Namely, it does not include some countries where English is the dominant or official language, such as the USA. Nevertheless, the remaining countries that can be frequently found on the top of rankings of past review studies can likewise be easily found on the list of countries provided in this study. Similarly to the past secondary research on TC, most of them are developed countries while the previously underlined presence of Asian, Middle Eastern and Eastern European states, albeit often limited, is even more noticeable in this dissertation. This evidences the spread of ELFTCs into new countries, other than the ones commonly reported on in the past.

6.4.3 Most Frequent Number and Combinations of Countries That Held Telecollaboration Projects Together

Like the small number of groups per TC, the limited number of countries per study, usually two, can be attributed to TC organizers' willingness to avoid the increased complexity of ELFTC exchanges should the number of involved parties, in this case, understood as

[30] https://www.pewresearch.org/fact-tank/2015/10/08/more-than-any-other-foreign-language-european-youths-learn-english/
https://www.weforum.org/agenda/2019/11/countries-that-speak-english-as-a-second-language/
https://www.forbes.com/sites/anismuslimin/2017/11/30/why-asian-countries-are-investing-so-heavily-in-the-english-language/

countries, have been higher. There is, however, an important distinction as to where particular ELFTCs are organized. The results of my study show that while ELFTCs between just two countries are primarily held in Europe, ELFTCs between more than two countries, or multinational exchanges, are organized principally in Asia. This seems to be an important distinction that evidences the ongoing changes in the TC literature as well as the growing body and prominence of Asian research on TC. In particular, this indicates that although the roots of the TC practice, as already explored earlier in this dissertation, can be attributed to the USA and Europe, or, the Euro-Atlantic area in general, currently Asia seems to be coming to the forefront of the TC research, thus, shifting the balance towards the Indo-Pacific area. Moreover, it seems that Asian research on TC is not only setting but also, perhaps even more importantly, implementing the newest trends in TC organization. This is evidenced by the higher number of multinational TCs held in that region in comparison to Europe, at the cost of the lower number of two-country TCs which are still more commonly taking place in Europe, in comparison to Asia. Notably, these multinational TCs often involve partners coming not only from Asia (n = 12) but also from other regions of the world, the total number of which (n = 11) surpasses that of the European partners (n = 6). The frequency of the most commonly reported countries in the case of TC between just two and more than two countries can, once again, be explained by their high development level.

There is, however, yet another potential interpretation of such a state of affairs in the case of TCs between just two countries. Interestingly enough, the distance between the two most common pairs of countries that appear in the corpus, i.e., Japan and Taiwan as well as Poland and Spain, are nearly equal to each other and are approximately 1,300 miles or 2,100 kilometers. This unusual finding brings to light the idea that there is, in fact, a certain optimal distance between the partnering countries that can be perceived quantitatively and can impact the success of TCs. It is possible that TC projects can be more successful if the partnering countries are located neither too close nor too far from each other. This assumption is also grounded at the cultural level where collaboration between two completely different cultures might be less successful than that of relatively similar cultures, often geographically located in the same or neighboring region. It is possible that other pairs of countries that can successfully implement ELFTCs can be determined by following the pattern established here, although this requires further research. The above explanation based on the optimal distance suggested above cannot be fully applied to the

other comparably significant number of TCs in the corpus of this study, i.e., between Germany and Poland. This is because these two countries are neighboring each other and the distance between them is smaller than the above hypothesis implies. However, based on the fact that TCs between these countries were frequently regarded as unsuccessful, contrary to the above ones, the case of Germany and Poland might simply be the exception to the rule, which proves its existence. Alternatively, the relatively significant number of ELFTCs between Germany and Poland in the corpus can be explained by the fact that they are neighboring countries and, thus, there is an increased level of contact between them. Logically, this also translates to the field of education and cooperation in this area. Both Germany and Poland are developed countries, thus, institutions located in them are capable of implementing TC exchanges relatively easily, as already explained earlier, which also elevates the overall number of TCs between them.

6.4.3.1 Intraregional and Interregional Exchanges. The fact that most of the TC exchanges had an intraregional character can, again, be attributed to the "golden distance rule" proposed above. The suggested optimal distance between the countries in TC projects, i.e., around 1,300 miles or 2,100 kilometers, makes them likely to fit in only one region of the world, thus, making intraregional ELFTCs more likely to be held, and, thus, more common than interregional ELFTCs. Alternatively, this state of affairs can also be attributed to the potential contacts of TC organizers that, again, are more probable to be intraregional rather than interregional, hence, making intraregional ELFTCs more feasible to organize. The lack of intraregional ELFTC exchanges in South America can be explained by the high likelihood of organizing tandem TC projects with partners in North America rather than with other partners overseas as well as due to the proximity and potential contacts in the neighboring regions, such as, again, North America. Alternatively, South American ELFTC organizers might perceive TCs with partners from outside their region as more beneficial than with partners in their region. This is also likely to be true since most of the countries in South America share the same L1 – Spanish – which increases the chances of TC participants using this language during the exchange instead of the TL (English). This seems to be a rather region-specific characteristic that is not usually observed within other regions, for instance, Europe or Asia, where the linguistic diversity is higher. A similar factor might play a role in the Middle East, where Arabic is commonly used in several countries, although perhaps to a lesser extent due to a higher linguistic diversity in that region in comparison to South

America. This state of affairs in the Middle East might explain the slightly higher number of intraregional exchanges within the Middle East, which still remains incomparable to, for instance, their number in the European context where linguistic diversity is high. The situation in the Asian context likewise seems to be in line with this explanation.

With regard to interregional exchanges, it can be concluded that the numbers of ELFTC projects held between various regions do not differ much from each other and no particular trends can be observed here.

Lastly, it has to be underlined that the difference in the total number of intra- and interregional ELFTC exchanges is relatively small (20 vs. 16), thus, it can be said that they are nearly as commonly organized.

6.4.4 Participants' Mother Tongues (L1s)

There is a huge variety regarding the participants' L1s in the ELFTCs under scrutiny. The frequency of these L1s corresponds to the distribution of TC groups around the world in the analyzed TC exchanges. Unsurprisingly, the most commonly reported L1s are the official languages of the countries from which most of the TC groups came from.

Nevertheless, since three RAs failed to sufficiently report on the L1s of their participants, it has to be once again stressed that such information is vital from the secondary research standpoint and such data should be provided by the authors and be required by the publishers to allow researchers to acquire a better understanding of how certain variables interplay with findings and conclusions.

The findings of this research related to students' L1 differ from the secondary literature published in the field of TC to date. The sample of L1s collected in this study certainly reflects the constantly increasing diversity of L1s of learners of English. Notably, the results of this thesis confirm the previous statements that English serves as the most commonly used TL in TCs.

6.4.5 Participants' Age and Age Groups

The findings of this study concerning the age of ELFTC participants suggest that they were mostly in their 20s, however, their overall age range was quite significant. This is of no surprise due to the fact that the majority of the reviewed studies took place in the tertiary education context. It can, therefore, be concluded that ELFTC projects are typical of tertiary education rather than any other education context. However, it must be noted that the number of reports involving ELFTC at the tertiary level is extremely high compared to other

contexts due to the fact that the organizers of such TCs are also frequently researchers who often report on such findings in the form of a research output, or, more specifically, journal articles. This stands in contrast to, for instance, primary or secondary school teachers, who tend to organize exchanges without reporting on them. For a more balanced view of TCs, it would be recommendable to expand the currently most popular age range of ELFTC participants also to other age groups and educational contexts, such as primary and secondary schools, by encouraging teachers in such institutions to either produce and publish research on their own or in collaboration with career researchers. Likewise, it would be advisable to observe how ELFTCs can be implemented among participants older than university students. Another potential explanation here is that TC organizers perceive tertiary education students as suitable candidates for the participants of ELFTC projects because of the characteristics that are commonly attributed to their age. This includes, for instance, the relative openness, overall maturity, and acceptable willingness of tertiary education learners to take part in projects such as ELFTCs. Another factor can also be the proficiency in the TL of the given exchange, which is expected to be at an acceptable and communicative level at this age, thus, allowing tertiary education students to perform well and gain a lot from ELFTC exchanges. In comparison to the tertiary education learners, the readiness of students in other age groups to take part in TCs can be considered inferior. This explains the lower interest in them and the lower number of ELFTCs being organized in such age groups, which, consequently, translates to the low overall number of RAs reporting on TCs involving learners other than tertiary education students.

The findings related to the age and age groups of TC participants are much more detailed than the reviews of TC literature published to date. Moreover, it appears that the information offered on age in the RAs reviewed in this study is reported more often and is more comprehensive than it used to be in the past. The age ranges, however, are mostly the same as presented in past publications and tend to report primarily on young adults.

6.4.6 Participants' Educational Stages and Majors

With regard to the findings concerning the educational stages of participants of ELFTCs under review, there is a clear dominance of tertiary education level over all the other levels combined due to the reasons outlined above. Other potential explanations behind this state of affairs include the fact that primary and secondary students are minors, which constitutes an additional burden if the given TC exchange is to be organized in such contexts.

This includes, for instance, the need to complete additional paperwork related to working with minors, such as obtaining the relevant permissions from their parents. What is more, conducting research in primary and secondary educational environments involves an added difficulty related to the necessity to coordinate all actions with actors other than just researchers, such as school teachers, headmasters, and potentially also the parents. Nevertheless, investigating whether TC exchanges are a viable solution in FL teaching among younger students is likewise desirable because the literature offers sparse conclusions on this subject.

The fact that there are several pre-service teacher groups among the TC projects in this study is of no surprise given the great interest in TC in the field of education, and, in particular, university lecturers, who tend to organize such exchanges for their students. Further, many of these lecturers-researchers point out that pre-service teachers are an under-researched group, hence, their attempt to change this state of affairs by engaging their pre-service teacher students in TCs. Similarly, the large number of participants majoring in English seems rather natural given the fact that studying or practicing English was at least one of the aims of the ELFTCs under scrutiny. Given the number of potential advantages that ELFTCs offer for language learning, it is understandable that multiple parties organized them for language students undergoing such a process. Lastly, the evidence that ELFTC were held in numerous other various educational contexts proves that TC practice is not limited only to the field of FL but can also successfully be implemented in other areas.

Similarly to the past reviews, also this study bases its findings mostly on the RAs in which the participants are university students with relatively little presence of other age groups. Among them, however, there is a noticeable increased interest in student-teachers, which has also been noticed in some of past reviews. Apart from the university students, the second most commonly investigated age group is children, which is a continuation of a trend noticed already in past reviews.

6.4.7 Participants' Proficiency in English

Findings pertaining to the proficiency of TC participants in English reveal that the vast majority of them had a near-intermediate knowledge of that language. Such results are closely connected to the age and educational stage of the students, already discussed above, and, therefore, should be understood in the context of these variables. The low variety in terms of proficiency among the analyzed RAs validates further research in other competence

contexts, for instance, among learners with elementary and advanced knowledge of English. What is more, the lack of information concerning proficiency in as many as a third of the RAs warrants a call to include such information since such data is desirable from the secondary research standpoint.

The results of this study pertaining to proficiency are mostly in line with the past reviews of TC research suggesting that students mostly have an intermediate level of the given TL. What is more, also in line with the majority of past reviews, this study confirms that the exchanges between participants with other proficiencies are quite rare, and, if they are different from the intermediate, then they are elementary or low rather than advanced. Moreover, similarly to the past reviews, FL improvement was the primary or secondary goal of the RAs collected in the corpus of this thesis. Regrettably, as already observed in past studies, this crucial characteristic of FL learners is commonly not reported on or not presented in detail.

6.5 Project-Related Conclusions

6.5.1 Planning and Organization of Telecollaboration Projects

The RAs reviewed agree that the success of ELFTC projects success relies heavily on the effort put into them and their meticulous preparation. They also show that even the most carefully prepared TC exchanges can run into various problems that cannot always be predicted. Further, RAs show that there are multiple institutional constraints that TC organizers might face when organizing TCs. These concern people, i.e., the need to coordinate various actors to implement the TCs, as well as technical aspects, such as finding a suitable time to hold TC sessions. The above factors constitute significant burdens and limitations of ELFTC projects, some of which cannot be overcome easily. Consequently, the organization process of ELFTCs is much more complex than other FL classroom undertakings. This raises the question of whether TC projects can and should be organized by everyone willing to do so. Based on the findings, it seems that only highly organized and motivated FL instructors might be suitable to conduct them in an efficient way. Here no less important is the institutional support, the state of IT infrastructure available at the given institution, as well as the experience of teachers in leading such projects, all of which contribute to the ability to successfully conduct such demanding undertakings as ELFTCs. The findings of this study related to TC planning and organization are fully in line with the findings of past reviews on TC.

6.5.2 Prior Training

With regard to the role of training prior to ELFTC exchanges, the reviewed RAs clearly value its organization. RAs agree that such an activity can only be beneficial for TC participants – it can make students aware of the nature of TC projects they are about to engage in and equip them with useful knowledge that can be used during TCs, thus, increasing the potential learning gains and overall successfulness of TC exchanges. RAs suggest a number of ways for conducting such training, provide valuable empirical insights, and highlight which aspects of the training should be particularly reinforced for the benefit of the participants and the TC project. Several RAs also evidence that the lack of pre-TC training can have a number of negative consequences, which, once again, highlights the need for such activities before TC exchanges. The results of this dissertation are consistent with the findings of past review studies on TC.

6.5.3 Pedagogical Mentoring

In terms of the necessity for pedagogical mentoring before engaging in an ELFTC exchange, RAs suggest that it can be beneficial for TC participants because it can provide them with useful attitudes, knowledge, and skills. Further, the RAs in my corpus conclude that Type 3 pedagogical mentoring is more effective and more likely to have a significant positive impact on students than Type 1 pedagogical mentoring, which can also be beneficial, but to a lesser extent. However, the overall evidence regarding this aspect shows that pedagogical mentoring is not very effective and can prepare learners only on a very basic level. Consequently, TC organizers and practitioners should carefully consider whether to include rather inefficient pedagogical mentoring that offers only limited results is worth their attention, effort, and time.

6.5.4 Time

With respect to time, the findings of the reviewed RAs agree that ELFTC projects require significant amounts of time, both for their preparation and implementation. Moreover, RAs suggest that TC instructors should give students sufficient time to implement all the objectives of TC projects without having to rush and provide them with plenty of unstructured time for private, often off-topic, communication with other learners. Given the fact that a lot of RAs indicate that their ELFTCs were too short, according to TC participants and also frequently TC organizers, even if such exchanges lasted for more than 10 weeks, it is viable to call for more research regarding the optimal duration of ELFTC projects. This is

further reinforced by the fact that some exchanges lasted longer than initially anticipated while in numerous other cases, TC organizers themselves admitted that their TCs should have been longer than originally planned. From the perspective of the RAs under review, it is evident that even TC exchanges that last several weeks are often not extensive enough to fully realize all the learning goals and to provide learners with the opportunity to get to know each other and practice the TL in a relaxed atmosphere. According to the results of my study, the latter is particularly important as the ability to do so is directly linked to students' overall satisfaction with TC projects and allows TC organizers to boost participants' cultural knowledge. Moreover, the RAs reviewed in this dissertation show that if learners are not given sufficient time to form genuine connections with their partners, their overall satisfaction with TC projects is very likely to be low. What is more, providing TC participants with a very limited timeframe to complete a set of tasks often leads to various communication issues that contributed negatively to participants' overall views on the given TC project. Similarly, the results of this study show that TC organizers should bear in mind that TCs demand a lot of commitment and time also from their students who have numerous other responsibilities outside FL classrooms and TC exchanges. Increasing the length of ELFTC projects might allow both the teachers and the learners to distribute the overall workload related to the exchanges more evenly over time, instead of having it packed in a short timeframe, which is often the case nowadays, according to the RAs in my corpus. This would also help to address the frequent reports on the lack of longitudinal studies in the TC literature and calls for their increase (Akiyama, 2017; Akiyama & Saito, 2016; Dooly & Vinagre, 2021; Ortega & Byrnes, 2008; Schenker, 2017). Improved language skills growth, learner autonomy, and engagement in peers' discussions are additional benefits observed in this study associated with the increased duration of TCs whose significance should be a good enough argument in favor of organizing longer ELFTC exchanges.

Given the discovery of contradictory results related to the interplay of time and ICC, further research is advised to shed light on the issue. Further findings regarding this matter would certainly help to determine whether increasing the duration of ELFTCs can also boost the growth of ICC.

Taking all of the above into consideration, the matter of time and, more specifically, the optimal duration of ELFTC projects, deserve further research. Nevertheless, it is quite

evident from the reviewed RAs that most of the ELFTC exchanges organized to date were too short and the duration of future undertakings of this kind should be longer. This is because extending the duration of ELFTCs proves only to be beneficial. However, perhaps only up to a certain, yet currently unknown point. It is expected that distributing the workload of TC projects over a longer timeframe can help to relieve the time pressure, frequently associated with ELFTC projects to date. Responding to the findings of several RAs, it is also debatable whether TC exchanges can become a widespread FL teaching practice due to the amount of time that has to be devoted to them. The evidence of Sadler and Dooly (2016), which gives testimony to 12 years of successful TC, seems to confirm that it is possible, however, the question remains whether their example is merely incidental or repeated, cyclical TC organization at the same institution can be implemented on a larger scale and by multiple scholars. Three RAs reporting on multi-year ELFTCs reviewed in this synthesis (Hagley, 2020; Kurek & Müller-Hartmann, 2019; Waldman et al., 2019) provide evidence that this might be possible even in ELFTC contexts.

6.5.5 Telecollaboration Modes

6.5.5.1 Synchronous Telecollaboration. As far as the modes of ELFTCs are concerned, the RAs conclude that synchronous video-conferencing (SVC) is the ultimate form of such exchanges. This research synthesis shows that ELFTC projects which featured this element proved to be more enjoyable for TC participants than the ones that did not. Likewise, RAs which implemented SVC enumerated more and varied gains than RAs that used other TC modes. In contrast, RAs that involved the use of SVC reported multiple problems whose primary cause was related to the very choice of this specific TC mode. Interestingly, however, it is reported that TC participants did not seem to be particularly bothered with these issues – the ability to communicate live with foreign students via a video link was sufficient enough for them to offset the encountered difficulties. Notably, the high chance of facing numerous problems associated with SVC was, on several occasions, the reason why its implementation was dropped by TC organizers. This situation highlights the fact that despite the numerous potential benefits and advantages of SVC, the requirements associated with their organization might be too high or too overwhelming for some TC practitioners to actually implement them. Instead, they are likely to choose other TC modes that demand less preparation, despite acknowledging that SVC would be more suitable and beneficial for their students. In response to the above, it can be concluded that SVC should

be included in ELFTCs whenever possible. In particular, this is due to the number of gains that they offer. However, this study shows that TC practitioners should be made aware of the multiple potential difficulties related to the use of this TC mode and offered potential solutions to overcome them.

6.5.5.2 Asynchronous Telecollaboration. With regard to asynchronous TC mode, the analyzed RAs offer mixed findings. On the one hand, TC practitioners and researchers report a lot of independence and flexibility in both planning and implementation of asynchronous activities. On the other hand, some authors suggest that asynchronous TCs are quite restricted and can be the origin of misunderstandings. Nevertheless, on a number of occasions, asynchronous TCs are the only way to run a TC, as reported in several RAs, which warrants their implementation. Nevertheless, RAs agree that asynchronous tasks and activities should constitute complementary elements of larger, preferably synchronous, TC projects, rather than their core.

6.5.5.3 Oral vs. Written Telecollaboration. With reference to the rather sparse findings of my study concerning the similarities and differences between oral and written TCs, it can be concluded that the volume of oral conversations can be twice as high as that of written conversations. Such findings are not surprising given the nature of the given modes, with oral production being the more natural and innate way of communicating. The discovery that some of the learners might find it easier to communicate verbally rather than in the written form is also not surprising given the same reason as above and due to the fact that writing takes more time than speaking, particularly if learners are young and their IT skills, including keyboard typing, are not that advanced. The existence of a preference for one mode over the other among certain students likewise seems to be quite natural. Nevertheless, this notion is clearly under-researched, thus, it is advisable to conduct more replication studies that would allow scholars to further determine the state of affairs pertaining to this subject and would benefit TC literature overall.

6.5.5.4 Multimodality. Multimodality can be considered one of the most important characteristics of ELFTCs, based on the findings stemming from this review. Numerous RAs find this feature of TC to be highly beneficial for FL learning processes and communication overall. A large number of RAs report that multimodal settings facilitate communication and enhance it by permitting the use of a rich variety of instruments. Thus, it can be concluded that multimodality is desirable in ELFTCs and should be commonly implemented in such

exchanges. In particular, multimodality seems to be beneficial for children and low-proficiency students since in such settings they can compensate for their lexical gaps more easily than in unimodal environments by using a variety of linguistic and non-linguistic tools. Consequently, the RAs I have analyzed recommend that multimodal settings are offered to very young and low-proficiency TC participants to facilitate their communication with TC partners through various means. An interesting discovery of this study is also that multimodal settings can be useful in dispersing the cognitive load to which learners are exposed during TCs, thus, making students less anxious to use the TL. Nevertheless, this finding requires further validation by multiple other studies in various contexts to be confirmed. Research in this direction is, therefore, highly advisable since its findings would help to demonstrate additional potential benefits of conducting ELFTCs in FL learning contexts. Moreover, several RAs revealed that multimodality facilitates other beneficial phenomena in ELFTCs, such as becoming an independent language user, translanguaging, or working in groups, among others, which further indicates the benefits of implementing it in TCs. The RAs in my corpus also agree that learners can and should be trained on how to collaborate in multimodal environments. Overall, the reviewed RAs report a number of benefits resulting from the inclusion of multimodal settings in ELFTCs with no negative aspects of it. Accordingly, it can be concluded that multimodality should be implemented in ELFTCs whenever possible, ideally becoming a standard characteristic of such projects. The findings of this dissertation related to multimodality are in line with the past reviews.

6.5.6 Telecollaboration Tools

With regard to the tools used in ELFTCs under review, RAs provide mixed findings with the positive ones being discussed here first.

Several RAs agree that at least some basic IT skills are required from the participants to be able to successfully take part in such TC projects. Luckily, however, nowadays young learners, i.e., the target group of TC exchanges, are already well-acquainted with various electronic devices, including computers. This trend also spans the younger generations and is likely to be prevalent. Consequently, implementing TCs at schools or universities does not and should not constitute a major obstacle from the standpoint of technological readiness of potential TC participants. Nevertheless, despite the high computer literacy of students in the reviewed studies, reports on the improvement of digital skills are quite frequent. This is due to the existence of dozens of various computer programs, applications, and websites that

were used throughout the TC exchanges under review and the fact that it is nearly impossible that the given group of students would know all of them, let alone be proficient in them. Hence, multiple reports pertaining to gains from ELFTC projects correspond to and are explained by the multitude of TC tools used in the RAs reviewed. The use of various TC tools in ELFTCs is deemed to be recommendable since it allows TC practitioners to reach more target audiences (learners); address their particular needs, wants, and learning styles; and helps to extend the novelty effect over longer periods of time and even over multiple TCs. All of these aspects contribute positively towards the overall positive perceptions of students about TC exchanges which motivates them towards further participation and, as a result, leads them to higher learning gains. As the RAs also report, there is a direct link between the variety of TC tools used in the TC exchanges and students' enjoyment of these TCs. Further, students appreciate it if they can learn how to use yet another TC tool. Consequently, it can be concluded that contemporary students are ready to take part in ELFTCs with regard to its technological component due to their common advanced digital literacy. Nevertheless, it would be advisable to verify their state of readiness for TCs prior to their start, which should not be problematic in institutional contexts where instructors are likely to know the abilities of their students. Alternatively, running a set of pre-TC diagnostic tasks should be sufficient to survey whether the given group of learners possesses the essential skills to take part in TC projects. Moreover, a variety of TC tools should be used throughout ELFTC projects to ensure that students are constantly learning something new which, in turn, should motivate them even further towards continuous participation in such exchanges.

Among the issues related to TC tools in ELFTCs, the reviewed RAs occasionally report students' dissatisfaction with the tool selection, particularly if they were chosen by the teachers. This suggests that learners aspire to be involved in the design of TC projects and that the agreement regarding the TC tools which are going to be used in the given exchange should be carried out not only at the teacher-researcher level but should also include participants' opinions. As already established, nowadays students possess extensive digital knowledge and skills, at times even exceeding those of their instructors, and have proved in the reviewed RAs that they can meaningfully contribute towards the TC projects by providing suggestions for improvement based on their personal knowledge. Thus, it would be beneficial for TC projects and the learners themselves if their opinions are at least taken

into account by TC organizers with regard to TC design, for instance, with respect to the TC tools used. Consequently, listening to students' voices is highly recommended for all future ELFTC projects. What is more, RAs show that switching to alternative TC tools as a result of failing to set the right tools for the given tasks in the first place is poorly perceived by TC participants and leads to their dissatisfaction with TCs. Such changes are also likely to lead to new problems, as evidenced by the RAs under scrutiny. Accordingly, TC organizers should ensure that the TC tools they are planning to use in the given exchange are suitable for and acceptable to the participants of their TC so that the ensuing problems can be avoided. The easiest solution seems to be, again, close cooperation and dialogue with TC participants regarding this aspect. Ideally, the software used in the given TC should comprise both TC tools that students are familiar with and are able to operate individually as well as a variety of new tools that TC participants perceive as useful and about which they are willing to learn. While the former group of TC tools will constitute a solid foundation enabling communication, the latter set will ensure that new skills and knowledge are acquired over the course of the TC, thus, bringing novelty and motivation into the learning process.

The results of this thesis pertaining to the used TC tools reflect and continue the trends outlined in the past reviews, in particular, the newer ones. In particular, the gradual substitution of older generations of TC tools with newer technological advances is evident in the results of this dissertation, which also translates to the organization of more synchronous and video-based TCs, in contrast to the past. Particularly notable is the increased use of social media in the RAs that form the corpus of this study, which has not been evident in many reviews to date, and certainly their presence was not that pronounced, as in the results of this thesis. Notably, in line with the past reviews presented earlier, the results of this dissertation also favor the concurrent use of many TC tools in TC projects. Moreover, the findings of this study support the suggestions of past reviews that the selection of TC tools is an important part of the TC project design. Likewise, the findings of this thesis concur with past reviews that students' knowledge of TC tools is a crucial aspect.

6.5.6.1 Video-Conferencing Tools. Most of the RAs report using SVC tools, such as Skype and Zoom, and in the overwhelming majority of cases, the relevant findings are positive. RAs provide numerous benefits associated with using such TC tools, such as easier communication, multimodality, and an increased sense of authenticity, all of which are

highly appreciated by TC participants. Consequently, it is advisable to include such TC tools also in future ELFTCs, if possible.

6.5.6.2 Social Media. Similarly, various social media were frequently used in the analyzed TCs and they too were deemed to be a good choice according to several RAs. This is, most probably, due to the fact that TC participants already knew what social media are and how to use them prior to the start of TC exchanges. Social media are extremely popular among young people, hence, it is no surprise that instructors were willing to use them in the TCs to get the participants to meet and communicate with new foreign friends – a quintessential social act in itself and a common motive for using social media. Several RAs list a number of benefits associated with the use of social media in ELFTC contexts, for instance, increased authenticity, autonomy, and collaboration, all of which further reinforce the idea that social media can be successfully implemented in such exchanges for the benefit of the students and their learning process. The informal communication character of social media seems to be one of the key factors that made TC through these channels appealing to so many students.

However, it has to be noted that, on occasion, students were reluctant to use social media for the purposes of TC. Some were not comfortable with using them in institutionalized settings because, according to them, they were reserved solely for private communication. Other reasons were due to certain regional and cultural factors and included, for instance, regional bans on particular software or websites in specific countries. Nevertheless, this matter does not seem to be thoroughly explored in the RAs reporting on such instances, thus, making it worthy of further research. What is more, several RAs stress that students might find using certain social media boring due to the fact that they are already conversant with them. This is related to the lack of novelty of some TC tools, as described above. It can be expected that this phenomenon will continue and become even more pronounced due to the ongoing events in the social media domain, including nationwide bans of some platforms and institutional policies regarding the use of such networks at educational institutions, including a ban on the use of electronic devices in classrooms in several countries. Consequently, it is not known whether the use of social media will be a viable solution in future ELFTC projects. As a result, it would be advisable to explore alternative solutions that could potentially substitute social media in TC exchanges.

6.5.6.3 Learning Management Systems (LMSs). A number of LMSs were used in the RAs under scrutiny and they generally received favorable opinions from both TC participants and organizers. LMSs often serve the role of a core TC tool where all key matters related to TC projects are announced, stored, and discussed. Importantly, they are also a safe haven where students might seek help, either from the teachers or from each other. Moreover, LMSs have been proven to boost students' self-organization and communication skills. LMSs also serve an important purpose by allowing students to monitor their progress, which can likewise be observed by the teachers. Therefore, it can be concluded that such tools play a crucial role in the ecosystem of TC exchanges and it would be difficult to organize such projects without them. Certainly, although, the overall communication flow of a given TC is significantly improved if an LMS is used, as evidenced by the RAs in my corpus. It was reported that some students prefer to use other TC tools instead of LMSs since they do not find them suitable, however, such opinions were not common. Consequently, it is advisable to use LMSs in ELFTCs to help keep such projects organized and transparent for all parties involved, bearing in mind that students' opinions regarding the TC tools they are willing to use have to be taken into consideration by TC organizers.

Since the instances of use of the remaining TC tools, as outlined in Table 3, were mostly singular, it is not possible to properly discuss them given the lack of sufficient evidence. Hence, further research concerning these TC tools is advised so that appropriate conclusions can be drawn. Importantly, however, no negative findings with regard to these TC tools were reported, giving them conditional approval for further use in ELFTC projects.

6.5.7 Curriculum

Findings pertaining to the inclusion of the partner's curricula in ELFTC projects suggest that it can be successfully done. However, they also stress that the need to follow a certain curriculum is likely to limit the TC exchanges. Due to the institutionalized nature of TC projects, it has to be assumed that TC organizers are likely to be mandated to follow a certain type of curriculum and teach certain materials. Correspondingly, it would be advisable to revise and possibly also modify the current FL curricula so that the affordances of TCs can be fully used in FL learning.

6.5.8 Topics

Results of the reviewed RAs suggest that the topic selection is vital from the perspective of students' engagement in TC projects. The RAs show that topics of TCs should

correspond to learners' interests, otherwise, they might become dissatisfied and demotivated to take part in TC exchanges. Consequently, it is strongly advisable for TC organizers to get to know the participants of their TC projects well, at least the ones in their own TC group, and explore their interests prior to the exchange. Notably, this often requires TC organizers to work in close collaboration with other teachers involved in the project. TC organizers should likewise reflect the knowledge about TC participants' interests in the design of the TC project by making it as relatable to the students as possible. RAs also report that informing students about the upcoming topics of discussion is beneficial for them because in such cases learners can prepare better for the planned activities. Subsequently, given the evidenced advantage, it is worth informing the students about the topics of the TC projects and tasks in advance. Moreover, the reviewed RAs agree that apart from the set topic, students should also have the opportunity to talk freely about other topics chosen by them. Accordingly, TC organizers should provide TC participants with time for unstructured conversations.

6.5.9 Task Design

With regard to task design, there are multiple solutions that can be recommended. The RAs in my corpus report positive evidence of high students satisfaction with the implementation of elements of blended learning and flipped classrooms in ELFTCs. Likewise, it can be concluded that appropriate task design is crucial in TCs. Poor task design is likely to cause confusion, dissatisfaction, and an ensuing lack of engagement towards the exchange among TC participants, as seen in the results of some of the reviewed RAs. Moreover, TC participants seem to enjoy the inclusion of the technological component in the task design of TCs, which is a rather unique characteristic of such projects. Additionally, it is advisable that task design incorporates as many opportunities for interactions as possible since they proved to be the crucial elements of TCs. Although there is a noticeable increase in the quality and richness of descriptions of the TC projects included in my study, in contrast to the reports of past reviews, there is still much room for improvement in this aspect. Thus, the conclusions stemming from the findings of this dissertation support those of earlier reviews on TC.

6.5.10 Tasks

Based on the findings of the reviewed RAs, it can be concluded that ELFTC projects should include a high variety of tasks with clearly set goals. Further, it is advisable to make TC tasks uncomplicated, easy, and understandable for all students, so that they can serve as

open-ended conversation starters and give learners motivation to talk about the main topics of the exchange. If the tasks are not clear, interesting, or engaging enough for TC participants, this is likely to cause a number of problems. Moreover, drawing on the findings from the RAs included in this review, various getting-to-know-you activities should be held at the onset of ELFTC projects to ensure a positive and supportive atmosphere during the exchanges which, in turn, is expected to facilitate students' cooperation in the following TC tasks. As already highlighted above, it is advisable that ELFTC projects include both planned tasks and spontaneous discussions between the participants.

With regard to task completion, from the analyzed RAs it appears that tasks in ELFTCs should fulfill the L+1 equation regarding the task difficulty level, commonly adopted in FL task design. In other words, TC tasks should be neither too easy nor too difficult for the learners – tasks should slightly surpass students' proficiency levels and capabilities. TC instructors should carefully monitor their learners to ensure that students perform the set structured tasks correctly and in-depth. Likewise, TC instructors should help students who encounter any difficulties in task completion. It can also be concluded that TC instructors should take into account students' learning capabilities and preferences as these are likely to interplay with their ability to complete the tasks.

The above results connected to tasks in ELFTCs closely reflect the findings of past reviews on TCs in addition to providing novel and more detailed insights into the role and impact of tasks in TCs.

6.5.11 Feedback

Feedback from both TC instructors and partners seems to play a significant positive role in ELFTCs if it is implemented. The RAs in my corpus point out that feedback can be particularly beneficial for students' engagement, linguistic growth, and successful communication. In particular, the receipt of feedback motivates learners to further engage in TC exchanges. Moreover, RAs suggest that students' exposure to feedback from others contributes positively to forming their own feedback-provision habits, which is desirable. In a number of reports, the lack of feedback was quite disappointing for TC participants and they felt that it was missing. This is because, overall, learners perceive feedback as beneficial and simply expect its provision. The above leads us to the conclusion that ensuring the provision of feedback, ideally by both TC instructors and participants, can only be advantageous and should be employed in ELFTCs, if possible. Likewise, the results of this study connected to

feedback are in agreement with the findings of past reviews on TC that also addressed this aspect.

6.5.12 Critical Reflection

The RAs reviewed agree that critical reflection should be a part of ELFTCs, highlighting its potential benefits, such as improved linguistic production, cultural awareness, and satisfaction with TC projects. Some of the RAs analyzed in my research suggest that the implementation of critical reflection through a guided approach can be done successfully in the written form, preferably at regular time intervals. As the findings of the reviewed RAs show, TC participants can effectively reflect on their activities either individually or in groups, with the latter shown to be, perhaps surprisingly, particularly suitable for shy learners. Nevertheless, TC practitioners should remember that the need to reflect on own performance is not particularly enjoyed by TC participants, as several of the RAs show. Additionally, such activities generally demand a significant amount of time to be completed. Consequently, given the presence of both advantages and disadvantages of implementation of critical reflection in ELFTCs, it is advisable that TC organizers make the decision to include it or not in their TCs on a case-by-case basis. Although generally the inclusion of critical reflection in TCs would be advisable, it can also be understood that specific constraints, such as time, might allow learners only for a limited reflection. In this case, it should be noted that the overall results of the TC exchange and participants' individual gains stemming from it might be lower than if critical reflection had been implemented on a full-scale. Notably, the results of this study are in accord with the previously collected findings on this topic.

6.5.13 Assessment

With regard to assessment, it can be concluded that equal assessment and/or grading should be applied in the case of all ELFTC project groups and, thus, TC participants. The findings from several RAs strongly advocate against using distinct methods of evaluation among groups of the same TC exchange, particularly since they can negatively impact students' involvement in TC. What is more, TC organizers should take into account that assessing a large number of learners can be challenging, thus, it is advisable to limit the number of participants taking part in the TC project accordingly.

6.5.14 Group Characteristics

On the basis of the findings of the RAs analyzed in my study, it can be concluded that TC in pairs or small groups is successful and, thus, recommendable in ELFTCs. Several RAs provide evidence that working in large groups can be inefficient and can lead to learners' dissatisfaction with the TC project. Similarly, it is advisable to keep the number of representatives of various nations equal, or as equal as possible, within the multinational project groups to maintain the balance of perspectives. Likewise, according to the RAs reviewed, it is advisable to keep the groups of TC participants uniform in terms of their age and education stage, as well as within regular class or group assignment since any differences or changes in these aspects can negatively impact students' collaboration. As some RAs conclude, ELFTC exchanges should also involve multiple nations, if possible, to avoid the clash of only two monocultural perspectives.

6.5.15 Workload

Since ELFTCs constitute a heavy workload on all parties involved, it is advisable to inform everyone concerned about this fact and allow them to pre-plan accordingly before engaging in such projects. Correspondingly, it is desirable to address all potential concerns, for instance, those of the students, about the expected size of the workload associated with the given TC exchange. The RAs also recommend keeping the volume of work of all TC participants as equal as possible since discrepancies in this aspect might cause student dissatisfaction. TC organizers have to likewise bear in mind not to overburden learners with too many activities, content, or information to process because this is likely to have undesirable effects, such as overworking or exhaustion.

6.5.16 Technical Issues

Due to the nature of ELFTC projects, both their organizers and participants need to be aware of and accept the fact that various technical issues can, and most probably will, occur at some point of their duration. On the basis of the findings provided by the reviewed RAs, it can be concluded that technical problems in TCs are simply inevitable. The key to coping with them is to inform students about the likely occurrence of such issues, their nature, and the ways to handle with them as quickly as possible, for example, by training the learners appropriately prior to the TC exchange so that they can solve at least some of the encountered issues individually. Luckily, in most of the cases in the RAs under review, technical issues had only a minor impact, if any at all, on the overall perceptions of TC participants on their exchanges. Moreover, TC organizers are advised to ensure that proper

IT infrastructure is in place at their institutions before even attempting to design the TC since holding an exchange in poor IT conditions is likely to cause major problems and frustration among students. Sadly, some of the potential solutions for running TCs in technologically limited conditions proposed in the literature, such as having students create hand-written letters that would later be scanned and sent via email to the partner school by the teacher, are far from what TC is expected to be and what is envisioned for it in its definitions. In this specific case, the most important aspect is the missing "tele" element – students would not engage with any electronic device, use any TC tool, or even work together with their partners abroad, the lack of each of which disqualifies such an activity from being classified as TC. Nevertheless, such activities can be used in conjunction with regular TC activities, particularly since they can provide additional motivation and a sense of a "personal touch" to FL learners. Additionally, TC organizers should remember to ensure proper technical support from IT personnel should their assistance become necessary.

Most of the various technical issues collected from the RAs under scrutiny in this study were also included the past reviews. Consequently, it can be concluded that despite raising awareness about such problems by means of reporting on them in the secondary literature, these issues continue to appear nonetheless. This further reinforces the past statements that numerous technical issues are simply associated with the nature of TC and cannot be avoided completely but rather only minimized.

6.6 Instructor-Related Conclusions

Findings of several reviewed RAs suggest that TC instructors have to be aware of their multiple additional duties, such as organizational and pedagogical ones, which they need to handle during ELFTC projects, in comparison to regular FL classes. Above all, TC instructors have to ensure an adequate learning environment for their students, including the appropriate choice of TC mode, tools, tasks and activities, topic, as well as prior training, if needed. In particular, the RAs show that TC instructors should select the TC tools that are likely to be accepted by their students and this can be achieved by getting to know the learners and their needs. On the other hand, TC tasks and topics should be selected and/or designed by TC instructors with due diligence because of their high rank among the factors that impact students' perceptions of the TC exchange. Moreover, TC instructors need to inform their learners about how TC projects function and what is expected from them in such settings since for at least some of them it might be a new way of learning, according to

the reviewed RAs. TC instructors should also remember to provide their students with appropriate help, feedback, and motivation, particularly the introverted or underperforming learners. What is more, TC instructors have to remember their crucial role in TC's cultural processes, such as providing students the opportunities to explore each other's foreign cultures for the benefit of their cultural growth. This mutual cultural understanding also translates into effective communication between the representatives of various nations, a cornerstone of each TC project. Correspondingly, based on the reviewed RAs, TC instructors need to be flexible and ready to quickly respond to sudden issues, which are likely to occur due to the unforeseeable nature of TC exchanges, such as those resulting from miscommunication or lack of understanding rooted in, for instance, cultural differences. In such cases, it is acceptable for TC instructors to intervene and help students solve their problems. RAs also advise TC instructors to share their enthusiasm with their students when tackling challenging issues and recommend that they have sufficient digital pedagogical skills. TC instructors should likewise not attempt to unduly influence the conversations of their students and let them continue the discussions naturally unless learners are unable to proceed.

Contradictory findings related to the presence of TC instructors during ELFTC projects warrant further research. On the one hand, it is evident in the reviewed literature that students might misbehave if they are left unsupervised, on the other, the presence of TC instructors during the exchange can be stressful for some learners. Similarly, the RAs analyzed offer mixed perspectives regarding teachers' monitoring of their students. Here two viewpoints dominate – the first, in which TC instructors are advised to actively observe their students and look for opportunities to assist them, and the second, which advocates limiting teachers' involvement to merely observing learners and acting when absolutely necessary. Perhaps the acceptable solution would be to distribute the teaching presence, advocated by several authors of the reviewed RAs, which has been shown to be beneficial for learners' autonomy and motivation, among others. Consequently, due to the gravity of potential implications related to the above aspects, further investigations are needed to determine the actual impact of teachers' presence and activity in ELFTC. Nevertheless, it is suggested that TC instructors should be capable of mentoring their students, if this turns out to be necessary.

Additionally, the reviewed literature agrees that TC instructors should ensure that the TC participants take an active part in TC exchanges and that their contributions are as balanced as possible. Further, TC instructors need to remember to engage in TC projects with partners they are comfortable working with, preferably ones that share the same goals and perspectives; to establish the guidelines that outline the scope of their partnership; as well as maintaining proper relations with their collaborators. This is particularly important since examples of poor cooperation between TC partners are damaging to TC projects, which can likewise have a negative impact on students' experience and learning processes.

In general, the reviewed RAs agree that TC instructors play multiple vital roles in ELFTCs and that such exchanges should focus on the learners. Thus, given the number of duties assigned to TC instructors, it is questionable whether they can be fully excluded from TC projects only on the grounds that some students might find their presence stressful. Perhaps, the presence of teachers is a small inconvenience that learners have to cope with in ELFTCs, one that yields more advantages than disadvantages and without which such exchanges would be more difficult to organize, if not impossible.

In relation to the past research on TC, the findings of this research provide an even more detailed insight into the role and importance of teachers' involvement in TC exchanges, including the cooperation of partner teachers. Nevertheless, both the present and the past results are mostly in agreement with each other.

6.7 Participant-Related Conclusions

6.7.1 Participation

Despite the overall high number of findings pertaining to factors that influence students' participation in ELFTC projects, it appears that on the micro-level there are usually only a handful of RAs that touch upon participation, which, as a result, frequently leaves more questions than answers.

Based on the findings from the reviewed RAs, it seems that participation in ELFTCs should be made compulsory rather than not. The reason behind such a recommendation is the existence of advantages of making TCs mandatory with no side-effects of such a solution being reported. However, it is advisable to investigate this matter further since only two RAs refer to it. Perhaps the reason why not many RAs analyzed this notion is that most of the RAs under scrutiny in this study were compulsory by default or the authors of the reviewed RAs

did not suspect that this variable might be worth investigating or interacting with other variables.

The analyzed RAs suggest that setting the same rather than different goals for all TC participants can be more beneficial for learners. This is because the application of the latter solution often yielded, or at least increased the risk of, disadvantageous results. Similarly, the goals of TC participants and instructors should be aligned. Likewise, these aspects deserve further research based on a small number of RAs reporting on them.

The matter of crediting students for their participation in ELFTC projects was discussed only by one RA in the corpus, therefore, more research is needed to confirm these findings. It seems, however, that the idea of rewarding TC participants for their work is beneficial, particularly if the learners devote their private time to getting involved in the TC exchange. Nevertheless, more RAs should investigate this notion which is of particular importance since it might interplay with students' motivation to engage in ELFTCs.

Similarly, this study yields mixed reports with regard to the optimal time and location for conducting ELFTCs. Some RAs argue that such projects should be held in FL classrooms, others maintain that ELFTC exchanges can also be effectively organized outside them. Both sides of this dispute provide multiple advantages and disadvantages regarding each of the solutions with no clear dominance of one approach over the other. Consequently, conducting further research pertaining to this aspect is advised, particularly with regard to ELFTCs held outside FL classrooms and regular teaching hours since RAs reporting on such exchanges constitute the minority. Perhaps both approaches have their pros and cons, permitting us to conclude that TC organizers should make their choice depending on their situation and capabilities regarding the TC projects.

The degree of participation of introverted and extroverted students in ELFTCs is yet another variable that has been sparsely analyzed in the reviewed RAs. It appears that ELFTCs are better learning environments for introverts than extroverts, however, in general, ELFTCs seem to equalize students' natural predispositions and allow all types of learners to benefit from such exchanges to a comparable extent. Nevertheless, these results are only offered by one RA, therefore, it is highly recommended that other scholars investigate this phenomenon since it has a great informative potential for the TC literature. Should these findings be confirmed, ELFTCs would constitute equal learning environments that are suitable for many, if not all, kinds of learners.

Given multiple similar reports, it can be concluded that the unequal contributions of TC participants are detrimental to TC projects and learners' opinions about the exchanges and, thus, should be avoided. As already outlined above, TC organizers should identify such actions, or, the lack thereof, and act against them by, for example, motivating students towards further involvement in TC projects or outlining the benefits stemming from an equally distributed workload.

Similarly, the lack of student involvement in ELFTC projects is a particularly demotivating phenomenon since its negative effects can also affect the remaining TC participants whose dissatisfaction will increase as a result. Likewise, the lack of participation can be detrimental to the motivation and rapport of the other learners.

Lastly, it can be concluded that there are numerous benefits that stem from students' participation in ELFTC projects, such as increased enthusiasm to study English, the ability to practice English in an authentic setting, and a chance to work with other learners of English. These natural incentives of ELFTCs guarantee sufficient levels of student participation. Consequently, the above risks related to learners' participation should be treated as potential incidents rather than the norm. Nevertheless, the above examples show what kind of probable threats pertaining to participation can be expected and what can be done to avoid, limit, or neutralize them.

Apart from supporting the findings of past reviews, the results of this dissertation provide a significant portion of new knowledge on students' participation in ELFTCs that was not offered by the studies published to date. In particular, this thesis identifies multiple factors that interplay with students' participation in ELFTCs, thus, contributing towards enhancing our understanding of this particular aspect of TCs. Notably, this section contains a number of further research ideas aimed at deepening our knowledge about specific aspects of learners' participation in ELFTCs.

6.7.2 Proficiency in English

The literature offers mixed results pertaining to the proficiency of ELFTC participants. On the one hand, some RAs suggest that sufficient English proficiency of TC participants is vital for the success of TCs, although they do not provide any specific description quantifying that level. On the other hand, several RAs argue that students can effectively participate in TCs no matter their proficiency. Other related findings show no difference in the growth of self-direction skills with regard to proficiency. Consequently, it can be concluded that the

level of proficiency in the TL does not seem to be a significant factor that prohibits students from successfully taking part in TCs, based on the number of RAs evidencing such a state of affairs. Nevertheless, it would be beneficial for the literature to further investigate this matter.

Moreover, RAs show that ELFTCs between participants with mixed proficiencies in the TL are the most frequent. However, the relevant RAs also provide distinct opinions on whether such conditions are beneficial for the learners or not.

As the RAs report, from the perspective of low-proficiency students, ELFTCs are highly beneficial, particularly in terms of the potential language gains and opportunities to practice the TL. The linguistic feedback provided to low-proficiency learners by the more proficient students seems to be valuable for the former. What is more, low-proficiency learners are generally more eager to participate in ELFTCs than their more proficient peers. Nevertheless, as several RAs underline, TC organizers have to take into account that low-proficient learners might face significant obstacles when having to communicate with other, often more proficient students, which might also frighten them or lower their self-esteem. The support of the teachers seems to be crucial in the case of low-proficiency learners so that they do not become discouraged regarding the TC project and abandon it.

As far as proficient ELFTC participants are concerned, RAs evidence, unsurprisingly, that such students cannot significantly improve their language abilities as a result of interacting with less proficient learners. Further, the ability to offer feedback to their less proficient peers cannot be perceived as a sufficient incentive for proficient students to take part in ELFTC projects. Since their proficiency is already high, it is recommended, as also suggested in several RAs, that the growth of such learners is focused on the application of their existing linguistic knowledge to real-world situations. What is more, it is advisable that ELFTC projects offer proficient students numerous opportunities to develop skills other than practicing the TL, in line with the suggestions of several RAs. Such opportunities are likely to ensure proper levels of engagement and interest of proficient learners in ELFTC environments, even in mixed-proficiency settings. Similarly to low-proficiency students, also the highly-proficient ones might require the help of their teacher(s) during TCs. However, the nature of such assistance is reported as being quite different than that of low-proficiency learners and particularly concerns identity issues.

To sum up, based on the results offered by several RAs, it can be concluded that mixed-proficiency ELFTC settings can be beneficial for both low- and high-proficiency participants if equally stimulating opportunities are offered to these two distinct groups. While in the case of low-proficiency students it is recommended that ELFTC projects are used for the development of their linguistic skills, in the case of proficient students it is advised that ELFTCs offer the development of skills other than purely linguistic ones. Additionally, TC organizers have to bear in mind that both low- and high-proficiency learners may require their assistance during ELFTC projects and that the type of help they might require is likely to differ depending on their proficiency. Consequently, TC organizers should adjust their assistance according to the proficiency levels of their students. Further, TC organizers should be aware that various communication problems are likely to occur in mixed-proficiency ELFTC settings, however, they can be solved through the proper adjustment of the mode of interaction.

Lastly, since several RAs argue that the organization of mixed-proficiency ELFTCs does not seem to offer substantial benefits while other RAs suggest that the proficiency of all TC participants in the given exchange should ideally be as similar as possible, it can be concluded that the organization of ELFTCs in which participants have a similar proficiency level might prove to be the most optimal solution. Nevertheless, this matter deserves further investigation.

6.7.3 Future and Current Teacher Training

A significant number of RAs provides evidence that ELFTCs can be successfully used to train both in-service and pre-service FL teachers in the preparation and organization of TCs as well as equipping them with multiple skills that are widely considered to constitute the benefits of taking part in TCs, such as collaborative, communicative, and ICT skills. Consequently, in line with the postulates of several RAs, it is advised that TCs are included in the curricula of the FL teachers' education at the tertiary level for the benefit of not only the future teachers but also their students. The inclusion of TCs in FL teaching programs, as evidenced by several RAs, is likely to convince future educators to organize TCs in their own teaching practices, thus, increasing the overall number of TCs taking place. In particular, it can be expected that such a measure is likely to boost the organization and increase the number of TCs in currently under-researched areas, such as primary and secondary schools, benefitting not only the students but also the literature on TC. Based on the reviewed RAs, it

seems that FL teachers may find it difficult to prepare their learners for the realities of the 21st century if they do not gain the knowledge and skills related to TC themselves, for instance, during their professional training. Consequently, training institutions should make sure that their students feel confident enough to run TC projects on their own, perhaps by verifying this through the implementation of such exchanges by their trainees, even small-scale ones, for instance, during their traineeships at schools. This advice is a response to the fact that even the student teachers who have taken part in TC projects did not find these experiences sufficient to organize a TC on their own. Perhaps an actual "change of sides" is required to ensure higher confidence levels among future teachers with regard to the organization of TCs. Another factor that is also likely to contribute towards boosting their confidence in this area is the extended duration of training in TC, which the RAs often reported to be too short. However, due to the low number of findings related to this aspect, further research is advised. Additionally, a small number of RAs highlight the importance of networking as an aspect that contributes beneficially towards the possibility of conducting TC projects. Consequently, it is recommended that teacher training institutions equip their students with or allow them to develop proper international contacts, i.e., other teachers worldwide, which would permit them to find suitable partners for TC exchanges more easily.

6.8 Advantages and Disadvantages of English as a Lingua Franca Telecollaborations

With regard to the advantages and disadvantages of ELFTCs, there seem to be more of the former than the latter.

6.8.1 Learning Environment

6.8.1.1 Increased Authenticity. Based on the high number of RAs reporting, it can be concluded that ELFTCs constitute a more authentic FL setting, compared with traditional FL classrooms. TCs allow students to use, practice, and communicate in TLs in less artificial ways than in FL classrooms, particularly since in the latter FL learners are expected to interact in the TL with their peers with whom they share a mother tongue. Consequently, they frequently find the requests of FL teachers to interact with their classmates in the TL as artificial, unnecessary, or even illogical. However, this is different in ELFTC settings since FL learners do not share a mother tongue with their TC partners. Nevertheless, they do share a TL, which constitutes a valid tool to be used in such communicative contexts, thus, making them more authentic than communication in traditional FL classrooms. As evidenced in the reviewed RAs, this quality of ELFTCs is particularly vital from the socio-constructivist

standpoint. Importantly, it is apparent that due to the authentic nature of ELFTCs, FL learners are more eager and motivated to use and learn English in such settings than in traditional classrooms. Further, using the TL in authentic ELFTCs has proved to be beneficial for FL learning. Students value authenticity immensely and this particular aspect is crucial in driving their interest and engagement in TCs. No less important here is also the reported ability of TC participants to engage in conversations with new, foreign students, which constitutes a refreshing collaboration opportunity in contrast to regular FL classroom peers. Similarly, authentic ELFTCs are a perfect occasion for FL students to purposefully use the TL, which they appreciate given the limited prospects for such interactions in most of the natural environments. Authenticity responds also to the contemporary trend of personalization, which is popular, especially among young people (Nabizadeh et al., 2020; Shemshack & Spector, 2020; Xie et al., 2019), by allowing them to have a tailored learning experience. Apart from linguistic gains, the authenticity of ELFTCs also seems to enhance students' cultural knowledge, which constitutes yet another advantage of such exchanges. With little to no evidence against the authenticity of ELFTCs and given the multitude of the above positive findings, it can be concluded that authenticity constitutes a significant advantage of ELFTCs over traditional classroom activities. Apart from being advantageous itself, authenticity also leads TC participants to numerous other benefits, which further reinforces its usefulness and validity in FL learning contexts. The above findings reflect the results of past reviews on this aspect.

6.8.1.2 Safe and Supportive Learning Environment. Several RAs state that ELFTCs are safe and supportive learning environments. This finding is particularly significant in light of the findings of positive psychology (Dewaele et al., 2019; Fredrickson, 2001, 2006; Oxford, 2016; Wang et al., 2021), which suggests that FLs are best acquired in relaxed, peaceful, and emotionally positive environments, such as ELFTCs. No less important is the fact that in such settings students can count on a teacher's help. Yet again, these particular characteristics of ELFTCs are beneficial from the socio-constructivist point of view and are crucial in the process of establishing the ideal FL acquisition provisions. Consequently, with no opposing evidence regarding such qualities of ELFTCs, it can be concluded that the fact that ELFTCs are safe and supportive learning settings is their significant advantage. These findings are in line with the past review studies in the field of TC.

6.8.1.3 Innovative Learning Environment. Another benefit of ELFTC projects is also their innovative nature, as mentioned in a number of RAs. Undoubtedly, ELFTCs can be considered a modern approach to FL learning which responds to the demands of contemporary times. This is demonstrated, for example, by the number of 21st-century skills whose development ELFTCs facilitate, as already shown in the findings of this study.

6.8.1.4 Traditional Classroom Activities vs. Telecollaboration Projects. ELFTCs clearly have a number of advantages over traditional classroom settings. As several RAs point out, this concerns mostly students' increased motivation and opportunities to be involved in activities where more authentic communication can be carried out. However, an important pedagogical consideration pertaining to the introduction of ELFTCs to FL students is that it might be initially incomprehensible for them and they might prefer to collaborate on the given tasks offline rather than online instead. In such a case, increased support from TC instructors is advised.

6.8.1.5 Connectivity. Connectivity constitutes yet another benefit of ELFTCs, as pronounced in several RAs. By linking FL students worldwide, they gain the ability not only to practice TLs and enhance their cultural knowledge but also to create new, potentially long-lasting relations that respond to the demands of the increasing globalization of the contemporary world. Moreover, these bonds contribute positively towards much bigger concepts, such as global peace and democracy, which have cultural understanding, facilitated by ELFTCs' induced connectivity, as their cornerstones. Additionally, the connectivity of ELFTCs permits participants to overcome any physical obstacles that might otherwise stop them from being involved in such initiatives. This includes not only geographical and territorial barriers but also physical challenges that would normally prevent certain individuals from engaging in international and intercultural dialogue. Consequently, ELFTCs constitute a highly inclusive approach that contributes to contemporary discourse, expectations, and standards.

6.8.1.6 Telecollaboration as an Alternative to Study Abroad. A definitive advantage of ELFTCs, underlined by a number of RAs, is that they can constitute a valid alternative to study abroad programs. Given the numerous limitations of such initiatives, including financial, environmental, and political constraints, among others, ELFTCs are a viable solution for those affected by such restrictions. Further, ELFTCs seem to have an added benefit over study abroad programs, i.e., the presence of teachers and the possibility of

seeking their assistance. Moreover, similarly to study abroad programs, ELFTCs offer both potential cultural and linguistic gains. Likewise, a comparison of students' cultural growth in three learning environments, i.e., traditional FL classroom, TC, and study abroad, conducted by Lee and Song (2019), suggests that both study abroad and TC can yield high and comparable ICC gains, although study abroad seems to be more effective than TC, and that both of them are more effective in this respect than traditional FL classrooms. As Lee and Song (2019) state, "[a]lthough the study-abroad group displayed significantly higher levels of intercultural knowledge than the telecollaboration group, both groups showed similar degrees of improvement in the affective and behavioral aspects of ICC" (p. 178). Moreover, Lee and Song (2019) add that "online interactions with members of the target culture can be as beneficial as studying abroad […] [which] is at least more beneficial than traditional classroom language learning in the development of L2 learners' perceived ICC" (p. 178). Consequently, ELFTCs can be offered as an alternative to study abroad but perhaps they should be offered only to those who genuinely cannot take part in such programs. Nevertheless, TCs should always be a preferred solution over traditional FL classrooms when cultural growth is the aim due to the higher potential cultural gains offered by the former in comparison to the latter.

6.8.2 Learning Aspects of Telecollaboration

6.8.2.1 Learner Autonomy. Findings coming from a significant number of RAs allow us to unanimously conclude that students' involvement in ELFTCs can foster their learner autonomy, which is certainly advantageous. The factors that interplay with and contribute towards learner autonomy in ELFTCs include, for example, collaboration, reflection, and time but also project-related TC variables, such as the role of instructors, reflection, and TC tools. ELFTCs can also contribute positively towards the students' transition from language learners to language users, a process in which the gradually increasing autonomy and the role of the teacher is vital. Likewise, the selection and use of appropriate tools in TC projects play a supportive role in the process of developing learner autonomy. Here, it is particularly notable that students can exhibit autonomy by using personally selected TC tools to communicate with their partners. Moreover, as several RAs note, students' growing autonomy can also be demonstrated through their conversations about topics different from the assigned ones. These observations are particularly important for TC instructors who should not intervene in such cases and allow their students to continue TC projects with

personally selected tools and topics for the sake of their growth and autonomous development, even if it means that some research data is lost as a result. Similarly, in line with the conclusions of several RAs, it is advised that TC organizers consider learner autonomy when designing ELFTCs. Here, the reviewed RAs suggest distributed teaching presence as a potential solution that can boost students' learner autonomy. TC organizers have also to bear in mind that some learners are more likely to exhibit autonomy than others, thus, they should remember to help those less predisposed so that they can also benefit from TC projects as much as possible. Lastly, it can be concluded that TC participants enjoy and value their freedom in TC exchanges since it contributes to the growth of their autonomy. Consequently, it is advisable that much independence is provided to learners in ELFTC environments. The results of this dissertation pertaining to learner autonomy are mostly in accordance with the findings of previous reviews in the field of TC. Certainly, however, this dissertation expands our understanding of the role of learner autonomy in TCs, which has been sparsely reported on to date.

6.8.2.2 Motivation. With regard to the findings of the reviewed RAs on motivation, it is frequently the case that ELFTC projects boost the willpower of their participants toward FL learning, which constitutes yet another advantage of such exchanges. Factors that interplay with motivation in ELFTC projects include, for instance, authentic communication, task design, TC topics, and tools. While the first of these aspects is parallel to the participation in ELFTC projects, the remaining ones can and, in fact, have to be appropriately modified by the TC organizers to boost the motivation of their students. Consequently, based on the findings of several RAs, tasks, topics, and tools in ELFTC exchanges should be highly engaging, interesting, and varied. This is particularly due to the direct link between students' enjoyment of TCs and their motivation towards FL learning. Additionally, it is evidenced in the reviewed RAs that teachers have a crucial role in ensuring the motivation of their learners should the nature of TC projects and the related factors listed above not be sufficiently encouraging for them. Several RAs suggest potential solutions to such a situation, for instance, increased teacher presence, distributed teaching presence, formalization of TCs, organization of compulsory classroom tasks, or simply assisting students. Nevertheless, given the potential negative effects of the increased teacher presence in TC projects, i.e., the likelihood of increased anxiety levels of some students, a proper balance has to be observed in each case, evaluating the advantages and disadvantages of such action. Consequently, it

can be concluded that although ELFTC projects are likely to be motivating to their participants due to their very nature, it is possible that they would not be equally engaging to all learners. As a result, TC organizers should ensure that their TC exchanges are properly designed and engaging for the students, while TC instructors should assist those learners who suffer from poor motivation. The findings of this study related to motivation offer much more in-depth insight in comparison to the past reviews. Nevertheless, the obtained results correspond to the findings of the secondary literature published to date.

6.8.2.3 Face, Rapport, and Voice. The findings stemming from the analyzed RAs allow us to conclude that face, rapport, and voice play crucial roles in ELFTCs. Positive rapport seems to be vital for the cooperation between TC participants, particularly during misunderstandings and their resolution. In general, ELFTCs seem to increase student rapport over time, which adds to the already established body of advantages of ELFTCs, however, instances of its decrease can also occur if TC participants do not engage in TC exchanges equally. Consequently, as already outlined above, it is vital to ensure sufficient student participation in ELFTCs. The positive rapport among TC participants can be seen in the presence of the following characteristics in the discourse: communicating in partners' native language(s), face-saving, refuting expertise, self-deprecation, and/or using empathetic language. Sadly, the reviewed literature states only how positive rapport can be recognized, however, it does not provide any direct suggestions on how to ensure it, which warrants further research in this respect.

6.8.2.4 Misunderstandings and Opportunities to Learn. Several RAs provide evidence to infer that although misunderstandings are likely and, most probably, inevitable in ELFTCs, they should be perceived as opportunities for learning. Since, according to several RAs, TC participants are often unaware of this, it is advisable that teachers help their learners to see misunderstandings this way and assist them in benefiting from such events, as a number of RAs suggest. This can be achieved through, for instance, adding fun and humor to the activities, encouraging team spirit, as well as offering various solutions to the arisen problems by deliberating them with TC participants, thus, turning the potential drawbacks of ELFTCs into positive gains.

6.8.3 Linguistic Aspects of Telecollaboration

6.8.3.1 Language Skills. Given the substantial evidence in the RAs in my corpus, it can be concluded that ELFTCs facilitate FL learning, which is among the key advantages of such

exchanges. The ability to practice spoken skills seems to be valued the most by TC participants among all other language skills and, therefore, should be included in ELFTC projects, if feasible. This, as already highlighted, is particularly because FL students might not have, or may have only limited, opportunities to practice their TLs aside from FL classrooms, which have their limitations, or, in this case, TCs. Findings concerning writing highlight that collaborative writing is a valid ELFTC task that is not only well-received and appreciated by TC participants but also highly beneficial for their FL growth and overall engagement in TC exchanges. Notably, learners appreciate and, thus, should be offered feedback concerning their writing, which ought to be, preferably, provided by their peers. With regard to reading, it is advised to provide students with authentic texts as these are particularly enjoyed by the learners. Regrettably, none of the analyzed RAs offers any details regarding the development of students' listening skills, although, it can be logically assumed that it is occurring as a result of learners' exposure to the spoken input. Future studies can focus on this specific aspect for the benefit of the literature on TC.

What is more, ELFTCs can be used to improve students' grammar, pronunciation, and vocabulary, as underlined by only a handful of the reviewed RAs. As far as vocabulary is concerned, it can be concluded that participation in ELFTC can expose FL learners to a high degree and variety of new terminology, which, in turn, is beneficial for the overall growth of their FL skills. However, such findings are provided by only two RAs. Findings pertaining to grammar and pronunciation were rather incidental and did not offer much detail, therefore, they should be considered with caution.

The findings of this dissertation related to the increased linguistic gains resulting from students' participation in ELFTCs, both general and specific aspects, i.e., concerning particular language skills, are in line with the results of past reviews in the field of TC.

6.8.3.2 Language-Related Episodes (LREs). Similarly to the above evidence of students' growth in terms of linguistic skills, it seems that ELFTCs can facilitate students' language gains stemming from LREs. However, such findings, although promising, are reported only by a single RA, therefore, they should be treated with extreme caution and further verified.

6.8.3.3 English as a Tool of Communication. Unsurprisingly, RAs evidence that in ELFTCs English is frequently used as means of communication. As highlighted in several RAs,

it shapes interactions and allows TC participants to form relations with their TC partners, consequently, constituting an integral component of ELFTCs.

6.8.3.4 Foreign Language Enjoyment (FLE). The ELFTC exchanges can also provide their participants with much enjoyment, which is demonstrated by multiple RAs. This is particularly important since students' satisfaction with this approach to FL is considered a good predictor of their engagement in it. Since, as already outlined above, decent levels of students' participation in TC projects are directly linked to their FL growth, which is often the key aim of such exchanges, this positions the ELFTC approach as highly advantageous over traditional FL teaching methods, which frequently are not so much appreciated by the FL learners.

6.8.3.5 Foreign Language Anxiety (FLA). A potential disadvantage of ELFTCs is that they can cause anxiety among some FL learners, as reported by some RAs. However, given the nature of FL use and findings pertaining to FLA published over the years, it seems that anxiety is an inevitable phenomenon in FL learning and it can only be minimized, but never eliminated. Given this, it appears that ELFTCs simply share this disadvantage with other FL learning approaches. Nevertheless, what is promising with regard to anxiety in ELFTCs is that it not only seems to decline as the exchange progresses but it also gradually transforms into more positive feelings. In addition to being a clear change for the good, such a transformation also seems to be a unique characteristic of the TC approach since in others anxiety is often prevalent over time. What is more, ELFTCs are shown to be less stressful than TC environments that involve NSs, precisely due to the absence of NSs who seem to be the stress-inducing element. This constitutes a significant advantage of ELFTCs over other types of TC. Another factor that likely interplays with anxiety in ELFTCs is multimodality, however, its presence seems to act constructively towards the reduction of students' anxiety. Likewise, intense or, at least, increasing communication between TC participants can be perceived as the likely sign that anxiety among students is decreasing. Nevertheless, TC instructors should look out for potentially anxious learners among their TC participants and act accordingly to counteract their fears, for instance, by informing students about the potential ways to overcome them.

Although there are some incidental limitations regarding the use of ELFTCs for FL learning purposes, such as the fact that the input of TC partners might not always be of the best quality, the other multiple benefits associated with ELFTCs with regard to the

development of FL skills seem to outweigh them. Based on the negative findings found in the reviewed RAs it can also be advised that ELFTC projects should not involve too much writing, including reflective tasks and note-taking, since TC participants frequently perceive it as unnecessary and as a factor that limits their gains from TC exchanges. In terms of speaking, it can be concluded that the majority of TC's time should be devoted to the development of this FL skill. In response to some reports that the vocabulary of TC participants was at times insufficient to effectively communicate during TCs, RAs recommend that the lexical input aimed at learners is increased prior to TC projects. This can be done, for instance, by the introduction of some useful words and phrases that can be used to communicate with the partner students. Findings of this research pertaining to linguistic accuracy allow us to conclude that TC participants might overestimate their linguistic growth and, as a result, incorrectly perceive their language capabilities. This is because in ELFTCs their mistakes are frequently not corrected by any of the involved parties and, therefore, often go unnoticed. Such a phenomenon can be considered a major drawback of interactions in ELFTCs. Lastly, TC instructors are advised to pay special attention to the learners' FLA in ELFTC contexts and attempt to counteract it when it becomes too high.

The above conclusions validate the ELFTC approach and authorize its use for FLL purposes. Certainly, however, despite some potential disadvantages, learning from the mistakes reported in past studies can help TC and FL practitioners not to commit similar errors in future ELFTCs. Moreover, TC participants frequently notice and report that their gains in FL stem directly from ELFTCs, which further warrants the use of this approach in FLL contexts. The above information should be of particular interest to FL practitioners since ELFTCs are frequently used to teach FLs.

6.8.3.6 Negotiation of Meaning (NoM). Yet another advantage of ELFTCs is that they facilitate NoM, particularly if the given TC is multimodal. This is a vital finding since NoM is proven to boost FL learning (Bohinski & Mulé, 2016; Clavel-Arroitia, 2019; Liu & Yang, 2022). Among the factors that interplay with NoM, the reviewed literature indicates videoconferencing tools and social networking sites whose use in ELFTC is, therefore, advisable. Above all, the reviewed RAs agree and, as a result, it is recommended that TC participants concentrate primarily on clearly expressing their thoughts rather than attempting to achieve full linguistic accuracy. The findings related to NoM presented in this

study are consistent with past discoveries on this matter. Nevertheless, this thesis offers even more detailed results on this topic, compared to its predecessors.

6.8.3.7 Translanguaging, L1, and L3 Use. On the basis of the collected findings, it can be determined that L1, L3, and translanguaging of TC participants are frequently used in ELFTCs for multiple, yet similar purposes. Among them, we can find: developing relations, establishing solidarity, and providing explanations, and greetings. The use of L1, L3, and translanguaging is beneficial for ELFTCs overall, in particular, for the general perceptions of students towards TCs. Notably, the use of L1 or L3 by TC participants should not be sanctioned, however, learners need to be made aware, for instance, by the TC instructors, that utterances in a language other than the TL of the exchange might not be (fully) understood by all TC participants. Consequently, it is advisable that the frequency of use of L1 and L3 is controlled by TC instructors. Importantly, some RAs suggest that learners are less focused on their linguistic correctness when using L1 and/or L3 and, as a result, their anxiety levels are lowered. This can be considered as yet another potential advantage of L1 and L3 use in ELFTCs. On the other hand, it is also evident that some NSs might switch the primary language of communication from the TL to L1, which is not only going to be poorly perceived by the TC partners, to whom that language is likely to be unknown, but also might lead to undesirable communication breakdowns. Similarly, as some RAs note, the use of L3 is likely to increase with the duration of the ELFTC at the cost of TL use. Although findings pertaining to translanguaging, L1, and L3 use were discussed in several RAs, it seems that their nature has not yet been fully explored and there is still room for further investigation. The above findings of this dissertation are consistent with the results of past studies on these topics. Nevertheless, here a much more detailed analysis of their roles in ELFTC environments is offered.

6.8.3.8 English as a Lingua Franca (ELF) Environment. According to the opinions of numerous ELFTC participants, it can be concluded that ELFTCs are perceived as convenient FL learning settings, which is yet another advantage of them. Particularly, the ability to cooperate with other learners that have the same goal, i.e., learn and practice English seems to be a decisive positive factor here. RAs agree that ELFTCs have both a positive and negative impact on students' accuracy in the TL, however, not much detail follows such statements. Moreover, several RAs agree that ELFTCs have numerous positive benefits, such as empowering learners and their FL development, exposing students to multiple new

perspectives, or increasing their confidence and desire to use English, among others, all of which constitute advantages of ELFTCs and warrant their use. Some authors suggest that the supportive and comforting nature of ELFTCs can be highly beneficial to the growth of TC participants on multiple levels. Nevertheless, the occurrence of such gains is contingent upon numerous other factors, which adds to their complexity. On the other hand, RAs under review also enumerate a number of potential issues stemming from the nature of ELFTC exchanges that can be considered as their potential disadvantages. These include frequent grammatical mistakes, incorrect pronunciation, and poor lexicon of TC students, all of which raise questions about the level and quality of interactions between ELFTC participants. However, it has to be noted that such observations are incidental rather than the norm, thus, they should be perceived only informatively as examples of potential areas that might need to be addressed over the course of ELFTCs and by the literature.

6.8.3.9 Language Learner – Language User Transformation. Another potential advantage of ELFTCs is that they can assist FL students in their transition from English learners to users. Such a process can be evidenced, for instance, by the increased directness of TC participants in their utterances in the TL and/or following the official norms of the TL. The reviewed RAs suggest also that this type of behavior is the most likely to take place among intermediate FL learners. Consequently, it is advisable that teachers of students at this level are particularly aware and alert with regard to this process. Nevertheless, the above findings are outlined in only two RAs, thus, their conclusions should be treated with caution.

6.8.3.10 Language and Culture. The interplay of linguistic and cultural growth seems to be more than likely based on the number of RAs that provide evidence for it. Consequently, further evaluation of such a relationship is advisable given its undoubted existence and high potential impact on ELFTCs. The findings of Jung et al. (2019) can serve as a good starting point for the exploration of the nature of this bond, which appears to be formed of two mutually reinforcing yet distinct processes. The interplay of culture and language evidenced in this study is in line with the previously published findings on this matter.

6.8.4 Cultural Aspects of Telecollaboration

6.8.4.1 Cultural Awareness. There is substantial evidence stemming from the reviewed RAs that ELFTCs can boost the cultural awareness of their participants as well as

aid the growth of notions such as (inter)cultural knowledge, skills, and understanding. This is a significant advantage of ELFTC projects since it highlights that they are not only capable of developing a single skill, such as language, but numerous other ones simultaneously. Consequently, not only time but also much educational effort is saved while the students are concurrently equipped with new knowledge and skills than if cultural, linguistic, or any other content was to be delivered to them independently. Importantly, it is also evident from the analyzed RAs that learning about other cultures in ELFTCs inspires reflection on students' native cultures, which constitutes an additional benefit of ELFTCs. Nevertheless, the RAs agree on the fact that TC participants should possess substantial knowledge about their own cultures prior to engaging in TCs. The RAs do not suggest, however, how this should be verified and what should be done if such knowledge proves to be insufficient. Perhaps one solution to this problem would be the establishment of some sort of cultural assessment, for instance, in the form of a test or a quiz, which would be capable of determining the level of students' cultural knowledge. Should it be unsatisfactory, perhaps the organization of cultural awareness workshops and activities could be a potential solution.

Other findings pertaining to culture allow us to conclude that, most of the time, TC participants acquire cultural knowledge through the comparison of their partners' cultural aspects with their own ones. This constitutes an important pedagogical implication which should be taken into account by TC organizers since it concerns the design of ELFTCs. A related advantage of ELFTCs is that they inspire curiosity and receptiveness of TC participants towards various cultures, which further enhances their cultural growth. Here, it would be advisable to investigate whether such an effect continues after ELFTC projects end, how long it lasts, and how strong it remains over time since RAs published to date do not provide such information.

Moreover, RAs suggest that TC tasks and tools are likely to impact the degree of students' cultural growth. Similarly, in line with what has already been stated above, it is recommended that ELFTC utilize a wide array of TC tasks that are relevant to learners' preferences. With respect to TC tools, RAs specifically suggest the use of social media due to their nature and potential to facilitate intercultural dialogue and, thus, growth. Such findings are of particular relevance to TC organizers when planning their own TCs.

In spite of the high enjoyment and satisfaction of TC participants with the inclusion and implementation of the cultural component in ELFTCs, TC organizers have to also bear in

mind several limitations of such exchanges. These include, but are not limited to, anxiety among TC participants to get involved in TCs due to the absence of prior comparable experience; cultural biases, frequently based on stereotypical judgement; perfunctory engagement in TC projects; lack of motivation for the involvement in the TC exchanges; significant cultural differences that prevent TC participants from collaborating efficiently; and the lack of cultural gains whatsoever. With regard to the last point, it can be concluded that cultural advances in ELFTCs, as in the case of any other benefits of such projects, are not inherent and have to be worked out.

6.8.4.2 Intercultural Communicative Competence (ICC). ICC proves to be of particular interest among TC scholars in recent years, thus, providing strong evidence for its beneficial existence and successful implementation in ELFTC projects. Such findings further reinforce the above conclusion that ELFTC exchanges are a viable platform for students' cultural development. As already indicated in the results of this dissertation, there are a number of student behaviors that can evidence their growth in terms of ICC. Teachers should carefully look out for them, analyze their authenticity, and act accordingly if there is a lack thereof or, worse, contrary behaviors occur. To increase the chances of actual ICC growth, it is recommended, based on the solutions provided by the RAs under scrutiny, that ELFTC projects include numerous opportunities for TC participants to engage in in-depth cultural debates which, in turn, will increase the overall number of culture-related episodes that are shown to be beneficial for ICC growth.

Among the factors that interplay with ICC are TC tasks and curriculum. Related findings are of principal interest to TC organizers who should take them into account when planning ELFTCs. Despite a number of RAs reporting on the existence of such dependencies, there is a lack of detailed analysis pertaining to these relations.

Based on the findings of several RAs it can also be concluded that ICC growth in ELFTCs is likely to be small or even non-existent due to the already high ICC levels of some TC participants. It would be advisable to measure the ICC level of TC participants prior to the TC exchange to validate the inclusion of any activities oriented on the ICC growth. If ICC is already high among at least some members of the target group of students, offering them tasks that aim to boost their ICC might yield little to no effect, which seems pointless and can even bring results contrary to the ones envisioned, which is evidenced, for instance, by students' dissatisfaction with the TC project, as reported in several RAs. Likewise, it would be

advisable to offer cultural growth to those students whose ICC levels are not yet at their peak.

Lastly, similarly to the other developments of variables in ELFTCs, including those of a cultural nature, it can be concluded that the growth of ICC is not automatic – it requires sufficient time and effort from TC participants and organizers alike. Both students and teachers should be aware of this when embarking on their cultural journeys in ELFTCs.

6.8.4.3 Intercultural Sensitivity (IS). In line with the above conclusions related to cultural gains and ICC, findings pertaining to IS coming from the RAs under review provide sufficient evidence to infer that ELFTCs can boost students IS levels, thus, evidencing the capabilities of such exchanges to enhance students' cultural growth. Currently, however, the reviewed ELFTC literature is dominated by qualitative evidence on IS while quantitative findings are sparse. Consequently, due to the greater objectivity of quantitative measures over qualitative ones, TC researchers are encouraged to use former measures more frequently in their reports or design more mixed-methods studies. This is expected to allow TC scholars and practitioners to gain a broader understanding of this particular phenomenon.

The findings of this dissertation that fall under the notion of culture are in line with the past reviews that also addressed this topic. Nevertheless, the results of this thesis offer a more comprehensive insight into the cultural variables of TCs than earlier secondary research.

6.8.5 Knowledge and Skills

6.8.5.1 Collaboration and Teamwork. Unsurprisingly, ELFTCs can help TC participants to develop their collaborative skills, as evidenced by a significant number of RAs under scrutiny. Certainly, this feature of ELFTCs acts as an advantage. Importantly, the ability to develop collaborative skills is highly appreciated by FL learners. What is more, the growth of teamwork skills in ELFTC environments appears to reinforce the improvement of multiple other skills and qualities, as already enumerated in the discussion, providing further evidence in favor of this particular benefit of ELFTCs. There are also several other factors that seem to be capable of positively influencing collaboration in ELFTCs which, due to their favorable presence, should be included in such exchanges. They comprise equal dissemination of work among all TC participants, mutual trust among all parties involved in the project, as well as strong group coherence and solidarity. These factors, however, are

enumerated in only one RA. Other RAs suggest also that collaborative work can be advantageous for meaningful learning or that individual work should complement teamwork in ELFTC projects.

Among the potential risks related to teamwork in ELFTCs that should be avoided and which TC practitioners need to be aware of, the reviewed RAs list: unilateral decisions of TC participants and their attempts to impose their own will over other TC partners without any discussion, the authoritative attitude of TC participants, and a disproportionate amount of work among TC participants. Once again, the reviewed RAs do not provide any specific remedies to the above issues that surfaced in their TC exchanges, however, for the benefit of the future ELFTCs, it would be advisable to find potential solutions that would allow TC practitioners to avoid or, at least, minimize the occurrence of such events in due course.

6.8.5.2 Communication Skills. Based on the high number of findings, quite predictably, it can also be concluded that ELFTCs can improve the communication skills of their participants, at the same time allowing them to practice English. As in other real-life contexts, effective communication involves some degree of flexibility from learners and they should be informed about this by their TC instructors. A related finding, which requires further verification, is that the adoption of the Socratic approach can be beneficial for communication in TC exchanges.

TC practitioners and participants alike need to also be aware of numerous potential issues that can affect the development of communication skills in ELFTCs. These include, but are not limited to, failed or missed communication, inability to express oneself, and inability to understand other TC participants. Frequently, the root of at least some of these issues can be attributed to poor IT infrastructure and/or connectivity issues, hence, as already highlighted earlier, it is imperative that ELFTC projects are organized when the technical means allow TC organizers to do so. This is particularly due to the fact that unsuccessful communication in ELFTCs is likely to lead to a number of other negative and undesirable phenomena, as already outlined in the discussion, which should be avoided at all costs.

The results of this thesis connected to communication skills are mostly in line with the sparse conclusions offered in other secondary research published to date. Nevertheless, this dissertation offers a much more detailed insight into communications skills in TCs than its predecessors.

6.8.5.3 Confidence. Based on the findings of manifold RAs, it can be concluded that ELFTCs can support the development of confidence among their participants, including intercultural confidence. Growth of this aspect is also attributed to be beneficial for participants' communication, debating, and opinion-giving skills. TC instructors should be aware of this and the fact that TC participants gain confidence gradually, throughout the duration of the TC project. Such findings constitute a significant advantage of ELFTCs and are particularly important from the perspective of language learner – language user transformation. Moreover, it is likely that the growth of confidence attributed to ELFTCs might overshadow the potential anxiety that is foreseen to affect participants of such exchanges, however, this hypothesis needs to be further verified. The above findings are in accordance with the results offered in the past reviews, however, the present study provides a more detailed outlook on the role of confidence in students' involvement in TC environments.

6.8.5.4 Curiosity. Findings of several RAs allow us to infer that ELFTCs can spark learners' curiosity, aimed particularly at foreign cultures, which, as a result, increases their ICC. This certainly constitutes yet another advantage of ELFTCs, once again evidencing that multiple skills and qualities can be developed at the same time in such projects. In the search for evidence of students' curiosity in their exchanges, TC practitioners should observe whether their students ask their partners detailed questions since such behavior can evidence increased curiosity which, in turn, is likely to lead TC participants towards deepened cultural understanding and significant cultural growth.

6.8.5.5 Various. Multiple RAs listed a number of other potential benefits and advantages of ELFTCs, however, they did not elaborate on them in detail. Consequently, deliberations pertaining to them are quite limited and are performed only on the basis of their frequency of appearance in the reviewed RAs. Assuming that the more RAs report on the beneficial presence of a certain variable in the TC project, the more likely it is to be true, three categories of this likelihood and the accordingly assigned features are proposed below, based on the number of reporting RAs informing about them:

- Very likely to be true (n >= 4): 21st-century skills, awareness raising, critical thinking, ICT skills, negotiating skills;

- Likely to be true (n >= 2): ability to identify their own weaknesses, conscientiousness, creativity, e-safety and netiquette, organizational skills, problem-solving skills, research skills, specialist knowledge;
- Require further research (n >= 1): comparative interpretation, peer-assessment skills, presentation skills, self-efficacy, sense of achievement.

Nevertheless, the high number of aspects that can potentially be developed among students thanks to ELFTCs constitutes their significant advantage. Notably, the results of this dissertation related to critical thinking and 21st-century skills are in line with the past reviews in the field of TC, which further reinforces their likelihood to be true.

6.8.6 Social Aspects of Telecollaboration

With regard to the social aspects of ELFTCs, it can be concluded with a high level of certainty that such projects allow their participants to collaborate with international partners and, as a result, make new foreign friends. Such findings are particularly important from the socio-constructivist perspective and constitute a huge advantage of ELFTCs. Moreover, it is evident from the reviewed RAs that TC participants enjoy and value the ability to work with other, diverse English learners, which boosts their own motivation to learn the TL. Likewise, the evident sense of commonality, which frequently occurs during ELFTC projects, constitutes their significant advantage since it facilitates communication and joint growth. Further, as several RAs highlight, the ability to engage in conversations in one common language, in this case – English, serves as the foundation of students' social growth. Nevertheless, TC practitioners should be aware that social gains are only possible if TC participants are given sufficient time to be able to develop them while strong group bonds formed early on in TC projects might prove to be beneficial in critical moments at the later stages of such exchanges.

6.8.7 Values

The RAs under review enumerate multiple values that can be fostered through ELFTCs. Certainly, each of them can be considered an advantage of such exchanges. However, the capability of ELFTCs to develop such values was mentioned in the RAs without the provision of much detail. Consequently, below I group these values into three categories based on the number of RAs in which they appeared. Moreover, based on the frequency of appearance of these values in the RAs, I estimate the validity of claims that the given values can indeed be augmented through ELFTCs.

- Very likely to be true (n >= 4): eliminating stereotypes;
- Likely to be true (n >= 2): openness, politeness, transnational identification;
- Require further research (n >= 1): ecological citizenship, global citizenship and education, human values, tolerance, trust.

The results of this thesis on the matter of the ability of TC projects to eliminate stereotypes among their participants are in agreement with the conclusions of previous studies on this subject, which increases its likelihood to be true.

6.8.8 Success of Telecollaboration Projects

On the basis of the findings pertaining to the success of ELFTC projects, it can be concluded that although TC participants may report some negative opinions related to various aspects of ELFTCs, as outlined in the discussion, the positive views constitute the majority of the reported insights. Negative feedback from the learners should be carefully listened to by TC organizers and they should attempt to fix the highlighted issues as soon as possible to allow their students unobstructed learning. In particular, TC practitioners should remember that their goals should be equal to those of their learners, that the expectations of TC participants should be known to TC organizers and appropriately addressed, and that the ELFTC experience should be as relevant to students as possible. Above all, it is recommended that any potential dissatisfactions of TC participants with TC projects are addressed promptly since they may lead to a number of much worse consequences. Given the frequently mixed results stemming from ELFTC projects overall, and even within the same RAs, it can be concluded that it might be impossible to entirely fulfill the expectations of all TC participants. Thus, it should be expected that some negative feedback will arise even if the given TC project is carried out correctly. This should not, however, discourage TC practitioners from engaging in ELFTC exchanges.

As far as the positive impressions are concerned, the fact that they constitute the majority of findings proves that ELFTCs are highly constructive, engaging, and enjoyable experiences in spite of some challenges. Multiple findings confirm that TC participants can derive numerous benefits from this approach, such as the acquisition of new knowledge, qualities, and skills through authentic, entertaining, and safe interactions with their peers. It is of note that many of the TC participants articulated their desire to engage in another TC project and did not hesitate to recommend this type of education to others. Most

importantly, however, ELFTCs proved to be an effective medium for teaching and learning English.

In line with the findings of previous secondary research, also the results of this study allow us to conclude that TC projects are generally successful.

6.9 Conclusion

To conclude, it can be determined that ELFTCs are a valid FL teaching approach which allows students to develop a myriad of skills and qualities, as well as gaining different types of knowledge. Both the variety and the depth of learning effects constitute significant advantages of ELFTCs, and, thus, they constitute a set of comprehensive and recommendable teaching approaches. Nevertheless, due to the number of limitations of ELFTCs, their organizers should approach such projects with caution and due diligence to maximize the potential benefits of their learners. It might also turn out that a particular institution or group of students is simply not suited to take part in an ELFTC project and TC organizers should accept this fact rather than proceed to organize the exchange nonetheless. What is more, there is still a number of under-researched areas that deserve further attention and whose findings will be of particular interest to the literature on TC and its practitioners. Ideas for further research are further outlined in the following conclusions of this dissertation.

Chapter Seven: Conclusions

In this dissertation I have carried out a thorough review of the ELFTC literature published between 2016 and 2021, both inclusive. After exploring the roots of these concepts and a thorough assessment of past syntheses on TC, I analyzed the most recent ELFTC studies. Then, I juxtaposed these findings with the results of past reviews in the field of TC, thus, showing the changes, or the lack thereof, in the trends concerning ELFTCs. Consequently, this dissertation contributes to the continuously and rapidly growing body of literature on TC and, in particular, secondary research.

Conclusions that can be drawn from the results presented earlier in this dissertation are outlined below in a sequence that corresponds to the previous parts of the thesis. Where relevant, ideas for further research are offered, based on the criterion I adopted that if the given aspect is supported by less than five distinct RAs, then it should be additionally investigated. This criterion assumes that if the given aspect is referred to in five distinct sources, then it can be considered as relatively sufficiently discussed by the literature. Moreover, this number is realistically adjusted in relation to the total number of RAs under the scrutiny of this study (n = 38), and constitutes approximately 13% of the total. Consequently, if the given aspect is covered by less than 13% of all RAs under review of this dissertation, further research is advised. The above assumption is also grounded in the common belief that if specific information can be found in five distinct sources, it can be considered common knowledge. On the other hand, if the given information cannot be supported by five different sources, then it is not well-documented or well-supported, leading us to the conclusion that it deserves further investigation.

7.1 Research- and Participant-Related Conclusions

First of all, reports on ELFTCs are published in a wide variety of journals. Roughly half of the RAs reporting on ELFTCs can be found in top AL and CALL journals, while the other half, in other, less-known journals. Moreover, they are roughly equally distributed among all the years under scrutiny of this study. Future secondary research on ELFTCs may choose to review publications different from journal articles, such as books, book chapters, or unpublished dissertations to further enhance the scope of the search.

Overall, it can be concluded that most of the results of this dissertation are in line with the findings of the previous reviews and individual TC studies.

7.1.1 Age and Age Groups

ELFTCs tend to be mostly organized among university students, followed by secondary and primary school students, and rarely among other age groups. Therefore, research on ELFTCs in environments distinct from tertiary education is decidedly recommended and much needed as it is sparse in the past syntheses, in this dissertation, and in the literature overall. Such studies will help to shed light on the appropriateness and successfulness of TC among various age groups, thus, helping to determine whether TC can be used to help populations other than university students.

A noteworthy finding of this thesis is the increasing number of ELFTCs among pre-service and in-service teachers, particularly those of FLs. It would be worth investigating these particular groups further in future studies, as they are still under-researched. Given the promising results of the publications to date, it is advisable to at least consider the more consistent inclusion of TC projects in teacher training.

7.1.2 Hotspots of English as a Lingua Franca Telecollaborative Research

Much like past studies, ELFTCs are generally organized in developed European countries, with emerging regions including Asia, the Middle East, and South America. However, the number of cross-regional TC exchanges is also on the rise. Conducting ELFTCs among students from less developed countries is a much-needed, albeit difficult, and should constitute the scope of future studies in the TC field. Since there are not many RAs reporting on TC exchanges with such learners, applicable investigations should be carried out in the future. Given the rapid technological advances worldwide, it can be assumed that the existence of such reports is just a matter of time. Notably, maintaining a balance in terms of the number of participants representing different cultures and nations within projects and collaborative groups is encouraged.

7.1.3 The Role of Proficiency in English

Like previous TC studies, ELFTCs are often held between students who have, on average, an intermediate level of English. Consequently, future publications should focus their efforts on investigating FL learners with proficiency levels other than intermediate. This will help to validate claims that ELFTCs, and/or TCs in general, can be successfully used for the benefit of low- and high-proficiency FL learners.

Although the findings on students' proficiency permit us to conclude that TC participants need to possess at least a basic knowledge of English to successfully take part in ELFTC projects, the mixed information stemming from the RAs reviewed validates further

research in this area. Future investigations might aim, for instance, to further delineate the minimum linguistic threshold that guarantees successful communication in ELFTCs or establish the optimal level thereof.

Likewise, it can be concluded that TC exchanges between participants with different proficiencies in English are very common. Nevertheless, the literature offers contradictory findings in this respect, thus, warranting further research. The provisional conclusion is that mixed-proficiency TCs can be successful if participants are offered opportunities that are adequate to their linguistic level, and those are different from each other. Here, it can be stated with reasonable certainty that ELFTC projects are particularly beneficial for low-proficiency participants, in particular, when it comes to their FL gains. However, it also has to be noted that such learners usually face a number of constraints caused by their limited knowledge of the TL. On the other hand, ELFTC exchanges do not seem to be as beneficial in terms of FL improvement for high-proficiency students. As a result, it is advisable that proficient ELFTC participants are offered other avenues of growth than just the linguistic path. This way, mixed-proficiency collaborations can be beneficial for all participants involved. What deserves further attention, however, are the same proficiency environments and in what way they can be advantageous, if at all.

7.1.4 Characteristics of Project Groups

Much like the past studies on TC, the findings of this dissertation suggest that ELFTC projects are rather small- to medium-sized and commonly engage around 40 participants at a time, with approximately 20 students representing each international partner of the given ELFTC project. Students are then normally split into several smaller collaborative groups, the number of which is contingent upon the overall size of the project. These groups frequently include around six learners, however, in many cases, it is clear that TC organizers aim to provide their students with as many opportunities for 1-to-1 interactions as possible. Notably, each of the above numbers can differ considerably depending on the particular study. Consequently, it is advisable that future ELFTCs also organize the work of their participants in small groups or pairs as these arrangements tend to work the best. Here, future research can verify whether the group arrangements in ELFTCs undertakings remain the same or change over time or further explore the dynamics of group and pair work.

7.2 Project-Related Conclusions

7.2.1 Logistic and Technological Implementation of English as a Lingua Franca Telecollaborative Projects

It can be concluded that the organization and proper planning of such complex projects as ELFTCs are key to their success. However, it has to be borne in mind that various issues, primarily of technical character, accompany TC exchanges, and, in fact, can be considered a part of their nature. Consequently, it is advisable that all parties involved in such undertakings exercise patience, mutual understanding, and willingness to jointly work on the encountered problems as they arise. Moreover, it is recommended that those who wish to engage in ELFTC exchanges familiarize themselves with the requirements that such projects involve, not only in terms of technology but also time and effort. Similarly, it is advisable that TC organizers and participants alike are prepared, and possibly trained, to cope with various problems that can occur in ELFTCs. Ensuring that technical support is available is likewise a feasible remedy to some of the potential problems that can take place in ELFTC exchanges. Additionally, TC organizers have to bear in mind that ELFTC projects demand a significant amount of involvement and work from all parties involved, hence, necessitating its appropriate distribution. Moreover, students' work ought to be evenly distributed among all TC participants. Here, it can be concluded that participation in ELFTC projects is frequently obligatory for their participants, which is connected to the institutionalized character of such exchanges. Future studies on ELFTCs are encouraged to further investigate whether and in what way the obligatory or non-obligatory character of TCs interplays with other variables, for example, students' engagement and motivation to take part in the exchanges. Likewise, it is yet to be determined whether ELFTCs or TCs in general, can be successfully organized with participants located in environments other than FL classrooms. Some of the RAs reviewed in this dissertation offer promising findings, however, their number is still too low to come to any definitive conclusions in this respect. Hence, further research is advised.

7.2.2 Choosing the Right Duration of English as a Lingua Franca Telecollaborative Projects and the Setting of the Parameters of Their Sessions

As far as the duration of ELFTCs is concerned, it can be concluded that such projects typically last around 10 weeks, while the actual collaboration commonly takes place during sessions held once a week. Nevertheless, this can vary quite significantly depending on the TC exchange. Importantly, many RAs report that the duration of the given TC project proved

to be too short. Here, it can also be concluded that ELFTCs generally demand the allocation of a significant amount of time, not only for their preparation but likewise for implementation and, from the researchers' standpoint, analysis. Consequently, it is advisable that this knowledge is taken into consideration when engaging in ELFTC projects so that every stage of the process can be executed with due diligence. Notably, guaranteeing sufficient time for ELFTC exchanges leads only to positive outcomes while its absence can be detrimental in many ways, as already outlined in the discussion, thus, making this aspect particularly important. Further research aimed at establishing the optimal duration of ELFTC projects that would take into account the conclusions of this study is, therefore, recommended. Moreover, it is advisable to further explore the differences stemming from the diverse numbers, frequencies, and durations of TC sessions in future studies since they might impact the quality of the exchanges.

In line with the past secondary research on TC, the findings of this dissertation also validate the call for more longitudinal TC projects, since they continue to be sparse in the literature. Such investigations are particularly needed from the perspective of making TCs a regular FL teaching practice and to offset the novelty effect that can accompany TC projects. Particularly the latter subject remains a valid question given the fact that nowadays TCs are still not a widespread practice. In particular, this means that the findings offered in the literature are often based on insights of learners that took part in a TC exchange only once, i.e., during the TC project that is reported on, and rarely before. Consequently, it is important to consider and verify whether TCs can be as effective if they become a regular teaching activity.

7.2.3 Telecollaboration Mode Selection

The findings of this dissertation confirm the existence of a gradual transition from asynchronous and text-based to synchronous and video-based TCs. This is evidenced not only in the descriptions of the ELFTC projects reviewed but also reflected in the TC tools they used, where such progress is even more pronounced (this will be explored in the following section). Synchronous video-based ELFTCs are especially enjoyable for their participants and lead to significant gains, thus, their use is strongly advised. Nevertheless, it has to be noted that their organization is also more demanding and often involves more problems than, for instance, text-based TCs. Consequently, synchronous video-based ELFTCs, although encouraged to be held, might not constitute a viable solution at all times, in which case TC

organizers would need to resort to other solutions, such as text-based or asynchronous TCs. As far as the latter is concerned, the results of my study offer mixed findings, pointing to both their advantages and disadvantages. Consequently, based on their merit, it can be concluded that the organization of synchronous video-based TCs should be pursued, if possible. On the other hand, asynchronous TCs should either complement the synchronous TCs or, alternatively, be held instead of them if, for some reason, the given TC project cannot be held synchronously. Additionally, findings pertaining to oral and written TC exchanges and, more precisely, those that compare these two TC modes, are exceptionally rare, warranting further research in this area.

What is more, it can be concluded that multimodality can be successfully implemented in ELFTCs and positively contribute to facilitating the communication of TC participants. Consequently, TC organizers should be aware of the diverse benefits that multimodality has and endeavor to incorporate it in their TC exchanges. In particular, multimodality should be included in TCs involving young learners since it is much needed and remarkably efficient in such contexts. More research on multimodality in TCs is advised since individual RAs from the corpus of this study signaled a number of its new potential advantages that have to be further validated. Nevertheless, while the full potential of multimodality is still being explored, its use in ELFTC projects is encouraged.

7.2.4 Telecollaboration Tools Selection

There is a significant variety of TC tools used in the RAs reviewed. Nowadays a typical ELFTC exchange involves more than one TC tool. If this is the case, three core tools, i.e., video-conferencing software, a messaging application, and an LMS are commonly used together. Other types of TC tools are also used commonly, although, additionally. The application of the above three fundamental TC tools is favored widely by TC participants and, as a result, their inclusion in future TC projects is recommended, preferably in conjunction with each other. Notably, the more recent RAs include several examples of the use of instant messaging apps, which were not reported on in the syntheses of the 2010s and earlier. What is more, based on my findings, it cannot be unanimously concluded whether social media constitute a viable tool in ELFTC projects. While there are many advantages, there are, likewise, a number of disadvantages pertaining to their application. Also of great importance are the changing and rather restrictive policies related to the use of social media in educational institutions and, thus, FL classrooms. All of this, apart from

further research, encourages a debate on the role of social media in TC exchanges and education in general. As far as the numerous other TC tools that were used in the RAs under review are concerned (the full list of which is available in Table 3), their effectiveness could not be determined due to their infrequent appearance in the corpus and the sparse descriptions offered. Consequently, further research into each of them is advised should there be a need to verify their usefulness in TC contexts. Likewise, future research can investigate whether and in what ways emerging technologies, such as artificial intelligence (AI), augmented reality (AR), virtual reality (VR), virtual worlds, etc., can be incorporated in TC exchanges. Future studies can also observe whether the current trends in the application of TC tools will continue or change and, if so, how. Additionally, it can be stated with a high degree of certainty that the use of multiple TC tools in a single exchange is beneficial and, thus, recommendable, based on the findings already outlined in previous chapters of this dissertation.

It can also be concluded that TC participants are deft users of TC tools, mostly due to their extensive computer literacy and already possessed knowledge of various computer software. Thus, the introduction of new TC tools is not problematic for contemporary students. Likewise, it can be expected that TC projects should not be difficult to handle in these terms for future TC participants. Nevertheless, the introduction of novel TC tools in TC exchanges has to be implemented cautiously by TC organizers, with respect to the preferences and capabilities of the learners and the nature of the given TC project. A potential solution that would allow TC organizers to smoothly run TCs and, at the same time, permit the learners to acquire new skills in the subject matter is the introduction of two types of TC tools in a single TC project, i.e., those that the learners are already familiar with and those that are new to them.

7.2.5 Telecollaboration Topic Selection

ELFTC projects are characterized by an outstanding variety of topics covered, however, particularly often they revolve around cultural matters. It can be concluded that TC organizers should make sure that the topics discussed during the TC exchanges are relevant to their learners and their interests since this is vital from the standpoint of their engagement in such projects. Likewise, TC organizers should inform their students about the topics to be discussed. Additionally, given the institutional character of TC exchanges, it is important from the teachers' perspective that the topics of TC projects are a part of the

curriculum or are relatable to it. Future research in this area might investigate whether specific topic choice in TC exchanges interplays with the level of students' engagement in such undertakings since the only topic that was occasionally reported evoking strong positive reactions, and, thus, engagement of students in TC interactions, was food.

7.2.6 Task Design, Tasks, Curriculum, and Assessment Implementation

The collected evidence allows us to determine that ELFTC projects ought to feature a diverse assortment of tasks. Moreover, they need to be clearly introduced to the students and have a simple nature. TC organizers should also remember about adjusting the level of the tasks for their students according to their proficiency in the TL. Additionally, the use of blended learning and flipped classroom approaches is viable in ELFTCs. Since only a handful of RAs focused on the role of tasks and task design in ELFTCs, further research in these areas is advised.

Based on the collected findings, it can also be concluded that ELFTC projects allow TC organizers to successfully implement the required educational curriculum. This finding is particularly relevant since TCs are, by definition, held in institutionalized settings, which frequently entails the fulfillment of some sort of curriculum.

As far as assessment in ELFTC exchanges is concerned, the most likely optimal solution is to make it as similar as possible for everyone involved in the given TC project. However, due to the low number of RAs reporting on the role of assessment in ELFTC exchanges, further research is encouraged.

7.2.7 Ensuring Students' Participation in English as a Lingua Franca Telecollaborative Projects

The findings of the RAs reviewed allow us to conclude that multiple factors determine the level of students' participation in TC exchanges, for instance, making the involvement in TC projects obligatory or not, setting the same or different objectives for students in TCs, or rewarding them for their engagement in the TC exchanges or not doing so. Nevertheless, due to the small number of RAs offering information in these respects, further research is strongly advised. What is more, factors such as the time and place where TCs are held and the level of students' participation resulting from their individual differences require further attention. This is due to the suggestions of several RAs that these variables might impact the degree of learners' involvement in TCs. What can be concluded based on a large number of similar results across the RAs reviewed, however, is that the lack

of student involvement or their unequal commitment to TC projects has significant negative consequences on such exchanges as it demotivates other learners from engaging in such undertakings. On the other side of the spectrum, ELFTCs are generally exceptionally engaging for their participants and, thus, can be recommended as they nearly always increase students' engagement, particularly when it comes to FL learning.

7.2.8 Prior Training and Pedagogical Mentoring Inclusion

The collected evidence pertaining to the effectiveness of the training organized prior to ELFTCs allows us to conclude that such an activity can only be beneficial and, thus, is advisable. However, as far as pedagogical mentoring is concerned, more research is needed before reaching any conclusions. Not only is this topic under-researched but also the findings in this area are not necessarily promising, in particular, given the indications that pedagogical mentoring can only prepare ELFTC participants to take part in TC exchanges to a very limited extent.

7.2.9 Feedback and Critical Reflection Inclusion

It can be stated that feedback plays a vital role in ELFTCs and leads to numerous benefits while its absence can have serious negative consequences, as outlined in previous chapters of this dissertation. Consequently, special attention should be paid to feedback in ELFTCs and, above all, that it is provided regularly. Regrettably, information concerning feedback is sparse in the literature, hence, more research concerning this subject is needed.

Mixed results on the inclusion of critical reflection in ELFTCs do not allow us to arrive at any definitive conclusions in this matter. Until future research provides us with a more comprehensive understanding of the role, advantages, and disadvantages of critical reflection in ELFTC projects, the decision of whether or not to include it in TC exchanges is up to their organizers.

7.3 Instructor-Related Conclusions

The results of my study clearly show that TC practitioners have important roles in ELFTCs, some of which might be completely new to them, if compared to traditional FL classrooms. These include, for instance, helping their students navigate complex TC environments, providing them with technical assistance, if necessary, and, above all, ensuring efficient and enjoyable learning processes that have a lasting impact. Based on mixed findings pertaining to the degree of teachers' presence and monitoring in ELFTCs, future research should further explore these subjects.

7.4 Benefits and Drawbacks of English as a Lingua Franca Telecollaborations

Overall, based on the results of this dissertation, ELFTCs have more advantages than disadvantages, which validates their use for generally understood educational purposes and, in particular, FL learning. Among the benefits of ELFTCs are their authenticity, their innovative nature, and the fact that they are safe, friendly, and enjoyable learning contexts. Moreover, there are a number of factors that favor ELFTCs if they are to be compared with traditional FL classrooms. Such aspects include, for instance, increased opportunities for communication, augmented motivation of students towards FLL, and the ability to acquire a set of skills that are likely to be useful and relevant in the future. These include primarily 21st-century skills, so, for example, collaboration, communication, creativity, critical thinking, or teamwork. Apart from these, ELFTCs can significantly boost students' learning, linguistic, intercultural, and social competences, in addition to values, as thoroughly attested by the literature reviewed. While there is sufficient evidence to unanimously conclude that the improvement of the above skills can be attributed to ELFTCs, future research might take a closer look at their particular components, for instance,

- Learning: connectivity, learning presence;
- Linguistic: reading skills, vocabulary acquisition, LREs, linguistic accuracy, L1 use, joint L1 and L3 use, translanguaging, verbosity, conciseness, WTC, language learner – user transformation, and the interplay of language and culture;
- Culture: IS;
- Social: social presence.

Notably, it can be concluded that ELFTCs can serve as a viable alternative to study abroad programs or as preparation for them. Nevertheless, more research is needed into how to implement TCs in or instead such programs and how to ensure their efficiency.

On the other hand, among the disadvantages of TC projects are their complexity, in particular, related to their implementation, relatively elevated technological demands, and the frequently occurring issues of various kinds, especially related to technology.

7.4.1 The Success of Telecollaboration Projects

Overall, based on the results of this study, ELFTCs are exceptionally successful, despite reports about distinct issues occurring during them. The vast majority of findings concerning ELFTC projects are positive. Given the multiple advantages and benefits stemming from ELFTC projects, with only minor potential disadvantages and drawbacks,

ELFTCs are a decidedly recommendable approach not only for FLL but teaching in general. With the challenges of the 21st century in mind, ELFTCs seem to be a viable approach that is capable of equipping the students with the necessary knowledge and skills, especially language skills, to respond to the demands of the future.

7.5 Limitations of the Study

Undoubtedly, this study has several limitations. The findings and conclusions presented in this dissertation reflect only a portion of an extensive body of research available on TC. Although the widest possible scope of the study was ensured by the broad literature search, there exists a possibility, albeit a small one, that other RAs that fulfill the adopted inclusion criteria are not included in this synthesis. Moreover, the extent of this study is limited only to a specific timeframe, language, publication type, and peer-reviewed literature. While the above criteria can be considered as limitations of this study, they should rather be perceived as several justified choices and decisions among the many that had to be made over the course of this research. Future studies can adopt a different set of criteria and, thus, lead to other conclusions. Nevertheless, this is unlikely given the fact that the results of this study correspond and are decidedly similar to the findings of past reviews on TC. Likewise, any differences concerning past research and the present study are a natural consequence of the progress which can be attributed to, for instance, technological advances, and/or can be explained logically. Additionally, it has to be noted that the results synthesized in this dissertation are based mostly on the self-reported data offered by the primary studies, which are less objective than data obtained through other measures, such as quantitative scores of pre-designed scales. Consequently, the qualitative findings reported in this dissertation should be treated with caution. Lastly, it has to be assumed that a publication bias, i.e., a higher-than-normal presence of studies yielding positive results, can be present among the reviewed corpus of RAs. This is due to the lack of measures to confirm or nullify its existence in the case of qualitative syntheses, as it is possible, for instance, in the case of syntheses analyzing quantitative data.

7.6 Consistency of Primary Research

Additionally, given the discovery of several major and minor discrepancies among the primary studies reviewed, it is advised that greater attention is paid to the correctness of published research. This concerns authors and editors alike. Moreover, the varied nature of data offered by individual RAs warrants a discussion over standardizing the descriptions of

TC projects. The proposed standardization would aim to present the same categories of information and data in the same units to facilitate the subsequent review of such studies. This includes providing, for example, explicit demographic information about the participants of the study, standardized duration of the exchange in weeks, and details about the TC sessions, including their arrangement. Given the number and variability of aspects that form such complex endeavors as TC exchanges, the adoption of the aforesaid approach and standardized criteria would be advisable, particularly in light of the constantly and rapidly increasing number of reports on TC. A list of variables to be included in the standardized description of a TC project is outlined in Appendix 28. Such a standardized set of variables can be included towards the end of future research devoted to TC, for instance, in the form of a table where the authors of the given publication would code their study themselves, according to the pre-defined criteria and standardized measures. Given that the authors tend to know their research and TCs best, this procedure would help to eliminate various misunderstandings, inconsistencies, and erroneous textual descriptions, as proved to be the case in the reviewed literature. Additionally, this form of a checklist would help researchers make sure that the description of their project contains all standardized information which, for instance, can later be used for secondary research purposes. Most importantly, however, it is expected that this checklist would serve as a model and suggestion for authors about what kind of information they should include in their project descriptions. Importantly, the list presented in this dissertation is only a suggestion and sets the bare minimum rather than being an exhaustive list. It can be expected that the growth of TC will necessitate further modification of this list.

7.7 Significance of the Study

Given the extension of this research, this dissertation has the potential to be a significant addition to the existing literature on TC and ELF, both of which are the subject of currently popular research strands in CALL, SLA, and AL. This study is not only a continuation of the series of secondary research in the field of TC but also explores a novel area of it, i.e., ELFTCs, which has been carried out for the first time ever, to the best of my knowledge. What is more, this thesis responds to the overall methodological shift that is currently taking place in SLA and AL, i.e., the rise of secondary research (Chong & Plonsky, 2023; Chong & Reinders, 2021; Plonsky & Ziegler, 2016). While the results of this study stem from the analysis of ELFTCs, it is believed that they are likewise transferrable to other types of TC

projects, such as tandem exchanges, due to their similar nature. Additionally, the findings collected in this dissertation are expected to be of considerable use to TC practitioners and researchers, in particular, those who plan on organizing TC exchanges themselves. It is also anticipated that this study will inspire future research, based on the number of identified areas that deserve further investigation.

Summary

This dissertation analyzes 38 RAs reporting on ELFTC projects by means of secondary research. After introducing the dissertation in the first chapter, in the second chapter I present the theoretical knowledge on TC. In particular, I explore the different variations and definitions of terms that were used to refer to TC practice over the years, such as telecollaboration, online intercultural exchange, or virtual exchange. Here I also compare the roots, characteristics, and historical frequency of use of these terms. Then, I present different ways according to which TC can be classified and I compare synchronous and asynchronous TCs. Specifically, I characterize the three most common models of TC, i.e., the Cultura model, the eTandem model, and the eTwinning model.

Also in the second chapter, I outline the theoretical understanding of ELF. Here I present the reasons behind researchers' interest in ELF and the substantial popularity of English use worldwide. I highlight various perspectives on both lingua franca and ELF, along with providing different definitions and classifications of ELF that were coined over time. I also discuss the roots of ELF and the reasons behind its rapid evolution over the years. Then, I explore the key areas of ELF research across time. I also list several domains and geographical locations where English is commonly used as a lingua franca. Further, I enumerate and examine a number of characteristics of ELF. In particular, I investigate the fluid nature of ELF, its interplay with interculturality and multilingualism, and its rejection of set native speakers' norms. Then, I set off to outline the features of communication in ELF settings. Consequently, I link ELF to the field of education by analyzing if and how ELF can be implemented in foreign language learning settings. Here I also outline numerous potential benefits of ELF approach for foreign language learning learners. Subsequently, I link ELF and TC and discuss how their connection can be beneficial, in particular, for foreign language learning. Toward the end of this section, I deliberate the pedagogical lingua franca approach, proposed by Kohn (2020b), which discusses how English can be used as a lingua franca in TC.

In the third chapter of this dissertation, I review 23 past syntheses in the field of TC to collect the already amassed knowledge on the subject of TC, identify the trends among the findings of the past publications, and find the potential research gaps. The search for the relevant studies is guided by an extensive database search, among other techniques, and an in-depth analysis of the contents of the found publications. Next, the results of all selected studies are presented thematically, thus, offering a comprehensive perspective on the TC

literature published to date. The findings presented in this section include the general characteristics of past TC publications, such as their most widespread theoretical backgrounds, methodologies, and foci. I also present the common features of past TC projects, such as their common duration, most frequently used models and modes, as well as their impact on the TC exchanges. Further, I enumerate the TC tools used popularly in the past TCs, along with the historic changes in their use, and discuss their usefulness in TC contexts. Then, I provide findings from past studies concerning the total number of participants involved in such undertakings and their arrangements in project groups. Next, I analyze what the past publications said about various characteristics of TC participants, such as their gender, countries of residence, regions of origin, mother tongues, age, educational stage, and proficiency in the TL. Accordingly, I discuss the findings provided by the past literature on the subject of project-related aspects, i.e., various recommendations on how TC exchanges should be carried out, which stem from past undertakings of this kind. These advices concern various components and qualities of TCs, such as whether or not to include training before TCs and/or include pedagogical mentoring at any stage of such exchanges. Likewise, different perspectives concerning the implementation of feedback in TCs, be it from the learners or the teachers, are outlined. Similarly, ideas concerning the topics and tasks in TC exchanges, along with their importance and roles, are presented. Subsequently, I list several issues that can be considered the most common obstacles in TC projects, and which stem from past TC research. These include, in particular, technical problems, organizational matters, and various individual differences associated with TC participants. I also provide potential solutions to overcome them based on the reviewed TC literature. Then, I outline the desirable roles and attitudes of the teachers in TC settings, according to what the past TC research said on this topic. Accordingly, I focus on the participant-related aspects of TC projects. Here I explore how certain variables interplay with TC participants and deliberate whether or not and, if so, how, they can be turned into advantages of TC exchanges. In particular, I discuss the role and preferrable degree of students' involvement in TC projects, the importance of setting the same or different goals for TC participants, and the pros and cons of locations where TCs can take place, among others. Consequently, I explore various advantages and disadvantages of TC projects, as outlined in the reviewed past studies. Specifically, I present what the TC literature says about the potential benefits of TCs in terms of cultural and linguistic growth, as well as other learning gains. Further, I

enumerate the multiple skills and qualities that can be successfully developed thanks to TCs. I also deliberate on particular advantages of TC environments, such as their relaxed and safe learning atmosphere, among others, which are frequently perceived as additional benefits of such settings. Then, I consider the potential alterations of learners' beliefs and competencies due to their involvement in TC exchanges, as reported on in the reviewed publications. Finally, I deliberate on the overall success and effectiveness of past TC exchanges. This is done also in light of critical viewpoints on TCs present in the literature.

I begin the fourth chapter of this thesis by providing the rationale for this study. There are three main reasons which validate the need for my research. First, there is an evident exponential growth of publications on TC, resulting from an increased interest in the TC practice in recent years. Consequently, there exists a need to inform the research and practice community about the most recent findings of the TC literature, most of which have not yet been subject to any assessment. Second, past TC reviews were severely limited on a number of levels, which necessitates further studies of this kind that will overcome these limitations. Third, to date, no reviews in the field of TC have focused specifically on ELFTCs, which constitutes a significant research gap that needs to be filled. The results of such synthesis will be of particular interest and importance to the already large and constantly increasing community of English non-native speakers, English FL learners, their instructors, and the continuously growing ELF community worldwide. All of the above validates a secondary research approach to ELFTCs, which is the subject of this study. Consequently, I formulate four research questions whose aim is to characterize ELFTC projects, discover their advantages and disadvantages, benefits for foreign language learning and other skills and/or qualities, and juxtapose the obtained results with the findings of the past TC literature.

Subsequently, also in chapter four, I present the methodology of this study. I start by presenting a comprehensive search strategy aiming at obtaining as many relevant publications as possible. I also enumerate the instruments to be used during the search, i.e., two databases – Scopus and Web of Science, along with proper justification of their choice. Further, I present several important decisions and choices that I made prior to and during the search process, along with providing the reasons behind each of them. I also highlight how I intend to overcome the limitations of the past reviews. Then, I propose 12 main keywords, terms synonymous with TC, and another core phrase, which together constitute

the core elements of the database search, again, properly justifying their selection and use. Consequently, I present the search criteria, namely that my study will only take into account RAs written in English that were published between 2016 and 2021, both inclusive, and which were indexed in the two databases mentioned earlier. I also provide specific reasons for such choice of criteria. Then, I describe in detail further refinement methods and an additional 10 inclusion criteria (13 in total) which further limit the scope of the search to ELFTC studies.

Accordingly, likewise in the fourth chapter, I outline the five-stage procedure of database search and criteria application, based on the PRISMA 2020 guidelines (Page et al., 2021). In the first stage, i.e., keyword search, the two databases yield 609 studies in total. In the second stage, I removed the duplicates from this set of studies with the help of Mendeley reference manager, which left 443 original studies. In the third stage, I screened the titles, abstracts, and keywords of the remaining publications and removed the studies that did not fulfill the first 10 inclusion criteria, duly noting the reason for the exclusion of each publication. As a result, 125 unique studies remained. In the fourth stage of the process, I screened the references of the remaining publications in search of additional relevant studies. Consequently, I found two new journal articles that fulfilled all of the inclusion criteria adopted thus far and added them to the existing studies, resulting in a set of 127 publications. In the fifth and last stage of this process, I verified the adherence of the remaining studies with the outstanding three inclusion criteria and disregarded any publications that did not fulfill all of them, again, noting the reason for each of the exclusions. In the end, 38 RAs remained and formed the corpus of studies analyzed in this study.

Following the five-stage retrieval process, I proceeded with data extraction and harmonization. First, I extracted the specific information, both quantitative and qualitative, from the remaining 38 RAs, as enumerated in the coding book available in Appendix 2, and collected them on an Excel spreadsheet. Later, I harmonized the extracted data if it was reported in different units, such as the duration of TCs, which was reported in weeks, months, and other various ways. Such a procedure aimed to facilitate the subsequent analysis of the obtained results and allow me to easily compare them and, thus, formulate conclusions. Notably, during this process, I made three major decisions, as further outlined in chapter five, which permitted me to proceed with the data interpretation.

As far as data analysis is concerned, my study adopts a mixed-methods approach. Consequently, I analyzed quantitative data using descriptive statistical calculations, primarily by using the JASP software (JASP Team, 2023). As far as qualitative data is concerned, I first assessed it by means of corpus linguistics methods and with the AntConc software (Anthony, 2022). Here I, for example, determined the most commonly appearing words and phrases among the 38 RAs. Then, I manually reviewed each of the 38 RAs, principally following the guidelines of the QRS offered by Chong and Plonsky (2021). Lastly, I conducted further corpus analyses to determine which studies contributed the most to the results of my study, taking into account both the sizes of their contributions and their overall size.

In chapter five I present the results of my study. I begin with the findings concerning corpus analyses. Here I identify the smallest and the biggest RAs that formed the corpus or 38 RAs that I synthesized as well as determining the average number of words that a given study added to the corpus. Then, I list the most common single words as well as two- and three-word-long phrases that appear in 38 RAs. I use these words and phrases as keywords to gain a general understanding of the contents of the corpus of 38 RAs. Later, I also used them to construct the scaffolding of the qualitative results section.

Moreover, in the fifth chapter of this dissertation, I put forward the quantitative findings. First, I present some general information, such as the names of journals in which the RAs were published and the number of RAs published in the given calendar year. Second, I focus on the characteristics of ELFTCs. Here, I discuss multiple variables, such as the duration of TC projects, the character of TCs, TC modes, and tools used in TCs. Moreover, I report on the typical number of participants per TC, the number of groups from each participating country, and the number of participants in each of these groups. Then, I also examine the configurations of groups that took part in TCs under review, the number of collaborating multinational groups in each TC project, and the number of learners in each of these groups. What is more, I focus on the total number of TC sessions in each TC, the frequency of TC sessions, and their duration. I also review the main topics of TC exchanges. Third, I concentrate on the results concerning the participants of TC exchanges. I start with discussing the findings related to their gender, countries of residence, and regions of origin. Moreover, I report on the mother tongues, age, and age groups of learners that took part in the 38 RAs under the review of this study. Then, I present the educational stages and majors of these students, along with their proficiency in English.

In the fifth chapter of this thesis, I also include the qualitative findings of my review of 38 RAs that describe ELFTCs. First, I consider various aspects related to TC projects. Here, for instance, I present the findings of the reviewed RAs connected to the planning and organization of TC exchanges. What is more, I outline what the reviewed RAs say about training and pedagogical mentoring before TCs as well as the role of time in TC projects. Then, I explore how the selection of the mode of the exchange can impact it. Here I consider synchronous, asynchronous, oral, written, and multimodal collaboration. Later, I focus on the findings concerning the tools used in TCs in the reviewed RAs. In particular, I discuss which tools can be effectively used in TC exchanges and how they interplay with other variables. The discussed tools include primarily video-conferencing software, social media, and learning management systems, among others. Next, I provide the results of 38 RAs concerning the implementation of curriculum in TC projects and the role of topic choice in such exchanges. Then, I set off to describe how, according to the reviewed studies, task design and tasks can impact TCs. Accordingly, I focus on the role of feedback and critical reflection in TC projects. Afterward, I discuss the role of assessment, group characteristics, and workload in TC exchanges. Accordingly, I concentrate on the results of the reviewed RAs pertaining to various technical issues that can occur in TCs. In the last category of project-related aspects, I discuss the roles of TC instructors in TC projects. In particular, I outline their duties connected to monitoring their students, their presence during TCs, and cooperation with the partnering teachers.

In the second part of the qualitative results, I center on the participant-related aspects of TCs. Specifically, I present the findings of the 38 RAs concerning numerous variables that interplay with the participation of students in TC projects. These include, for instance, whether the involvement in the given TC is voluntary or not or if TC participants have the same or different goals set in TC exchanges. Other related findings concern advice on how to cope with the unequal levels of participation among students or the lack thereof. Lastly, in this section, various benefits connected to learners' involvement in TC projects are highlighted. Among the remaining participant-related aspects of TC exchanges, I also discuss results linked to students' proficiency in English and how it is related to their involvement in TCs. Subsequently, I deliberate whether or not, and, if so, how, TC projects can and/or should be used for training future and current educators, in particular, foreign language teachers.

In the third part of the qualitative results, I explore various advantages and disadvantages of TC projects, stemming from the findings of the reviewed 38 RAs. First, I present the results connected to the learning environment that TCs constitute. In particular, I discuss various qualities of TC projects, such as their authenticity, safety, and innovativity. I also compare TCs to traditional foreign language classrooms. Then, I deliberate whether TCs can serve as a valid alternative to study abroad programs. Second, I outline the aspects of TCs related to the learning process. Specifically, I put forward the results on the notions such as learner autonomy, motivation, and rapport. Moreover, based on the results collected from the reviewed studies, I note how some of the negative situations can be turned into beneficial learning opportunities in TCs. Third, I outline numerous evidence of linguistic gains resulting from students' participation in TC projects. Mainly, I focus on classic language skills, i.e., reading, writing, and speaking, but also on other related abilities, such as vocabulary acquisition. Moreover, I underline the potential developments connected to the occurrence of both foreign language enjoyment and foreign language anxiety in TC environments. I also discuss how negotiation of meaning takes place in TC contexts, among others. Then, I set off to provide information from the reviewed studies on the role of using mother tongues and other languages, as well as translanguaging, in TCs. Accordingly, I describe how ELF environment can affect TC participants and how they can potentially help students transform from language learners to language users. At the end of this section, I present the findings related to the link between language and culture in TC projects. Fourth, I consider the results of 38 RAs referring to the cultural growth of TC participants. In particular, I discuss notions such as cultural awareness, intercultural communicative competence, and intercultural sensitivity. Fifth, I analyze what kind of knowledge and skills can be boosted by TC participants as a result of their involvement in TC exchanges. Among the multiple such aspects are, for example, teamwork, communication skills, confidence, and curiosity. Sixth, I concentrate on the social aspects of TCs that can be beneficial to TC participants, such as meeting new people or making new international friends. Seventh, I outline several values that TC participants can develop by taking part in TC projects, such as eliminating stereotypes. Toward the end of chapter five, I attempt to determine the overall success of TC exchanges based on the results and conclusions of the reviewed studies. Lastly, I present the findings of the second set of corpus analyses (retrospective), which reveal RAs that contributed the most to the results of this dissertation.

In the sixth chapter of this thesis, I discuss the collected results and provide possible explanations for them. These findings are discussed in the sequence corresponding to that of the results. Moreover, the obtained findings are juxtaposed with the results of past syntheses in the field of TC which are outlined in the third chapter of this thesis. Consequently, the outcomes of this study are linked to the already available synthesized knowledge on TC whenever possible, thus, forming a coherent body of research.

The seventh and last chapter of this dissertation comprises the conclusions of my thesis. Once again, they are presented in the order corresponding to the contents of the results and, consequently, also the discussion. What is more, this chapter also includes multiple ideas for further research that stem from the findings put forward. In general, the conclusions of this study are in line with the findings of past similar research. Likewise, many of the suggestions for further research included in this study are similar to the ones already raised in the past.

As far as the conclusions are concerned, first, with respect to the general characteristics of ELFTC literature, it can be stated that studies reporting on ELFTCs are published not only in the top AL and CALL journals but also equally often in other, less popular scientific journals. Second, as far as participant-related variables are concerned, ELFTC projects are most often held among university students and, in particular, pre-service teachers who are often also future foreign language teachers. Moreover, ELFTC exchanges are commonly organized in developed countries, mostly in Europe. However, there is a noticeable increase in the number of ELFTCs held in Asia, among other regions. What is more, ELFTC participants often have an intermediate level of English. ELFTC projects tend to include approximately 40 students in total with about 20 learners in each of the groups from different countries (typically two). Further, there are usually several multinational project groups in the given ELFTC exchange and such groups tend to have around seven students in total with equal, or nearly equal, number of students coming from each participating country. Nevertheless, in many cases, there is a possibility for ELFTC participants to experience collaboration on a one-to-one basis. Third, in terms of the implementation of ELFTCs, it can be said that such undertakings are complicated and demanding, both for their participants and organizers. Similarly, ELFTCs are prone to various issues, in particular, the technological and organizational ones. In general, the reviewed RAs agree that some sort of training before the start of ELFTCs should be offered to their participants. Moreover,

partnering learners should have as similar profiles as possible. As far as the duration of ELFTC projects is concerned, they frequently last for approximately 10 weeks with TC sessions happening every week during this period. Next, it is evident that ELFTCs are undergoing a transformation from text-based to video-based and asynchronous to synchronous. In relation to that are also the noticeable changes in the TC tools used in such exchanges whose choice corresponds to the above trends. Notably, it is evident that both synchronous and asynchronous ELFTC projects have their advantages and disadvantages. Nevertheless, multimodal ELFTCs seem to be especially successful, and, thus, their implementation is recommended. In terms of TC tools used in ELFTC exchanges, two or more tools are used concurrently more often than a single tool. Moreover, video-conferencing software, social media, and instant messaging applications are among the most commonly used TC tools. In relation to this subject, it can also be said that contemporary ELFTC participants are well-prepared and knowledgeable to take part in such undertakings. Likewise, it can be expected that students in the future will be ready to participate in such exchanges to a similar or even greater extent. According to the reviewed studies, ELFTC projects center around numerous different topics, however, most of the time, they are centered around culture. What is more, TC instructors should ensure that they are appropriate and interesting for their students as well as inform them about these topics beforehand. With respect to tasks in ELFTCs, they should be straightforward, varied, and applicable to the level of the students. Notably, it is possible to fulfill the set curricula during ELFTCs, which is particularly important in some educational contexts. In relation to the above, the assessment in ELFTC exchanges should be as equal as possible to all participants involved. Another significant area among the conclusions of this study is how learners' participation can be ensured in ELFTCs, which is determined by numerous factors. Here, in particular, it can be stated that dissimilar levels of engagement among TC participants can be detrimental to such exchanges. Nevertheless, studies show that the nature of ELFTCs is generally sufficiently engaging for their participants to ensure their adequate involvement. As far as training before to ELFTCs is concerned, it is advisable to include it. Also, feedback is a crucial component of TC exchanges and, thus, it is recommended to ensure its provision. Additionally, TC instructors were found to have multiple important duties in ELFTC projects, thus, necessitating their involvement in such undertakings.

In terms of the ideas for further research, which are also outlined in chapter seven of this thesis, first, it is advisable that future studies review other forms of publications than journal articles. Second, as far as TC participant variables are concerned, it would be useful for future TC studies to focus on learners other than university students. Further, organizing TCs with students from less developed countries and regions is suggested due to the scarcity of research in such contexts. Moreover, future TC exchanges should investigate learners with English proficiency other than intermediate. Then, further investigations into the group arrangements in TC projects, and the effectiveness of work in thereof, are encouraged. In terms of the aspects related to TC organization, future studies can investigate what is the optimal character of such exchanges and why. What is more, the optimal duration of TCs should be further investigated. Likewise, it is advised that more long TC projects are held. On top of that, more reports comparing oral and written TCs will be beneficial for our understanding of TCs. As far as TC tools are concerned, future research should concentrate on investigating whether or not, and, if so, how, the new, disruptive technologies can be implemented in TC projects. Future studies can also check if the choice of a specific topic as a theme for a TC exchange is important. Likewise, further research is needed concerning the design and roles of tasks in TCs as well as assessing students in such exchanges. It is also advisable that the multiple factors that determine the level of learners' involvement in ELFTC projects are further explored. With respect to pedagogical mentoring and critical reflection in TCs, additional research is advised to verify their potential effectiveness and usefulness. Further research is also needed into the degree of teachers' involvement in TCs due to the potential drawbacks associated with their presence.

Overall, the reviewed RAs provide more advantages than disadvantages of ELFTC exchanges, which encourages and authorizes their implementation, especially in foreign language teaching contexts. In particular, ELFTCs are beneficial for students' cultural and linguistic growth. Moreover, such undertakings allow learners to develop a myriad of skills, for instance, those captivated under the 21st-century skills umbrella term, as well as gaining diverse knowledge and experiencing desirable shifts of attitudes and/or values. Notably, ELFTCs ensure a positive, authentic, and safe learning environment, which provides suitable conditions for students' growth in the areas listed above. Certainly, however, ELFTC projects, offer a much more appealing and captivating learning experience if compared to traditional foreign language classrooms. Taking all of the findings into account, it can be concluded that

ELFTC exchanges are generally successful and offer multiple avenues for students' growth, often ones that cannot be offered in traditional foreign language classrooms. Therefore, the overall high effectiveness and the multitude of potential benefits associated with ELFTC projects validate their implementation.

Also in the seventh chapter, I deliberate the potential limitations of this dissertation. Here it has to be mentioned that this study synthesizes the contents of only 38 RAs that were published in one language and within a specific timeframe. Nevertheless, such restrictions are fully justified given the broader context of the TC literature and the particular decisions made throughout the research process. Moreover, the conclusions of this thesis are based primarily on self-reported qualitative data offered by the reviewed RAs, which can be considered as its limitation due to their lower objectivity in contrast to quantitative data. Additionally, due to the lack of existence of measures to verify the presence of a publication bias in the reviewed sample of RAs, it has to be assumed that it can be present in this study.

Following all the chapters, this thesis ends with two lists of references. First, the reviewed RAs are presented. Second, the remaining studies that were cited in this dissertation are listed. Moreover, this dissertation offers 28 appendices that provide detailed information and calculations concerning the variables analyzed in this study and the research process.

Lastly, it can be expected that this dissertation will serve as a valid point of reference for future studies on ELF or other TCs and inspire further research into them. Moreover, this study will likely serve as a good link between the past reviews on TC exchanges and the most recent literature on ELFTCs since it shows the trends occurring in the TC literature over time.

Resumen

Esta tesis analiza 38 artículos de investigación que informan sobre proyectos de telecolaboración (TC) en inglés como lengua franca mediante investigación secundaria. Tras presentar la tesis en el primer capítulo, en el segundo expongo los conocimientos teóricos sobre la TC. En particular, exploro las diferentes variaciones y definiciones de términos que se han utilizado para referirse a la práctica de la TC a lo largo de los años, como telecolaboración, intercambio intercultural en línea ("online intercultural exchange") o intercambio virtual ("virtual exchange"). Aquí también comparo las raíces, las características y la frecuencia histórica de uso de estos términos. A continuación, presento diferentes formas de clasificar la TC y comparo las telecolaboraciones sincrónicas y asincrónicas. En concreto, caracterizo los tres modelos más comunes de TC, es decir, el modelo "Cultura", el modelo "eTandem" y el modelo "eTwinning".

También en el segundo capítulo esbozo la concepción teórica del inglés como lengua franca. Aquí expongo las razones del interés de los investigadores por el inglés como lengua franca y la considerable popularidad de uso de inglés en todo el mundo. Destaco varias perspectivas tanto de la lengua franca como del inglés como lengua franca, además de ofrecer distintas definiciones y clasificaciones del inglés como lengua franca que se han ido acuñando a lo largo del tiempo. También hablo de las raíces del inglés como lengua franca y de las razones de su rápida evolución a lo largo de los años. A continuación, exploro las principales áreas de investigación del inglés como lengua franca a lo largo del tiempo. También enumero varios ámbitos y lugares geográficos en los que el inglés se utiliza habitualmente como lengua franca. Además, enumero y examino una serie de características del inglés como lengua franca. En concreto, investigo la naturaleza fluida del inglés como lengua franca, su interacción con la interculturalidad y el multilingüismo y su rechazo a las normas establecidas para los hablantes nativos. Después, esbozo las características de la comunicación en contextos de inglés como lengua franca. A continuación, establezco un vínculo entre el inglés como lengua franca y el ámbito de la educación, analizando si el inglés como lengua franca puede aplicarse en contextos de aprendizaje de lenguas extranjeras y de qué manera. También esbozo aquí numerosos beneficios potenciales del enfoque del inglés como lengua franca para los estudiantes de lenguas extranjeras. Posteriormente, relaciono el inglés como lengua franca y la TC y discuto cómo su conexión puede ser beneficiosa, en particular, para el aprendizaje de lenguas extranjeras. Hacia el final de esta sección, delibero

sobre el enfoque pedagógico de la lengua franca, propuesto por Kohn (2020b), que analiza cómo se puede utilizar el inglés como lengua franca en la TC.

En el tercer capítulo de esta tesis, reviso 23 síntesis anteriores en el campo de la TC para recopilar el conocimiento ya acumulado sobre el tema de la TC, identificar las tendencias entre los hallazgos de las publicaciones anteriores y encontrar las posibles lagunas de investigación. La búsqueda de los estudios pertinentes se guía por una extensa búsqueda en bases de datos, entre otras técnicas, y un análisis en profundidad de los contenidos de las publicaciones encontradas. A continuación, se presentan temáticamente los resultados de todos los estudios seleccionados, ofreciendo así una perspectiva global de la bibliografía sobre TC publicada hasta la fecha. Los resultados presentados en esta sección incluyen las características generales de las publicaciones anteriores sobre TC, tales como sus antecedentes teóricos, metodologías y enfoques más extendidos. También presento las características comunes de los proyectos de TC anteriores, tales como su duración común, los modelos y modos más utilizados, así como su impacto en los intercambios de TC. Además, enumero las herramientas de TC utilizadas popularmente en las telecolaboraciones anteriores, junto con los cambios históricos en su uso, y discuto su utilidad en contextos de TC. A continuación, expongo las conclusiones de estudios anteriores sobre el número total de participantes en este tipo de tareas y su organización en grupos de proyecto. Después, analizo aquello que dicen las publicaciones anteriores sobre diversas características de los participantes en las telecolaboraciones, como su sexo, países de residencia, regiones de origen, lenguas maternas, edad, nivel educativo y dominio de la lengua de llegada. En consecuencia, discuto los hallazgos proporcionados por la literatura anterior sobre el tema de los aspectos relacionados con el proyecto, es decir, diversas recomendaciones sobre cómo deben llevarse a cabo los intercambios de TC, que se derivan de las experiencias anteriores de este tipo. Estos consejos se refieren a diversos componentes y cualidades de las telecolaboraciones, como la inclusión o no de formación previa a las telecolaboraciones y/o la inclusión de tutoría pedagógica en cualquier fase de dichos intercambios. Asimismo, se esbozan diferentes perspectivas relativas a la aplicación de la retroalimentación en las telecolaboraciones, ya sea por parte de los alumnos o de los profesores. Del mismo modo, se presentan ideas relativas a los temas y las tareas en los intercambios de TC, junto con su importancia y sus funciones. Posteriormente, enumero varias cuestiones que pueden considerarse los obstáculos más comunes en los proyectos de TC, y que se derivan de

investigaciones anteriores sobre TC. Entre ellos se incluyen, en particular, problemas técnicos, cuestiones organizativas y diversas diferencias individuales asociadas a los participantes en telecolaboraciones. También ofrezco posibles soluciones para superarlos basadas en la bibliografía revisada sobre TC. A continuación, esbozo las funciones y actitudes deseables de los profesores en contextos de TC, de acuerdo con lo que dicen las investigaciones anteriores sobre este tema. A continuación, me centro en los aspectos de los proyectos de TC relacionados con los participantes. Aquí exploro cómo ciertas variables interactúan con los participantes en la TC y delibero sobre si pueden o no convertirse en ventajas de los intercambios de TC y, en caso afirmativo, cómo. En particular, discuto el papel y el grado preferible de implicación de los estudiantes en los proyectos de TC, la importancia de establecer los mismos o diferentes objetivos para los participantes en la TC, y los pros y los contras de los lugares donde pueden tener lugar las telecolaboraciones, entre otros. En consecuencia, exploro diversas ventajas y desventajas de los proyectos de TC, como se indica en los estudios anteriores revisados. En concreto, presento aquello que dice la bibliografía sobre la TC acerca de los beneficios potenciales de las telecolaboraciones en términos de crecimiento cultural y lingüístico, así como otros beneficios del aprendizaje. Además, enumero las múltiples habilidades y cualidades que pueden desarrollarse con éxito gracias a las telecolaboraciones. También delibero sobre las ventajas particulares de los entornos de TC, como su atmósfera de aprendizaje relajada y segura, entre otras, que con frecuencia se perciben como beneficios adicionales de dichos entornos. A continuación, considero las posibles alteraciones de las creencias y competencias de los alumnos debido a su participación en intercambios de TC, tal y como se recoge en las publicaciones revisadas. Por último, reflexiono sobre el éxito y la eficacia generales de los intercambios de TC anteriores. Esto se hace también a la luz de los puntos de vista críticos sobre las telecolaboraciones presentes en la bibliografía.

Comienzo el cuarto capítulo de esta tesis exponiendo la justificación de este estudio. Hay tres razones principales que validan la necesidad de mi investigación. En primer lugar, existe un evidente crecimiento exponencial de publicaciones sobre TC, resultado de un mayor interés en la práctica de la TC en los últimos años. En consecuencia, existe la necesidad de informar a la comunidad investigadora y práctica sobre los hallazgos más recientes de la literatura sobre TC, la mayoría de los cuales aún no han sido objeto de ninguna evaluación. En segundo lugar, las anteriores revisiones de la TC fueron muy

limitadas en varios niveles, lo que hace necesarios nuevos estudios de este tipo que superen estas limitaciones. En tercer lugar, hasta la fecha, ninguna revisión en el campo de la TC se ha centrado específicamente en las telecolaboraciones en inglés como lengua franca, lo que constituye una importante laguna de investigación que es necesario llenar. Los resultados de dicha síntesis serán de especial interés e importancia para la ya amplia y en constante aumento comunidad de hablantes no nativos de inglés, estudiantes de inglés como lengua extranjera, sus instructores, y la continuamente creciente comunidad de inglés como lengua franca en todo el mundo. Todo lo anterior valida un enfoque de investigación secundaria sobre las telecolaboraciones de inglés como lengua franca, que es el objeto de este estudio. En consecuencia, formulo cuatro preguntas de investigación cuyo objetivo es caracterizar los proyectos de TC en inglés como lengua franca, descubrir sus ventajas y desventajas, beneficios para el aprendizaje de lenguas extranjeras y otras habilidades y/o cualidades, y yuxtaponer los resultados obtenidos con los hallazgos de la literatura anterior sobre TC.

Posteriormente, también en el capítulo cuatro, presento la metodología de este estudio. Comienzo presentando una estrategia de búsqueda exhaustiva destinada a obtener el mayor número posible de publicaciones pertinentes. También enumero los instrumentos que se utilizaron durante la búsqueda, es decir, dos bases de datos: Scopus y Web of Science, junto con la debida justificación de su elección. Además, presento varias decisiones y elecciones importantes que tomé antes y durante el proceso de búsqueda, junto con la justificación de cada una de ellas. También destaco cómo pretendo superar las limitaciones de las revisiones anteriores. A continuación, propongo 12 palabras clave principales, términos sinónimos de TC, y otra frase central, que en conjunto constituyen los elementos centrales de la búsqueda en la base de datos, justificando de nuevo adecuadamente su selección y uso. En consecuencia, presento los criterios de búsqueda, a saber, que mi estudio solo tendrá en cuenta artículos de investigación (también denominados artículos de revistas) escritos en inglés que hayan sido publicados entre 2016 y 2021, ambos inclusive, y que estén indexados en las dos bases de datos mencionadas anteriormente. También proporciono razones específicas para tal elección de criterios. A continuación, describo en detalle otros métodos de refinamiento y 10 criterios de inclusión adicionales (13 en total) que limitan aún más el alcance de la búsqueda a los estudios de TC en inglés como lengua franca.

En consecuencia, también en el cuarto capítulo, esbozo el procedimiento en cinco etapas de búsqueda en bases de datos y aplicación de criterios, basado en las directrices

PRISMA 2020 (Page et al., 2021). En la primera etapa, es decir, la búsqueda por palabras clave, las dos bases de datos arrojan 609 estudios en total. En la segunda etapa, eliminé los duplicados de este conjunto de estudios con la ayuda del gestor de referencias Mendeley, lo que dejó 443 estudios originales. En la tercera etapa, revisé los títulos, resúmenes y palabras clave de las publicaciones restantes y eliminé los estudios que no cumplían los 10 primeros criterios de inclusión, anotando debidamente el motivo de exclusión de cada publicación. Como resultado, quedaron 125 estudios únicos. En la cuarta etapa del proceso, examiné las referencias de las publicaciones restantes en busca de otros estudios pertinentes. En consecuencia, encontré dos nuevos artículos de revistas que cumplían todos los criterios de inclusión adoptados hasta el momento y los añadí a los estudios existentes, lo que dio como resultado un conjunto de 127 publicaciones. En la quinta y última etapa de este proceso, verifiqué la adhesión de los estudios restantes a los tres criterios de inclusión pendientes y descarté las publicaciones que no los cumplían todos, de nuevo, anotando el motivo de cada una de las exclusiones. Al final, quedaron 38 artículos de investigación que formaron el corpus de estudios analizados en este estudio.

Tras el proceso de búsqueda, procedí a la extracción y armonización de los datos. En primer lugar, extraje la información específica, tanto cuantitativa como cualitativa, de los 38 artículos de investigación restantes, enumerados en el libro de codificación disponible en el Apéndice B, y los recopilé en una hoja de cálculo Excel. Posteriormente, armonicé los datos extraídos si se informaba de ellos en diferentes unidades, como la duración de las telecolaboraciones, que se indicaba en semanas, meses y otras formas diversas. El objetivo de este procedimiento era facilitar el posterior análisis de los resultados obtenidos y permitirme compararlos fácilmente y, de este modo, formular conclusiones. En particular, durante este proceso tomé tres decisiones importantes, que se describen con más detalle en el capítulo cinco, que me permitieron proceder a la interpretación de los datos.

En cuanto al análisis de los datos, mi estudio adopta el método mixto. En consecuencia, analicé los datos cuantitativos mediante cálculos estadísticos descriptivos, utilizando principalmente el software JASP (JASP Team, 2023). En cuanto a los datos cualitativos, los evalué en primer lugar mediante métodos de lingüística de corpus y con el software AntConc (Anthony, 2022). Aquí, por ejemplo, determiné las palabras y frases que aparecían con más frecuencia entre los 38 artículos de investigación. A continuación, revisé manualmente cada uno de los 38 artículos de revistas, principalmente siguiendo las

directrices de la Síntesis de Investigación Cualitativa ("Qualitative Research Synthesis") ofrecidas por Chong y Plonsky (2021). Por último, llevé a cabo nuevos análisis del corpus para determinar qué estudios contribuyeron en mayor medida a los resultados de mi estudio, teniendo en cuenta tanto la magnitud de sus contribuciones como su tamaño global.

En el capítulo cinco presento los resultados de mi estudio. Comienzo con las conclusiones relativas al análisis del corpus. Aquí identifico los artículos de investigación más pequeños y los más grandes que formaron el corpus o los 38 artículos de investigación que sinteticé, además de determinar el número medio de palabras que un estudio determinado aportó al corpus. A continuación, enumero las palabras sueltas más comunes, así como las frases de dos y tres palabras que aparecen en los 38 artículos de revistas. Utilizo estas palabras y frases como palabras clave para obtener una comprensión general del contenido del corpus de 38 artículos de investigación. Posteriormente, también las utilicé para construir el andamiaje de la sección de resultados cualitativos.

Además, en el quinto capítulo de esta tesis expongo los resultados cuantitativos. En primer lugar, presento algunos datos generales, como los nombres de las revistas en las que se publicaron los artículos de investigación y el número de artículos de revistas publicados en el año natural correspondiente. En segundo lugar, me centro en las características de las telecolaboraciones de inglés como lengua franca. Aquí, discuto múltiples variables, como la duración de los proyectos de TC, el carácter de las telecolaboraciones, los modos de TC y las herramientas utilizadas en las telecolaboraciones. Además, informo sobre el número típico de participantes por TC, el número de grupos de cada país participante y el número de participantes en cada uno de estos grupos. A continuación, también examino las configuraciones de los grupos que participaron en las telecolaboraciones analizadas, el número de grupos multinacionales colaboradores en cada proyecto de TC y el número de alumnos de cada uno de estos grupos. Además, me centro en el número total de sesiones de TC en cada TC, la frecuencia de las sesiones de TC y su duración. También repaso los principales temas de los intercambios de TC. En tercer lugar, me centro en los resultados relativos a los participantes en los intercambios de TC. Empiezo analizando los resultados relacionados con su sexo, países de residencia y regiones de origen. Además, informo sobre las lenguas maternas, la edad y los grupos de edad de los alumnos que participaron en los 38

artículos de investigación objeto de este estudio. A continuación, presento las etapas educativas y las especialidades de estos estudiantes, junto con su dominio del inglés.

En el quinto capítulo de esta tesis, también incluyo los resultados cualitativos de mi revisión de 38 artículos de investigación que describen las telecolaboraciones de inglés como lengua franca. En primer lugar, considero diversos aspectos relacionados con los proyectos de TC. Aquí, por ejemplo, presento los resultados de los artículos de investigación revisados relacionados con la planificación y organización de los intercambios de TC. Además, esbozo lo que dicen los artículos de investigación revisados sobre la formación y la tutoría pedagógica antes de los telecolaboraciones, así como el papel del tiempo en los proyectos de TC. A continuación, exploro cómo puede influir la selección de la modalidad del intercambio. Aquí considero la colaboración sincrónica, asincrónica, oral, escrita y multimodal. Más adelante, me centro en los hallazgos relativos a las herramientas utilizadas en las telecolaboraciones en los artículos de investigación revisados. En particular, discuto qué herramientas pueden utilizarse eficazmente en los intercambios de TC y cómo interactúan con otras variables. Las herramientas analizadas incluyen principalmente software de videoconferencia, redes sociales y sistemas de gestión del aprendizaje, entre otros. A continuación, presento los resultados de 38 artículos de investigación sobre la aplicación del currículo en proyectos de TC y el papel de la elección de temas en dichos intercambios. A continuación, paso a describir cómo, según los estudios revisados, el diseño de tareas y las tareas pueden influir en las telecolaboraciones. En consecuencia, me centro en el papel de la retroalimentación y la reflexión crítica en los proyectos de TC. Después, discuto el papel de la evaluación, las características del grupo y la carga de trabajo en los intercambios de TC. En consecuencia, me centro en los resultados de los artículos de investigación revisados relativos a diversos problemas técnicos que pueden darse en las telecolaboraciones. En la última categoría de aspectos relacionados con los proyectos, analizo las funciones de los instructores de TC en los proyectos de TC. En concreto, describo sus obligaciones en relación con el seguimiento de sus alumnos, su presencia durante las clases de TC y la cooperación con los profesores colaboradores.

En la segunda parte de los resultados cualitativos, me centro en los aspectos de las telecolaboraciones relacionados con sus participantes. En concreto, presento las conclusiones de los 38 artículos de investigación sobre numerosas variables que interactúan con la participación de los estudiantes en proyectos de TC. Entre ellas se incluyen, por

ejemplo, si la participación en la TC en cuestión es voluntaria o no, o si los participantes en la TC tienen los mismos o diferentes objetivos fijados en los intercambios de TC. Otros resultados relacionados se refieren a consejos sobre cómo hacer frente a los niveles desiguales de participación entre los estudiantes o a la falta de la misma. Por último, en esta sección se destacan diversos beneficios relacionados con la participación de los alumnos en proyectos de TC. Entre los demás aspectos de los intercambios de TC relacionados con la participación, también se analizan los resultados relacionados con el dominio del inglés por parte de los estudiantes y su relación con la participación en TC. A continuación, analizo si los proyectos de TC pueden y/o deben utilizarse para la formación de futuros y actuales educadores y, en particular, de profesores de lenguas extranjeras.

En la tercera parte de los resultados cualitativos, exploro diversas ventajas y desventajas de los proyectos de TC, derivadas de las conclusiones de los 38 artículos de investigación revisados. En primer lugar, presento los resultados relacionados con el entorno de aprendizaje que constituyen las telecolaboraciones. En concreto, analizo diversas cualidades de los proyectos de TC, como su autenticidad, seguridad e innovación. También comparo las telecolaboraciones con las aulas tradicionales de lenguas extranjeras. A continuación, delibero sobre si las telecolaboraciones pueden constituir una alternativa válida a los programas de estudios en el extranjero. En segundo lugar, expongo los aspectos de las telecolaboraciones relacionados con el proceso de aprendizaje. En concreto, expongo los resultados sobre nociones como la autonomía del alumno, la motivación y la compenetración. Además, basándome en los resultados recogidos en los estudios revisados, señalo cómo algunas de las situaciones negativas pueden convertirse en oportunidades de aprendizaje beneficiosas en las telecolaboraciones. En tercer lugar, esbozo numerosas pruebas de las ganancias lingüísticas resultantes de la participación de los alumnos en proyectos de TC. Principalmente, me centro en las destrezas lingüísticas clásicas, es decir, la lectura, la escritura y la expresión oral, pero también en otras habilidades relacionadas, como la adquisición de vocabulario. Además, subrayo los posibles desarrollos relacionados con la aparición tanto del disfrute de la lengua extranjera como de la ansiedad ante la misma en entornos de TC. También discuto cómo tiene lugar la negociación del significado en contextos de TC, entre otros. A continuación, me dispongo a proporcionar información procedente de los estudios revisados sobre el papel del uso de las lenguas maternas y otras lenguas, así como del translenguaje, en las telecolaboraciones. En consecuencia, describo

cómo el entorno del inglés como lengua franca puede afectar a los participantes en las telecolaboraciones y cómo pueden ayudar potencialmente a los estudiantes a transformarse de aprendices de idiomas en usuarios de los mismos. Al final de esta sección, presento las conclusiones relacionadas con el vínculo entre lengua y cultura en los proyectos de TC. En cuarto lugar, considero los resultados de 38 artículos de investigación referidos al crecimiento cultural de los participantes en la TC. En concreto, analizo nociones como conciencia cultural, competencia comunicativa intercultural y sensibilidad intercultural. En quinto lugar, analizo qué tipo de conocimientos y habilidades pueden potenciar los participantes en TC como resultado de su implicación en los intercambios de TC. Entre los múltiples aspectos de este tipo se encuentran, por ejemplo, el trabajo en equipo, las habilidades comunicativas, la confianza y la curiosidad. En sexto lugar, me centro en los aspectos sociales de las telecolaboraciones que pueden ser beneficiosos para los participantes, como conocer gente nueva o hacer nuevos amigos internacionales. En séptimo lugar, esbozo varios valores que los participantes en las telecolaboraciones pueden desarrollar al tomar parte en proyectos de TC, como la eliminación de estereotipos. Hacia el final del quinto capítulo, intento determinar el éxito general de los intercambios de TC basándome en los resultados y conclusiones de los estudios revisados. Por último, presento las conclusiones de la segunda serie de análisis de corpus (retrospectivos), que revelan los artículos de investigación que más han contribuido a los resultados de esta tesis.

En el sexto capítulo de esta tesis, discuto los resultados recogidos y ofrezco posibles explicaciones de los mismos. Estas conclusiones se discuten en la misma secuencia correspondiente a la de los resultados. Además, las conclusiones obtenidas se yuxtaponen a los resultados de síntesis anteriores en el campo de la TC que se exponen en el tercer capítulo de esta tesis. En consecuencia, los resultados de este estudio se relacionan con el conocimiento sintetizado ya disponible sobre TC siempre que sea posible, formando así un cuerpo coherente de investigación.

El séptimo y último capítulo de esta disertación comprende las conclusiones de mi tesis. Una vez más, se presentan en el orden correspondiente al contenido de los resultados y, en consecuencia, también de la discusión. Además, este capítulo también incluye múltiples ideas para futuras investigaciones que se derivan de los resultados expuestos. En general, las conclusiones de este estudio coinciden con los resultados de anteriores

investigaciones similares. Del mismo modo, muchas de las sugerencias para futuras investigaciones incluidas en este estudio son similares a las ya planteadas en el pasado.

En cuanto a las conclusiones, en primer lugar, con respecto a las características generales de la literatura sobre el inglés como lengua franca en TC, puede afirmarse que los estudios que informan sobre telecolaboraciones en inglés como lengua franca se publican no sólo en las principales revistas de lingüística aplicada y de aprendizaje de idiomas asistido por ordenador, sino también en otras revistas científicas menos populares. En segundo lugar, en lo que respecta a las variables relacionadas con los participantes, los proyectos de TC de inglés como lengua franca se llevan a cabo con mayor frecuencia entre estudiantes universitarios y, en particular, profesores en formación que a menudo son también futuros profesores de lenguas extranjeras. Además, los intercambios de TC en inglés como lengua franca suelen organizarse en países desarrollados, sobre todo en Europa. Sin embargo, se observa un notable aumento del número de telecolaboraciones de inglés como lengua franca en Asia, entre otras regiones. Además, los participantes en las telecolaboraciones de inglés como lengua franca suelen tener un nivel intermedio de inglés. Los proyectos de TC de inglés como lengua franca suelen incluir aproximadamente 40 estudiantes en total, con unos 20 alumnos en cada uno de los grupos de diferentes países (normalmente dos). Además, suele haber varios grupos de proyectos multinacionales en el intercambio de TC de inglés como lengua franca y dichos grupos suelen tener unos siete estudiantes en total, con un número igual, o casi igual, de estudiantes procedentes de cada país participante. Sin embargo, en muchos casos, existe la posibilidad de que los participantes en un intercambio de TC en inglés como lengua franca experimenten la colaboración de uno a uno. En tercer lugar, en cuanto a la puesta en marcha de las telecolaboraciones de inglés como lengua franca, puede decirse que este tipo de tareas son complicadas y exigentes, tanto para sus participantes como para sus organizadores. Del mismo modo, las telecolaboraciones de inglés como lengua franca son propensas a diversos problemas, en particular, los tecnológicos y organizativos. En general, los artículos de investigación revisados coinciden en que debería ofrecerse a los participantes algún tipo de formación antes del inicio de las telecolaboraciones en inglés como lengua franca. Además, los alumnos asociados deberían tener perfiles lo más parecidos posible. En cuanto a la duración de los proyectos de TC de inglés como lengua franca, suelen durar aproximadamente 10 semanas, con sesiones de TC cada semana durante este periodo. A continuación, es evidente que las telecolaboraciones

en inglés como lengua franca están experimentando una transformación, pasando de estar basadas en texto a estar basadas en vídeo y de asíncronas a síncronas. En relación con ello, también son notables los cambios en las herramientas de TC utilizadas en dichos intercambios, cuya elección se corresponde con las tendencias mencionadas. En particular, es evidente que tanto los proyectos de TC síncronos como los asíncronos de inglés como lengua franca tienen sus ventajas e inconvenientes. No obstante, las telecolaboraciones multimodales de inglés como lengua franca parecen ser especialmente exitosas y, por lo tanto, se recomienda su implementación. En cuanto a las herramientas de TC utilizadas en los intercambios de TC en inglés como lengua franca, dos o más herramientas se utilizan simultáneamente con más frecuencia que una sola. Además, el software de videoconferencia, las redes sociales y las aplicaciones de mensajería instantánea se encuentran entre las herramientas de TC más utilizadas. En relación con este tema, también se puede decir que los actuales participantes en telecolaboraciones de inglés como lengua franca están bien preparados y tienen los conocimientos necesarios para participar en este tipo de tareas. Del mismo modo, cabe esperar que los estudiantes del futuro estén preparados para participar en dichos intercambios en una medida similar o incluso mayor. Según los estudios revisados, los proyectos de TC de inglés como lengua franca giran en torno a numerosos temas diferentes, aunque la mayoría de las veces se centran en la cultura. Además, los profesores de TC deben asegurarse de que sean apropiados e interesantes para sus alumnos e informarles de antemano sobre estos temas. En cuanto a las tareas en las clases de inglés como lengua franca, deben ser sencillas, variadas y aplicables al nivel de los alumnos. En particular, es posible cumplir los planes de estudio establecidos durante las telecolaboraciones de inglés como lengua franca, lo cual es especialmente importante en algunos contextos educativos. En relación con lo anterior, la evaluación en los intercambios de TC de inglés como lengua franca debe ser lo más equitativa posible para todos los participantes implicados. Otra área significativa entre las conclusiones de este estudio es cómo se puede garantizar la participación de los alumnos en las telecolaboraciones de inglés como lengua franca, que viene determinada por numerosos factores. Aquí, en particular, se puede afirmar que los distintos niveles de compromiso entre los participantes en las telecolaboraciones pueden ser perjudiciales para dichos intercambios. No obstante, los estudios demuestran que la naturaleza de las telecolaboraciones de inglés como lengua franca suele ser lo suficientemente atractiva para

sus participantes como para garantizar su adecuada implicación. En cuanto a la formación previa a las telecolaboraciones en inglés como lengua franca, es aconsejable incluirla. Asimismo, la retroalimentación es un componente crucial de los intercambios de TC y, por lo tanto, se recomienda garantizar su provisión. Además, se descubrió que los instructores de TC tienen múltiples funciones importantes en los proyectos de TC en inglés como lengua franca, por lo que es necesaria su participación en tales experiencias.

En cuanto a las ideas para futuras investigaciones, que también se esbozan en el capítulo siete de esta tesis, en primer lugar, es aconsejable que los futuros estudios examinen otras formas de publicación además de los artículos de revistas. En segundo lugar, en lo que se refiere a las variables de los participantes en las telecolaboraciones, sería útil que los futuros estudios sobre TC se centraran en alumnos distintos de los universitarios. Además, se sugiere organizar telecolaboraciones con estudiantes de países y regiones menos desarrollados debido a la escasez de investigaciones en dichos contextos. Además, los futuros intercambios de TC deberían investigar a estudiantes con un nivel de inglés distinto del intermedio. Por último, se anima a realizar más investigaciones sobre la organización de los grupos en los proyectos de TC y la eficacia del trabajo en los mismos. En cuanto a los aspectos relacionados con la organización de la TC, futuros estudios pueden investigar cuál es el carácter óptimo de dichos intercambios y por qué. Además, debería investigarse más a fondo la duración óptima de las telecolaboraciones. Asimismo, se aconseja que se organicen más proyectos de TC de larga duración. Además, más informes que comparen las telecolaboraciones orales y escritas serán beneficiosos para nuestra comprensión de las telecolaboraciones. En cuanto a las herramientas de la TC, las investigaciones futuras deberían centrarse en averiguar si las nuevas tecnologías disruptivas pueden aplicarse en los proyectos de TC y, en caso afirmativo, cómo. Los estudios futuros también pueden comprobar si la elección de un tema específico como tema para un intercambio de TC es importante. Del mismo modo, es necesario seguir investigando sobre el diseño y las funciones de las tareas en las telecolaboraciones, así como sobre la evaluación de los estudiantes en dichos intercambios. También es aconsejable que se sigan explorando los múltiples factores que determinan el nivel de implicación de los alumnos en los proyectos de TC de inglés como lengua franca. Con respecto a la tutoría pedagógica y la reflexión crítica en las telecolaboraciones, se aconseja realizar más investigaciones para comprobar su posible eficacia y utilidad. También se necesita más investigación sobre el grado de implicación de

los profesores en las telecolaboraciones debido a los posibles inconvenientes asociados a su presencia.

En general, los artículos de investigación revisados aportan más ventajas que inconvenientes a los intercambios de TC en inglés como lengua franca, lo que fomenta y autoriza su aplicación, especialmente en contextos de enseñanza de lenguas extranjeras. En concreto, las telecolaboraciones en inglés como lengua franca son beneficiosas para el crecimiento cultural y lingüístico de los estudiantes. Además, este tipo de actividades permiten a los alumnos desarrollar una gran variedad de destrezas, por ejemplo, las englobadas bajo el término general de destrezas del siglo XXI, así como adquirir conocimientos diversos y experimentar cambios deseables de actitudes y/o valores. En particular, las telecolaboraciones de inglés como lengua franca garantizan un entorno de aprendizaje positivo, auténtico y seguro, que proporciona las condiciones adecuadas para el crecimiento de los alumnos en las áreas enumeradas anteriormente. Sin embargo, no cabe duda de que los proyectos de TC en inglés como lengua franca ofrecen una experiencia de aprendizaje mucho más atractiva y cautivadora que las aulas tradicionales de lenguas extranjeras. Teniendo en cuenta todos los resultados, se puede concluir que los intercambios de TC en inglés como lengua franca suelen tener éxito y ofrecen múltiples vías para el crecimiento de los estudiantes, que a menudo no se pueden ofrecer en las aulas tradicionales de lenguas extranjeras. Por lo tanto, la alta eficacia general y la multitud de beneficios potenciales asociados a los proyectos de TC en inglés como lengua franca validan su implantación.

También en el séptimo capítulo delibero sobre las posibles limitaciones de esta disertación. Aquí hay que mencionar que este estudio sintetiza el contenido de sólo 38 artículos de investigación que se publicaron en un idioma y dentro de un marco temporal específico. No obstante, tales restricciones están plenamente justificadas dado el contexto más amplio de la literatura sobre TC y las decisiones particulares tomadas a lo largo del proceso de investigación. Además, las conclusiones de esta tesis se basan principalmente en datos cualitativos autoinformados ofrecidos por los artículos de investigación revisados, lo que puede considerarse como una limitación debido a su menor objetividad en contraste con los datos cuantitativos. Además, debido a la inexistencia de medidas para verificar la presencia de un sesgo de publicación en la muestra revisada de artículos de investigación, hay que asumir que puede estar presente en este estudio.

Tras todos los capítulos, esta tesis finaliza con dos listas de referencias. En primer lugar, se presentan los artículos de investigación revisados. En segundo lugar, se enumeran el resto de estudios citados en esta tesis. Además, esta tesis ofrece 28 apéndices que proporcionan información detallada y cálculos relativos a las variables analizadas en este estudio y al proceso de investigación.

Por último, cabe esperar que esta tesis sirva como punto de referencia válido para futuros estudios sobre el inglés como lengua franca u otras telecolaboraciones e inspire nuevas investigaciones al respecto. Además, es probable que este estudio sirva como un buen enlace entre las revisiones anteriores sobre intercambios de TC y la bibliografía más reciente sobre telecolaboraciones en inglés como lengua franca, ya que muestra las tendencias que se producen en la bibliografía sobre TC a lo largo del tiempo.

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Appendix 1

Full Search Strings

Scopus:

ALL("language learning") AND TITLE-ABS-KEY ("telecollaborat*" OR "virtual exchange*" OR "intercultural exchange*" OR "etandem*" OR "e-tandem*" OR "teletandem*" OR "tele-tandem*" OR "online international learning" OR "globally networked learning" OR "global virtual teams" OR "virtual collaboration*" OR "internet-mediated intercultural foreign language education" OR "etwinning*" OR "e-twinning*") AND PUBYEAR > 2015 AND PUBYEAR < 2022 AND (LIMIT-TO (DOCTYPE,"ar")) AND (LIMIT-TO (SUBJAREA,"SOCI") OR LIMIT-TO (SUBJAREA,"ARTS")) AND (LIMIT-TO (LANGUAGE,"English"))

Web of Science:

TI=("telecollaborat*" OR "virtual exchange*" OR "intercultural exchange*" OR "etandem*" OR "e-tandem*" OR "teletandem*" OR "tele-tandem*" OR "online international learning" OR "globally networked learning" OR "global virtual teams" OR "virtual collaboration*" OR "internet-mediated intercultural foreign language education" OR "etwinning*" OR "e-twinning*") OR AB=("telecollaborat*" OR "virtual exchange*" OR "intercultural exchange*" OR "etandem*" OR "e-tandem*" OR "teletandem*" OR "online international learning" OR "globally networked learning" OR "global virtual teams" OR "virtual collaboration*" OR "internet-mediated intercultural foreign language education" OR "etwinning*" OR "e-twinning*") OR KP=("telecollaborat*" OR "virtual exchange*" OR "intercultural exchange*" OR "etandem*" OR "e-tandem*" OR "teletandem*" OR "online international learning" OR "globally networked learning" OR "global virtual teams" OR "virtual collaboration*" OR "internet-mediated intercultural foreign language education" OR "etwinning*" OR "e-twinning*") AND TS=("language learning") and Article (Document Types) and Education Educational Research or Linguistics or Social Sciences Other Topics or Arts Humanities Other Topics (Research Areas) and English (Languages)
Timespan: 2016-01-01 to 2021-12-31 (Publication Date).

Appendix 2

The Coding Book

1. Study identification number.
2. Information concerning the publication:
   2.1. Author(s) name(s);
   2.2. Year of publication;
   2.3. Title;
   2.4. Name of the journal in which the RA was published.
3. Quantitative data:
   3.1. Information concerning the given TC project:
      3.1.1. Duration;
      3.1.2. Character;
      3.1.3. TC modes;
      3.1.4. TC tools used;
      3.1.5. Total number of participants per TC;
      3.1.6. Number of groups per country per TC;
      3.1.7. Configurations of multinational project groups;
      3.1.8. Number of multinational project groups per TC;
      3.1.9. Number of participants per multinational project group;
      3.1.10. Number and frequency of sessions per TC;
      3.1.11. Topics of TC projects.
   3.2. Information concerning the participants of the given TC project:
      3.2.1. Gender;
      3.2.2. Countries of residence and regions of origin;
      3.2.3. Mother tongues (L1s);
      3.2.4. Other known language;
      3.2.5. Age and age groups;
      3.2.6. Educational stages and majors;
      3.2.7. Proficiency in English.
4. Quantitative data:
   4.1. Findings;
   4.2. Discussion (if applicable);
   4.3. Conclusions.

Appendix 3

Table 3.1

The List of the Most Commonly Appearing Individual Keywords in the Corpus (Top 500) After a Custom Stop Word List Was Applied

Keyword	Rank	Frequency	Range	Normal Frequency	Normal Range
students	9	1259	37	11420.433	0.974
language	24	431	35	3909.616	0.921
project	26	417	27	3782.622	0.711
learning	30	394	36	3573.988	0.947
more	32	368	37	3338.141	0.974
group	35	332	30	3011.584	0.789
intercultural	36	326	31	2957.158	0.816
english	37	320	28	2902.731	0.737
participants	39	311	33	2821.092	0.868
exchange	40	303	30	2748.524	0.789
learners	42	295	32	2675.955	0.842
cultural	44	271	32	2458.251	0.842
different	46	264	36	2394.753	0.947
communication	51	246	36	2231.475	0.947
teachers	56	232	34	2104.480	0.895
teacher	59	225	28	2040.983	0.737
interaction	65	192	31	1741.639	0.816
online	67	189	34	1714.426	0.895
task	68	188	25	1705.355	0.658
skills	69	187	30	1696.284	0.789
groups	70	184	29	1669.070	0.763
research	71	180	34	1632.786	0.895
children	77	167	9	1514.863	0.237
development	79	161	27	1460.437	0.711
spanish	81	158	13	1433.224	0.342
culture	83	155	25	1406.010	0.658
time	83	155	37	1406.010	0.974
knowledge	87	149	26	1351.584	0.684
results	87	149	34	1351.584	0.895
pedagogical	93	146	23	1324.371	0.605
partners	96	142	26	1288.087	0.684
teaching	97	141	26	1279.016	0.684
telecollaboration	99	138	24	1251.803	0.632
cultures	101	136	24	1233.661	0.632
classroom	102	135	23	1224.590	0.605
experience	104	133	34	1206.448	0.895
social	104	133	26	1206.448	0.684

(continued)

Keyword	Rank	Frequency	Range	Normal Frequency	Normal Range
student	107	132	30	1197.377	0.789
tasks	108	130	26	1179.235	0.684
linguistic	111	128	23	1161.093	0.605
competence	117	123	22	1115.737	0.579
class	120	121	28	1097.595	0.737
positive	124	115	27	1043.169	0.711
significant	127	112	17	1015.956	0.447
tools	127	112	19	1015.956	0.500
awareness	129	111	24	1006.885	0.632
telecollaborative	134	108	20	979.672	0.526
differences	135	106	26	961.530	0.684
japanese	136	105	9	952.459	0.237
projects	136	105	22	952.459	0.579
activities	139	104	20	943.388	0.526
exchanges	140	103	25	934.317	0.658
pupils	141	101	6	916.175	0.158
critical	146	98	19	888.961	0.500
analysis	150	96	28	870.819	0.737
digital	154	94	17	852.677	0.447
environment	157	93	17	843.606	0.447
design	160	91	20	825.464	0.526
international	164	88	18	798.251	0.474
lexical	164	88	7	798.251	0.184
school	171	85	14	771.038	0.368
written	171	85	21	771.038	0.553
learner	176	84	17	761.967	0.447
competences	187	79	12	716.612	0.316
conversation	187	79	20	716.612	0.526
education	195	77	22	698.470	0.579
efl	195	77	14	698.470	0.368
writing	198	76	17	689.399	0.447
challenges	202	75	17	680.328	0.447
skype	202	75	14	680.328	0.368
foreign	204	74	24	671.257	0.632
issues	204	74	24	671.257	0.632
topics	207	73	24	662.186	0.632
perceptions	208	72	10	653.115	0.263
participation	210	71	17	644.044	0.447
partner	210	71	20	644.044	0.526
post	210	71	19	644.044	0.500
video	210	71	24	644.044	0.632
communicative	215	70	17	634.972	0.447
facebook	215	70	10	634.972	0.263
oral	221	69	9	625.901	0.237

(continued)

Keyword	Rank	Frequency	Range	Normal Frequency	Normal Range
polish	221	69	5	625.901	0.132
countries	227	68	21	616.830	0.553
interactions	230	67	24	607.759	0.632
presence	230	67	12	607.759	0.316
topic	230	67	21	607.759	0.553
world	230	67	20	607.759	0.526
attitudes	236	66	15	598.688	0.395
develop	236	66	23	598.688	0.605
peers	236	66	23	598.688	0.605
problems	236	66	25	598.688	0.658
ve	236	66	6	598.688	0.158
activity	243	65	16	589.617	0.421
icc	244	64	7	580.546	0.184
members	244	64	18	580.546	0.474
support	251	63	22	571.475	0.579
conversations	256	62	13	562.404	0.342
course	256	62	18	562.404	0.474
lingua	260	61	10	553.333	0.263
reflection	260	61	16	553.333	0.421
taiwanese	260	61	10	553.333	0.263
technology	264	60	23	544.262	0.605
engage	268	59	21	535.191	0.553
team	268	59	10	535.191	0.263
collaboration	273	58	21	526.120	0.553
collaborative	273	58	19	526.120	0.500
franca	273	58	10	526.120	0.263
tool	273	58	19	526.120	0.500
line	279	57	16	517.049	0.421
new	279	57	26	517.049	0.684
contexts	289	55	25	498.907	0.658
identity	289	55	11	498.907	0.289
lack	289	55	21	498.907	0.553
languages	289	55	12	498.907	0.316
difference	298	54	24	489.836	0.632
interest	298	54	26	489.836	0.684
local	298	54	12	489.836	0.316
mentoring	298	54	3	489.836	0.079
opportunities	298	54	20	489.836	0.526
strategies	298	54	12	489.836	0.316
instructors	307	53	12	480.765	0.316
interactional	319	51	11	462.623	0.289
opportunity	319	51	20	462.623	0.526
real	324	50	14	453.552	0.368

Note. n = 189. Frequency threshold: >= 50.

Appendix 4

Table 4.1

The List of the Most Commonly Appearing Two-Word N-Grams in the Corpus (Top 500) After a Custom Stop Word List Was Applied

Two-Word N-Gram	Rank	Frequency	Range	Normal Frequency	Normal Range
lingua franca	71	58	10	1891.531	0.263
language learning	79	55	18	1793.693	0.474
foreign language	92	50	18	1630.630	0.474
spanish students	107	45	6	1467.567	0.158
pedagogical mentoring	151	37	2	1206.666	0.053
intercultural competence	161	36	11	1174.053	0.289
teaching presence	181	33	3	1076.216	0.079
intercultural communication	208	30	14	978.378	0.368
cultural differences	215	29	12	945.765	0.316
taiwanese students	215	29	8	945.765	0.211
icc development	228	28	3	913.153	0.079
cultural awareness	245	27	11	880.540	0.289
lexical density	265	26	1	847.927	0.026
canadian students	277	25	2	815.315	0.053
task design	277	25	5	815.315	0.132
virtual exchange	295	24	2	782.702	0.053
intercultural citizenship	317	23	2	750.090	0.053
language learners	317	23	11	750.090	0.289
language teaching	317	23	14	750.090	0.368
polish students	317	23	4	750.090	0.105
social media	317	23	8	750.090	0.211
control group	350	22	7	717.477	0.184
lexical diversity	350	22	1	717.477	0.026
critical cultural	404	20	4	652.252	0.105
cultural knowledge	404	20	6	652.252	0.158
english language	404	20	10	652.252	0.263
target language	404	20	10	652.252	0.263

Note. n = 27. Frequency threshold: >= 20.

Appendix 5

Table 5.1

The List of the Most Commonly Appearing Three-Word N-Grams in the Corpus (Top 500) After a Custom Stop Word List Was Applied

Three-Word N-Gram	Rank	Frequency	Range	Normal Frequency	Normal Range
critical cultural awareness	58	18	4	4734.350	0.105
lingua franca conversations	93	14	1	3682.272	0.026
pedagogical lingua franca	115	13	2	3419.253	0.053
foreign language teaching	156	11	6	2893.214	0.158

Note. n = 4. Frequency threshold: >= 10.

Appendix 6

Table 6.1

The Number of Research Articles Published per Year – Descriptive Statistics

Statistic	Number of Research Articles per Year
Mean	6.333
Std. Deviation	1.211
Minimum	5.000
Maximum	8.000

Note. n = 38.

Table 6.2

The Number of Research Articles Published per Year – Frequency Table With Individual and Cumulative Percentages

Number of Research Articles per Year	Frequency	Individual Percent	Cumulative Percent
5	2	33.333	33.333
6	1	16.667	50.000
7	2	33.333	83.333
8	1	16.667	100.000

Note. n = 38.

Figure 6.1

The Number of Research Articles Published per Year – Distribution Plot

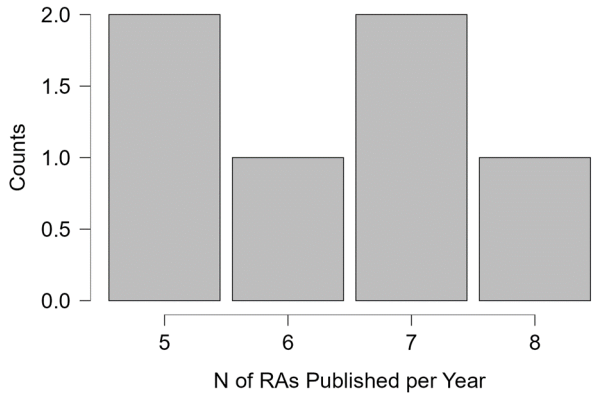
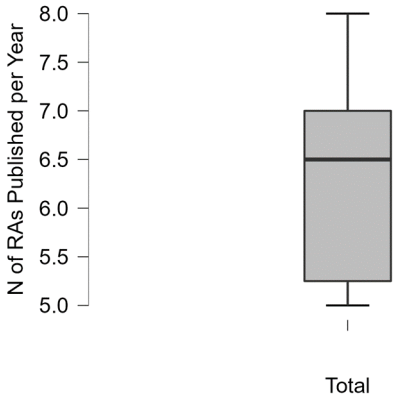


Figure 6.2

The Number of Research Articles Published per Year – Boxplot



Appendix 7

Table 7.1

Duration of Telecollaboration Projects – Descriptive Statistics (With an Outlier)

Statistic	Duration [Weeks]
Mean	10.621
Std. Deviation	5.519
Minimum	4.000
Maximum	32.000

Note. n = 29.

Table 7.2

Duration of Telecollaboration Projects – Frequency Table With Individual and Cumulative Percentages (With an Outlier)

Duration [Weeks]	Frequency	Individual Percent	Cumulative Percent
4	1	3.448	3.448
5	1	3.448	6.897
6	5	17.241	24.138
7	2	6.897	31.034
8	5	17.241	48.276
10	3	10.345	58.621
11	1	3.448	62.069
12	2	6.897	68.966
13	2	6.897	75.862
14	1	3.448	79.310
15	2	6.897	86.207
16	3	10.345	96.552
32	1	3.448	100.000

Note. n = 29.

Figure 7.1

Duration of Telecollaboration Projects – Distribution Plot (With an Outlier)

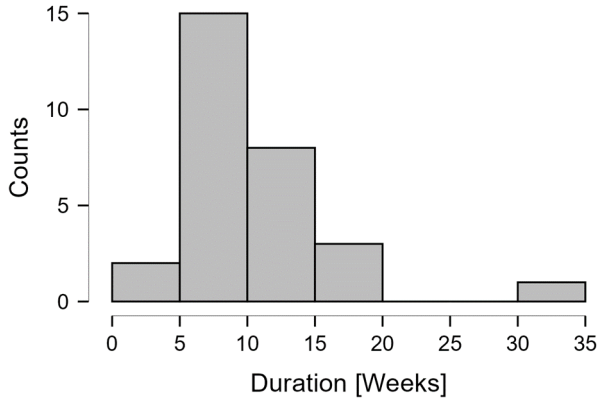
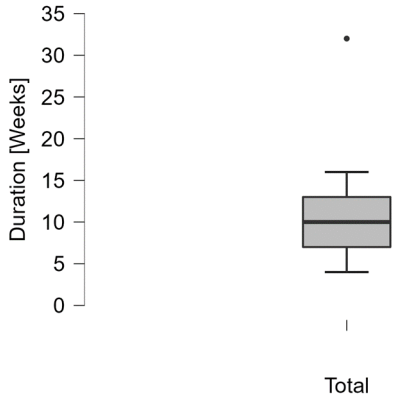


Figure 7.2

Duration of Telecollaboration Projects – Boxplot (With an Outlier)



Appendix 8

Table 8.1

Duration of Telecollaboration Projects – Descriptive Statistics (Without an Outlier)

Statistic	Duration [Weeks]
Mean	9.857
Standard Deviation	3.749
Minimum	4.000
Maximum	16.000

Note. n = 28.

Table 8.2

Duration of Telecollaboration Projects – Frequency Table With Individual and Cumulative Percentages (Without an Outlier)

Duration [Weeks]	Frequency	Individual Percent	Cumulative Percent
4	1	3.571	3.571
5	1	3.571	7.143
6	5	17.857	25.000
7	2	7.143	32.143
8	5	17.857	50.000
10	3	10.714	60.714
11	1	3.571	64.286
12	2	7.143	71.429
13	2	7.143	78.571
14	1	3.571	82.143
15	2	7.143	89.286
16	3	10.714	100.000

Note. n = 28.

Figure 8.1

Duration of Telecollaboration Projects – Distribution Plot (Without an Outlier)

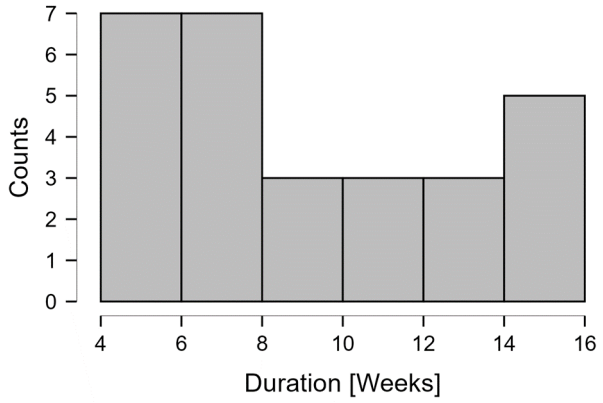
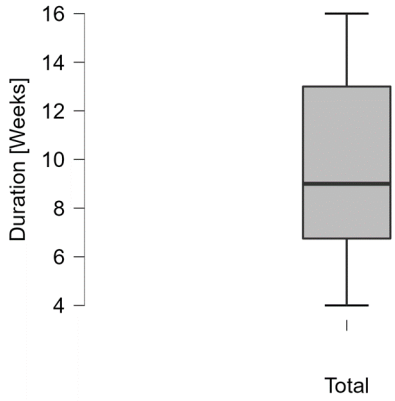


Figure 8.2

Duration of Telecollaboration Projects – Boxplot (Without an Outlier)



Appendix 9

Table 9.1

The Number of Telecollaboration Tools Used in TC Projects – Descriptive Statistics

Statistic	Count
Mean	2.500
Standard Deviation	1.630
Minimum	1.000
Maximum	6.000

Note. n = 36.

Table 9.2

The Number of Telecollaboration Tools Used in TC Projects – Frequency Table With Individual and Cumulative Percentages

Number of Tools	Frequency	Individual Percent	Cumulative Percent
1	14	38.889	38.889
2	8	22.222	61.111
3	3	8.333	69.444
4	7	19.444	88.889
5	1	2.778	91.667
6	3	8.333	100.000

Note. n = 36.

Figure 9.1

The Number of Telecollaboration Tools Used in Telecollaboration Projects – Distribution Plot

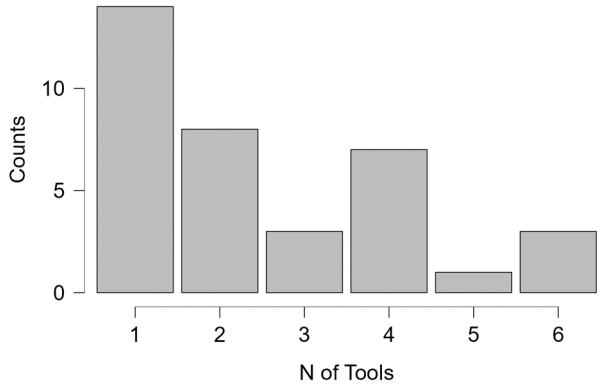


Figure 9.2

The Number of Telecollaboration Tools Used in Telecollaboration Projects – Boxplot

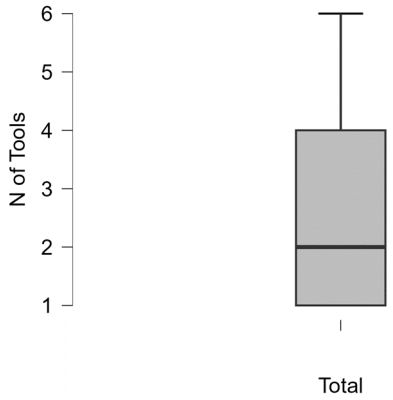


Table 9.3

The Ratio of Telecollaboration Tools Used in Research Articles per Year

Year	Number of Tools	Number of RAs	Ratio of Tools per RA
2016	16	6	2.667
2017	16	7	2.286
2018	10	4	2.500
2019	23	7	3.286
2020	8	5	1.600
2021	17	7	2.428

Note. n = 36.

Appendix 10

Table 10.1

The Total Number of Participants per Telecollaboration – Descriptive Statistics

Statistic	Number of Participants
Mean	41.583
Standard Deviation	19.276
Minimum	11.000
Maximum	76.000

Note. n = 24.

Table 10.2

The Total Number of Participants per Telecollaboration – Frequency Table With Individual and Cumulative Percentages

Number of Participants	Frequency	Individual Percent	Cumulative Percent
11	1	4.167	4.167
12	1	4.167	8.333
14	1	4.167	12.500
23	1	4.167	16.667
24	2	8.333	25.000
30	1	4.167	29.167
32	1	4.167	33.333
34	1	4.167	37.500
36	1	4.167	41.667
38	1	4.167	45.833
39	1	4.167	50.000
42	1	4.167	54.167
43	1	4.167	58.333
44	1	4.167	62.500
47	1	4.167	66.667
49	1	4.167	70.833

(continued)

Number of Participants	Frequency	Individual Percent	Cumulative Percent
50	1	4.167	75.000
55	1	4.167	79.167
57	1	4.167	83.333
70	1	4.167	87.500
73	1	4.167	91.667
75	1	4.167	95.833
76	1	4.167	100.000

Note. n = 24.

Figure 10.1

The Total Number of Participants per Telecollaboration – Distribution Plot

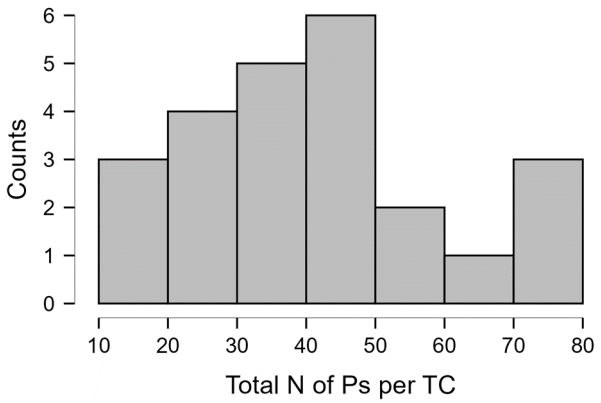
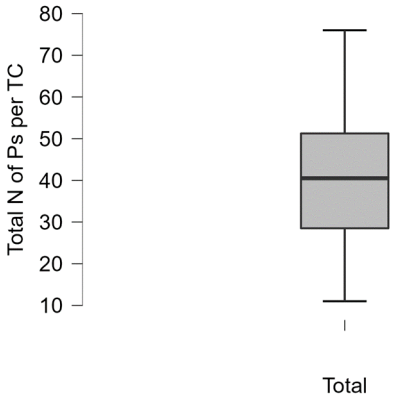


Figure 10.2

The Total Number of Participants per Telecollaboration – Boxplot



Appendix 11

Table 11.1

The Number of Groups per Country in Each Telecollaboration – Descriptive Statistics

Statistic	Number of Groups
Mean	2.583
Standard Deviation	1.228
Minimum	2.000
Maximum	7.000

Note. n = 36.

Table 11.2

The Number of Groups per Country in Each Telecollaboration – Frequency Table With Individual and Cumulative Percentages

Number of Groups	Frequency	Individual Percent	Cumulative Percent
2	27	75.000	75.000
3	3	8.333	83.333
4	3	8.333	91.667
5	1	2.778	94.444
6	1	2.778	97.222
7	1	2.778	100.000

Note. n = 36.

Figure 11.1

The Number of Groups per Country in Each Telecollaboration – Distribution Plot

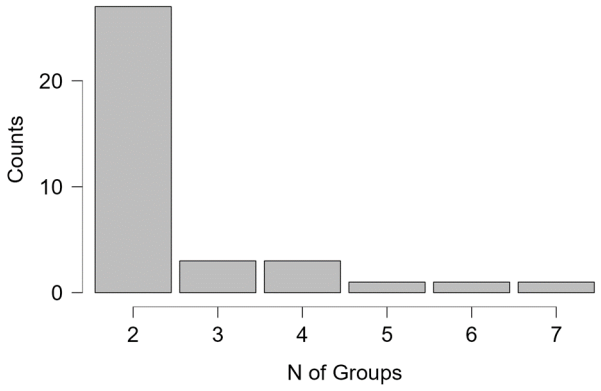
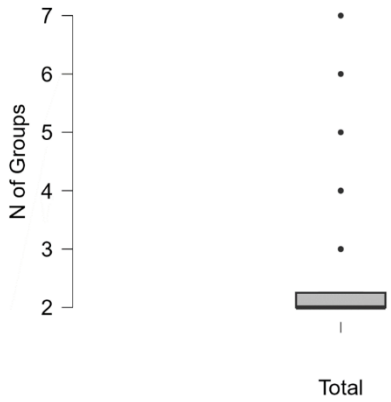


Figure 11.2

The Number of Groups per Country in Each Telecollaboration – Boxplot



Appendix 12

Table 12.1

The Number of Participants per Group per Country in Each Telecollaboration – Descriptive Statistics (With Outliers)

Statistic	*Number of Participants*
Mean	19.000
Standard Deviation	11.369
Minimum	4.000
Maximum	58.000

Note. n = 50.

Table 12.2

The Number of Participants per Group per Country in Each Telecollaboration – Frequency Table With Individual and Cumulative Percentages (With Outliers)

Number of Participants	Frequency	Individual Percent	Cumulative Percent
4	1	2.000	2.000
6	1	2.000	4.000
7	3	6.000	10.000
8	2	4.000	14.000
9	1	2.000	16.000
11	4	8.000	24.000
12	5	10.000	34.000
13	1	2.000	36.000
15	4	8.000	44.000
16	3	6.000	50.000
17	1	2.000	52.000
18	4	8.000	60.000
19	3	6.000	66.000
20	2	4.000	70.000
22	1	2.000	72.000

(continued)

Number of Participants	Frequency	Individual Percent	Cumulative Percent
23	1	2.000	74.000
25	3	6.000	80.000
26	1	2.000	82.000
27	1	2.000	84.000
28	2	4.000	88.000
29	1	2.000	90.000
31	1	2.000	92.000
32	1	2.000	94.000
50	1	2.000	96.000
54	1	2.000	98.000
58	1	2.000	100.000

Note. n = 50.

Figure 12.1

The Number of Participants per Group per Country in Each Telecollaboration – Distribution Plot (With Outliers)

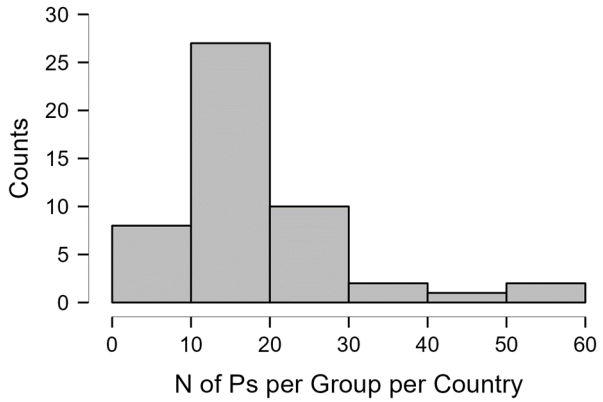
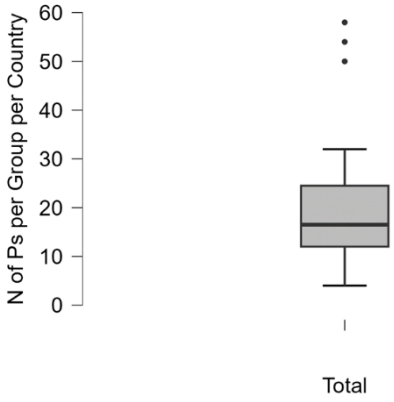


Figure 12.2

The Number of Participants per Group per Country in Each Telecollaboration – Boxplot (With Outliers)



Appendix 13

Table 13.1

The Number of Participants per Group per Country in Each Telecollaboration – Descriptive Statistics (Without Outliers)

Statistic	Number of Participants
Mean	16.514
Standard Deviation	7.393
Minimum	4.000
Maximum	32.000

Note. n = 44.

Table 13.2

The Number of Participants per Group per Country in Each Telecollaboration – Frequency Table With Individual and Cumulative Percentages (Without Outliers)

Number of Participants	Frequency	Individual Percent	Cumulative Percent
4	1	2.273	2.273
6	1	2.273	4.545
7	3	6.818	11.364
8	2	4.545	15.909
9	1	2.273	18.182
11	4	9.091	27.273
12	5	11.364	38.636
13	1	2.273	40.909
15	3	6.818	47.727
16	3	6.818	54.545
17	1	2.273	56.818
18	4	9.091	65.909
19	3	6.818	72.727
20	1	2.273	75.000
23	1	2.273	77.273

(continued)

Number of Participants	Frequency	Individual Percent	Cumulative Percent
25	3	6.818	84.091
26	1	2.273	86.364
27	1	2.273	88.636
28	2	4.545	93.182
29	1	2.273	95.455
31	1	2.273	97.727
32	1	2.273	100.000

Note. n = 44.

Figure 13.1

The Number of Participants per Group per Country in Each Telecollaboration – Distribution Plot (Without Outliers)

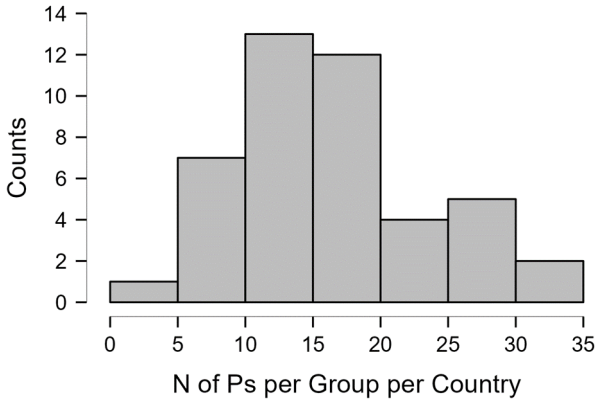
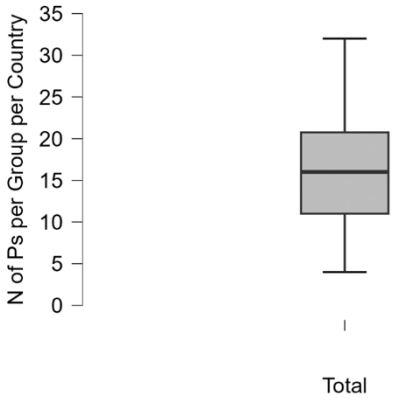


Figure 13.2

The Number of Participants per Group per Country in Each Telecollaboration – Boxplot (Without Outliers)



Appendix 14

Table 14.1

The Total Number of Collaborating Multinational Groups per Telecollaboration – Descriptive Statistics

Statistic	Number of Groups
Mean	6.409
Standard Deviation	3.418
Minimum	1.000
Maximum	12.000

Note. n = 22.

Table 14.2

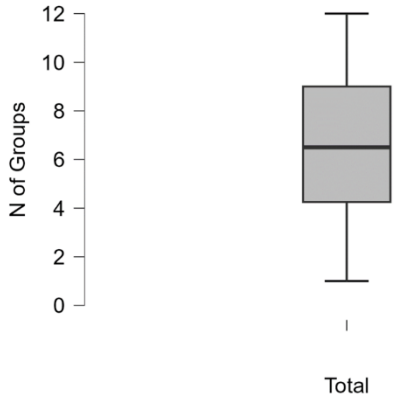
The Total Number of Collaborating Multinational Groups per Telecollaboration – Frequency Table With Individual and Cumulative Percentages

Number of Groups	Frequency	Individual Percent	Cumulative Percent
1	4	18.182	18.182
3	1	4.545	22.727
4	1	4.545	27.273
5	1	4.545	31.818
6	4	18.182	50.000
7	2	9.091	59.091
8	1	4.545	63.636
9	4	18.182	81.818
10	2	9.091	90.909
11	1	4.545	95.455
12	1	4.545	100.000

Note. n = 22.

Figure 14.1

The Total Number of Collaborating Multinational Groups per Telecollaboration – Boxplot



Appendix 15

Table 15.1

The Number of Participants in a Multinational Group per Telecollaboration – Descriptive Statistics (With Outliers)

Statistic	Number of Participants
Mean	6.225
Standard Deviation	4.123
Minimum	2.000
Maximum	24.000

Note. n = 40.

Table 15.2

The Number of Participants in a Multinational Group per Telecollaboration – Frequency Table With Individual and Cumulative Percentages (With Outliers)

Number of Participants	Frequency	Individual Percent	Cumulative Percent
2	4	10.000	10.000
3	3	7.500	17.500
4	6	15.000	32.500
5	6	15.000	47.500
6	8	20.000	67.500
7	5	12.500	80.000
8	3	7.500	87.500
9	2	5.000	92.500
10	1	2.500	95.000
19	1	2.500	97.500
24	1	2.500	100.000

Note. n = 40.

Figure 15.1

The Number of Participants in a Multinational Group per Telecollaboration – Distribution Plot (With Outliers)

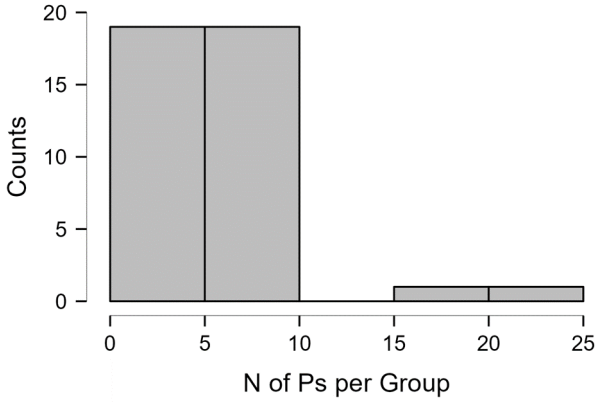
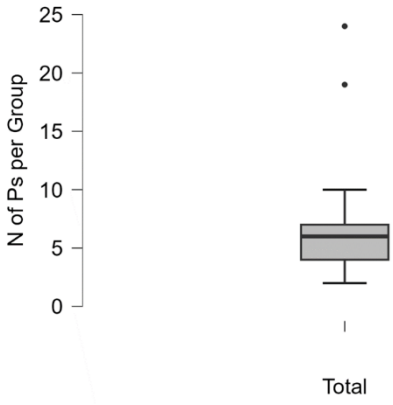


Figure 15.2

The Number of Participants in a Multinational Group per Telecollaboration – Boxplot (With Outliers)



Appendix 16

Table 16.1

The Number of Participants in a Multinational Group per Telecollaboration – Descriptive Statistics (Without Outliers)

Statistic	Number of Participants
Mean	5.421
Standard Deviation	2.075
Minimum	2.000
Maximum	10.000

Note. n = 38.

Table 16.2

The Number of Participants in a Multinational Group per Telecollaboration – Frequency Table With Individual and Cumulative Percentages (Without Outliers)

Number of Participants	Frequency	Individual Percent	Cumulative Percent
2	4	10.526	10.526
3	3	7.895	18.421
4	6	15.789	34.211
5	6	15.789	50.000
6	8	21.053	71.053
7	5	13.158	84.211
8	3	7.895	92.105
9	2	5.263	97.368
10	1	2.632	100.000

Note. n = 38.

Figure 16.1

The Number of Participants in a Multinational Group per Telecollaboration – Distribution Plot (Without Outliers)

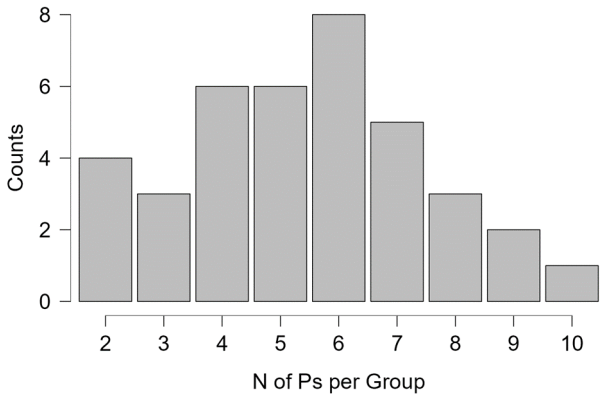
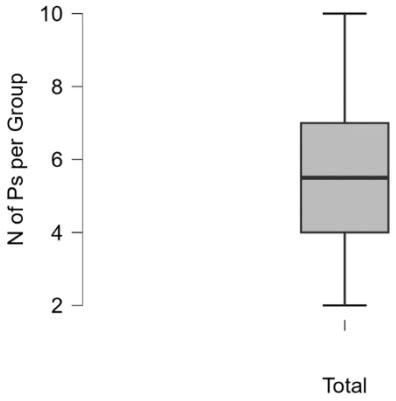


Figure 16.2

The Number of Participants in a Multinational Group per Telecollaboration – Boxplot (Without Outliers)



Appendix 17

Table 17.1

The Number of Sessions per Telecollaboration – Descriptive Statistics (With an Outlier)

Statistic	Number of Sessions
Mean	8.526
Standard Deviation	10.173
Minimum	1.000
Maximum	48.000

Note. n = 19.

Table 17.2

The Number of Sessions per Telecollaboration – Individual and Cumulative Percentages (With an Outlier)

Number of Sessions	Frequency	Individual Percent	Cumulative Percent
1	2	10.526	10.526
2	1	5.263	15.789
3	1	5.263	21.053
4	2	10.526	31.579
5	2	10.526	42.105
6	2	10.526	52.632
7	1	5.263	57.895
8	2	10.526	68.421
9	1	5.263	73.684
10	2	10.526	84.211
12	1	5.263	89.474
13	1	5.263	94.737
48	1	5.263	100.000

Note. n = 19.

Figure 17.1

The Number of Sessions per Telecollaboration – Distribution Plot (With an Outlier)

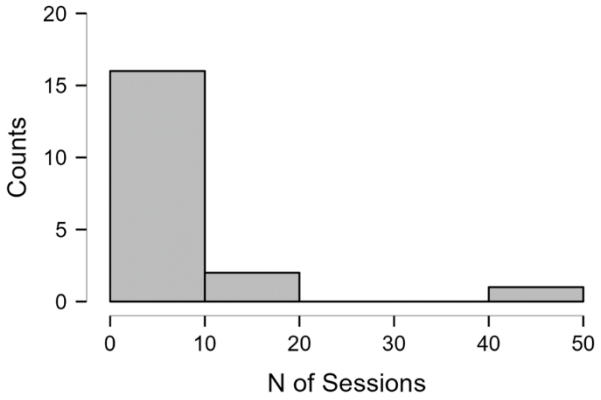
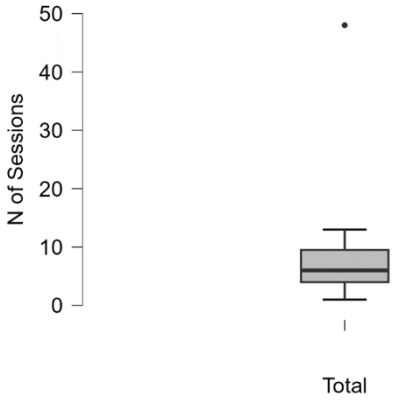


Figure 17.2

The Number of Sessions per Telecollaboration – Boxplot (With an Outlier)



Appendix 18

Table 18.1

The Number of Sessions per Telecollaboration – Descriptive Statistics (Without an Outlier)

Statistic	Number of Sessions
Mean	6.333
Standard Deviation	3.581
Minimum	1.000
Maximum	13.000

Note. n = 18.

Table 18.2

The Number of Sessions per Telecollaboration – Individual and Cumulative Percentages (Without an Outlier)

Number of Sessions	Frequency	Individual Percent	Cumulative Percent
1	2	11.111	11.111
2	1	5.556	16.667
3	1	5.556	22.222
4	2	11.111	33.333
5	2	11.111	44.444
6	2	11.111	55.556
7	1	5.556	61.111
8	2	11.111	72.222
9	1	5.556	77.778
10	2	11.111	88.889
12	1	5.556	94.444
13	1	5.556	100.000

Note. n = 18.

Figure 18.1

The Number of Sessions per Telecollaboration – Distribution Plot (Without an Outlier)

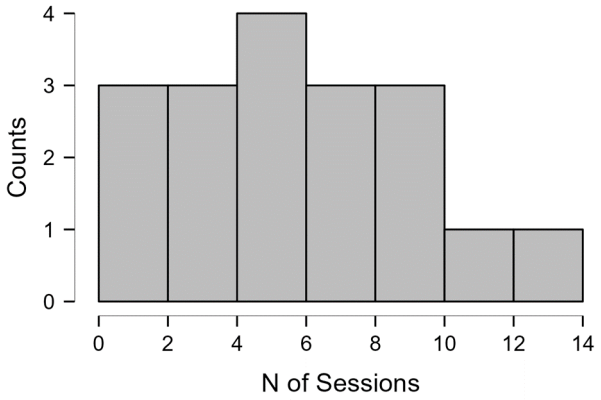
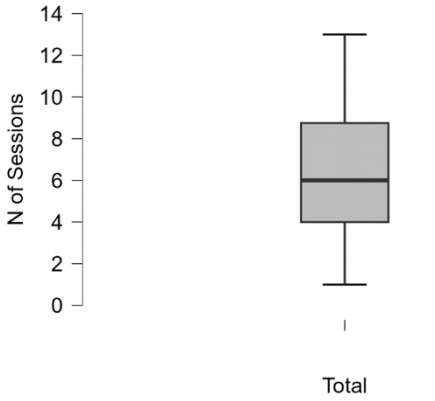


Figure 18.2

The Number of Sessions per Telecollaboration – Boxplot (Without an Outlier)



Appendix 19

Table 19.1

The Duration of Sessions per Telecollaboration – Descriptive Statistics (With an Outlier)

Statistic	Session Duration [Minutes]
Mean	72.286
Standard Deviation	48.824
Minimum	25.000
Maximum	240.000

Note. n = 21.

Table 19.2

The Duration of Sessions per Telecollaboration – Individual and Cumulative Percentages (With an Outlier)

Session Duration [Minutes]	Frequency	Individual Percent	Cumulative Percent
25	1	4.762	4.762
30	3	14.286	19.048
40	1	4.762	23.810
44	1	4.762	28.571
46	1	4.762	33.333
49	1	4.762	38.095
50	2	9.524	47.619
59	1	4.762	52.381
60	1	4.762	57.143
69	1	4.762	61.905
81	1	4.762	66.667
90	4	19.048	85.714
120	1	4.762	90.476
135	1	4.762	95.238
240	1	4.762	100.000

Note. n = 21.

Figure 19.1

The Duration of Sessions per Telecollaboration – Distribution Plot (With an Outlier)

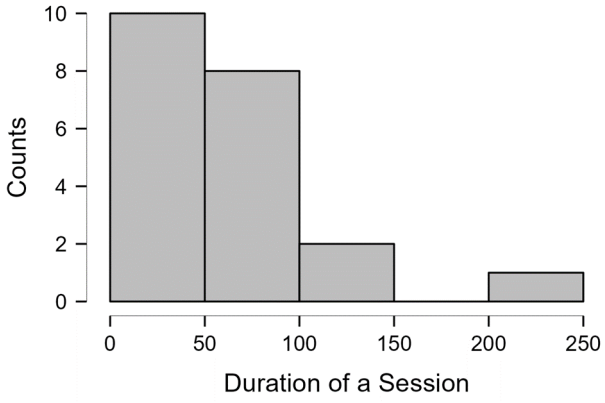
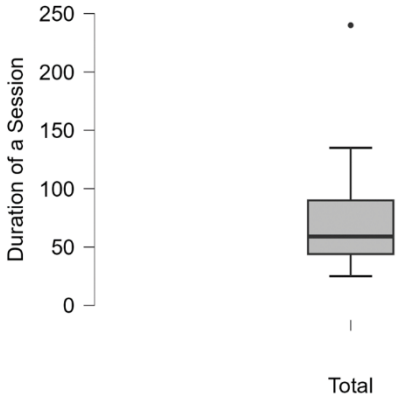


Figure 19.2

The Duration of Sessions per Telecollaboration – Boxplot (With an Outlier)



Appendix 20

Table 20.1

The Duration of Sessions per Telecollaboration – Descriptive Statistics (Without an Outlier)

Statistic	Session Duration [Minutes]
Mean	63.900
Standard Deviation	30.900
Minimum	25.000
Maximum	135.000

Note. n = 20.

Table 20.2

The Duration of Sessions per Telecollaboration – Individual and Cumulative Percentages (Without an Outlier)

Session Duration [Minutes]	Frequency	Individual Percent	Cumulative Percent
25	1	5.000	5.000
30	3	15.000	20.000
40	1	5.000	25.000
44	1	5.000	30.000
46	1	5.000	35.000
49	1	5.000	40.000
50	2	10.000	50.000
59	1	5.000	55.000
60	1	5.000	60.000
69	1	5.000	65.000
81	1	5.000	70.000
90	4	20.000	90.000
120	1	5.000	95.000
135	1	5.000	100.000

Note. n = 20.

Figure 20.1

The Duration of Sessions per Telecollaboration – Distribution Plot (Without an Outlier)

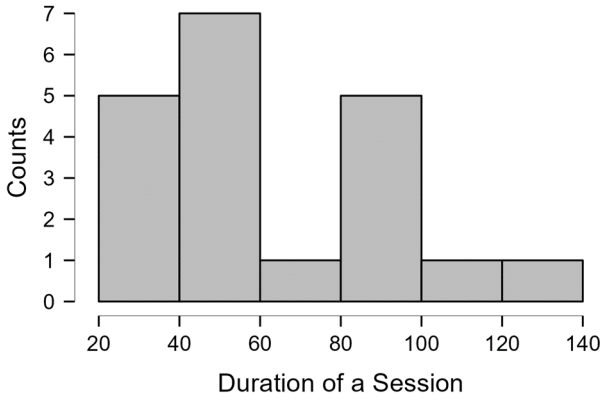
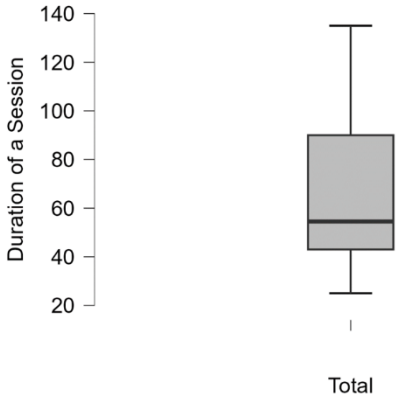


Figure 20.2

The Duration of Sessions per Telecollaboration – Boxplot (Without an Outlier)



Appendix 21

Table 21.1

The Number of Nationalities per Telecollaboration – Descriptive Statistics

Statistic	Number of Nationalities per TC
Mean	2.472
Standard Deviation	1.230
Minimum	2.000
Maximum	7.000

Note. n = 36.

Table 21.2

The Number of Nationalities per Telecollaboration – Individual and Cumulative Percentages

Number of Nationalities	Frequency	Individual Percent	Cumulative Percent
2	30	83.333	83.333
3	2	5.556	88.889
5	2	5.556	94.444
6	1	2.778	97.222
7	1	2.778	100.000

Note. n = 36.

Figure 21.1

The Number of Nationalities per Telecollaboration – Distribution Plot

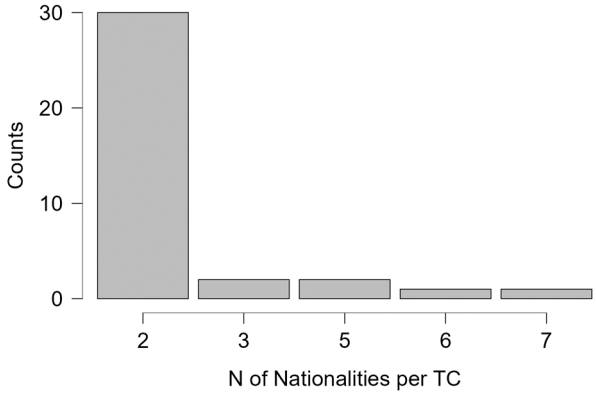
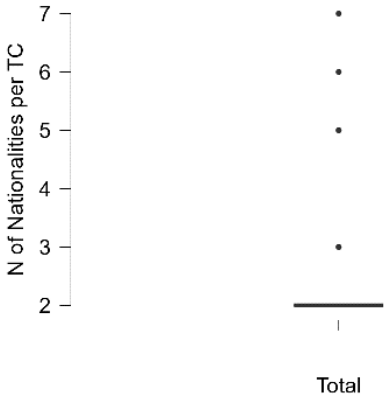


Figure 21.2

The Number of Nationalities per Telecollaboration – Boxplot



Appendix 22

Table 22.1

The Number of Groups of Participants – Multilateral Telecollaborations

Statistic	Number of Groups
Mean	3.333
Standard Deviation	1.506
Minimum	1.000
Maximum	5.000

Note. n = 6.

Table 22.2

The Number of Groups of Participants – Multilateral Telecollaborations – Individual and Cumulative Percentages

Number of Groups	Frequency	Individual Percent	Cumulative Percent
1	1	16.667	16.667
2	1	16.667	33.333
4	3	50.000	83.333
5	1	16.667	100.000

Note. n = 6.

Figure 22.1

The Number of Groups of Participants – Multilateral Telecollaborations – Distribution Plot

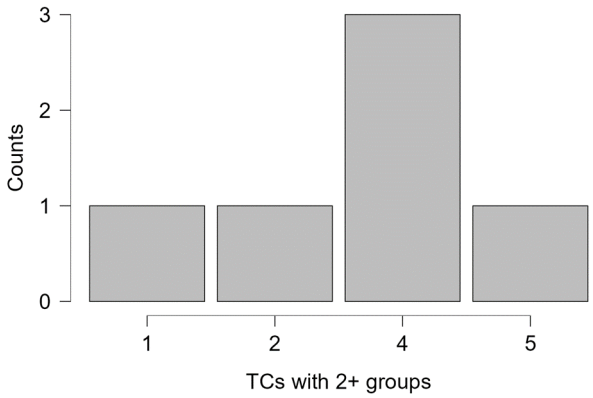


Figure 22.2

The Number of Groups of Participants – Multilateral Telecollaborations – Boxplot

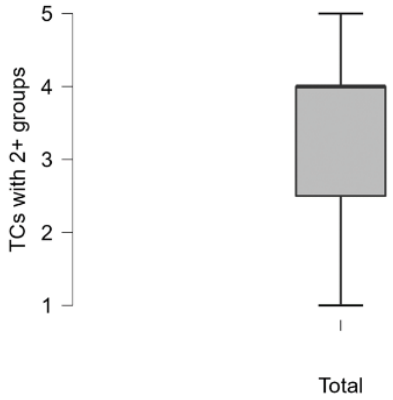


Table 22.3

The List of Intraregional Telecollaborations and the Respective Frequency of Occurrence Along With the Total Number of Regions Present in the Given Telecollaboration – Multilateral Telecollaborations

Region	Total Number of Regions	Count
Asia (3x)	1	1

Note. n = 1.

Table 22.4

The List of Interregional Telecollaborations and the Respective Frequency of Occurrence Along With the Total Number of Regions Present in the Given Telecollaboration – Multilateral Telecollaborations

Region Set	Total Number of Regions	Count
Africa – Asia – Europe – The Middle East – North America	5	1
Africa – Asia (3x) – Europe – South America	4	1
Asia – Australia – Europe (2x) – The Middle East	4	1
Asia (4x) – Central America – The Middle East – South America	4	1
Europe (2x) – The Middle East	2	1

Note. n = 5. The numbers in parentheses denotes multiple counts from the given region.

Appendix 23

Table 23.1

The Age of Telecollaboration Participants – Individual and Cumulative Percentages

Age	Frequency	Individual Percent	Cumulative Percent
6	3	0.756	0.756
7	5	1.259	2.015
8	4	1.008	3.023
9	1	0.252	3.275
10	1	0.252	3.526
11	4	1.008	4.534
12	8	2.015	6.549
13	8	2.015	8.564
14	8	2.015	10.579
15	7	1.763	12.343
16	7	1.763	14.106
17	6	1.511	15.617
18	6	1.511	17.128
19	28	7.053	24.181
20	32	8.060	32.242
21	35	8.816	41.058
22	37	9.320	50.378
23	31	7.809	58.186
24	15	3.778	61.965
25	13	3.275	65.239
26	10	2.519	67.758
27	9	2.267	70.025
28	8	2.015	72.040
29	8	2.015	74.055
30	7	1.763	75.819
31	7	1.763	77.582
32	7	1.763	79.345
33	7	1.763	81.108
34	7	1.763	82.872
35	7	1.763	84.635
36	6	1.511	86.146
37	6	1.511	87.657
38	6	1.511	89.169
39	6	1.511	90.680
40	6	1.511	92.191
41	4	1.008	93.199
42	4	1.008	94.207
43	4	1.008	95.214
44	4	1.008	96.222
45	4	1.008	97.229

(continued)

Age	Frequency	Individual Percent	Cumulative Percent
46	1	0.252	97.481
47	1	0.252	97.733
48	1	0.252	97.985
49	1	0.252	98.237
50	1	0.252	98.489
51	1	0.252	98.741
52	1	0.252	98.992
53	1	0.252	99.244
54	1	0.252	99.496
55	1	0.252	99.748
56	1	0.252	100.000

Note. n = 397.

Figure 23.1

The Age of TC Participants – Distribution plot

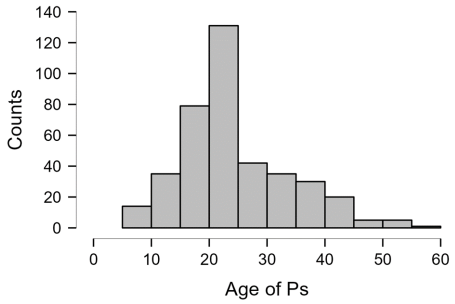
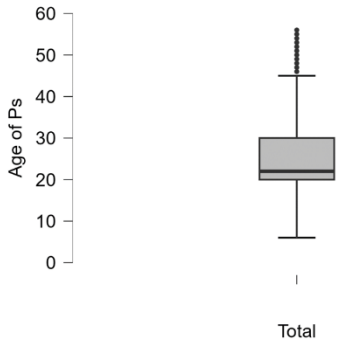


Figure 23.2

The Age of TC Participants – Boxplot



Appendix 24

Table 24.1

Characteristics of 38 Research Articles in Terms of 25 Quantitative Variables.

V0	V1	V2	V3	V4	V5	V6	V7[g]	V8[i]	V9			V10	V11	V12	V13	V14	V15	V16	V17	V18
									G1[g]	G2[g]	G3[g]									
1	Tejuelo	4	C[a]	S	Glogster	1	47	2	38 ([20h];[18i])	9	UN	2.00	G	1X2	9	3	4	W	90/120	EC
2	CALL	8	V	B	Discussion Forum LMS Padlet	3	38	2	18	20	UN	1.11	UN	UN	UN	UN	5[a]	W+	240	CU
3	System	7	V	S[a]	Skype	1	24(8)	2	12(6)	12(2)	UN	1.00	G	12X12	1	24	7	W	30	UN
4	ICG	UN	C[a]	B	Twinspace Presentation Creator	2	UN(14)	2	UN(7)	UN(7)	UN		UN	UN	UN	UN	UN	W	60	CU
5	CALL	5	C[a]	S	Dropbox Email Skype Virtual Platform	4	30 (18)	2	15 (9)	15 (9)	UN	1.00	P	1X1	9	2	3	W-	UN	ED
6	CALL	16	C[a]	A[a]	Moodle Wiki Platform	2	UN[e]	5[jk]	30[el]	UN	UN	N/A	G	UN	6	5	48	W+	135	CU
7	CALL-EJ	6	C[a]	B	Email Zoom	2	50 (46/49)	2	25 (23/25)	25 (23/24)	UN	1.00	G	2X2; 2X3	12	4/5	2	UN	81	CU

(continued)

V0	V1	V2	V3	V4	V5	V6	V7[g]	V8[i]	V9			V10	V11	V12	V13	V14	V15	V16	V17	V18
									G1[g]	G2[g]	G3[g]									
8	CALL	32[a]	C[a]	B	Facebook Padlet Skype Twinspace	4	23	2	12	11	UN	1.09	G	UN	UN	UN	4	UN	UN	VA
9	LRR	13	C[a]	A	Email LMS	2	335[e]	6[jk]	66 (46)[j]	16	122[m]	UN	UN	UN	UN	UN	UN	UN	UN	VA
10	HUJE	UN	C[a]	S	Skype	1	43(7)	2	15(4)	28(3)	UN	1.87	G	3X4	1	7	1	UN	44	OT
11	LL&T	10	C[a]	B	Second Life Skype VoiceThread	3	75	3[ajk]	51 (26;25)[jo]	24	UN	UN	G	UN	UN	UN	UN	W	UN	OT
12	ReCALL	12	C[a]	B	Facebook	1	UN[e]	4[ajk]	69 (23;18;28)[jl]	UN	UN	UN	G	UN	UN	UN	UN	W	UN	CU
13	FLAn	UN	C[a]	S	Zoom	1	13(11)	2	7(6)	6(5)	UN	1.17	P	1X1; 1X2	5	2-3	UN	UN	UN	CU
14	LL&T	6	C[a]	B	Facebook Google Docs Skype WeChat WhatsApp Wix	6	73 (57)	2	58 (42)[no]	15 (15)	UN	3.87	G	UN	11	5- 10	UN	W	UN	VA

(continued)

V0	V1	V2	V3	V4	V5	V6	V7[g]	V8[i]	V9			V10	V11	V12	V13	V14	V15	V16	V17	V18
									G1[g]	G2[g]	G3[g]									
15	E-m	15[a]	M	B	Email Facebook Google Drive Moodle Skype WhatsApp	6	UN	2	UN	UN	UN	UN	G	2X2	UN	UN	UN	UN	UN	CU
16	JICR	12[a]	C[a]	S	WhatsApp	1	49	4[ajk]	45 (15[h]; 15[h]; 15[i])	4	UN	UN	G	4X15	1	19	12[a]	W	UN	CU
17	LL&T	8	C[a]	B	Facebook Google Hangouts Padlet Screencast-O-Matic[b]	4	42	2	23	19	UN	1.21	G	2X2; 2X3; 3X3	UN	4-6	UN	W	UN	CU
18	CALL-EJ	8	C[a]	A[a]	Moodle	1	UN[ef]	2	UN	UN	UN	UN	G	UN	UN	UN	8	W	90	CU
19	LTR	6	C[a]	B	Discussion Forum LiveOn	2	55 (51)	3[jk]	UN (10)	UN (22)	UN (19)	UN	G	1X1X2; 1X1X3; 1X2X2; 1X2X3	10	4-6	6	W	50	CU
20	JAPC	10	C[a]	S	LiveOn	1	44(18)	2	18(9)	26(9)	UN	1.44	G	UN	3	6	10	W	50	UN
21	JC	8	M	A	Facebook	1	57(54)	2	28(27)	29(27)	UN	1.04	G	~4X4	8	~8	8	W	UN	VA
22	CALL	UN	C[a]	B[a]	BigBlueButton Moodle	2	14	2	7	7	UN	1.00	P	1X1	7	2	1	UN	59;69; 30;25; 49;46; 40	OT

(continued)

V0	V1	V2	V3	V4	V5	V6	V7[g]	V8[i]	V9			V10	V11	V12	V13	V14	V15	V16	V17	V18
									G1[g]	G2[g]	G3[g]									
23	LL&T	16[a]	C[a]	B	Facebook	1	UN	2	UN	UN	UN	UN	G	UN	1	UN	UN	UN	UN	UN
24	LL&T	13	C[a]	B	Discussion Forum Google Docs Padlet Zoom	4	73 (71)[l]	2[n]	40 (38)[n]: 19 13 8	33[n]: (33) 11 11 11	UN	1.21	G	UN	22[n]: 9 7 6	UN	13	W	90	ED
25	CALL-EJ	10	V	S	Kahoot! Skype	2	UN[e]	7[jk]	42 (36)[j]	UN	UN	UN	G	UN	UN	UN	UN	W	30	CU
26	TQ	6	C[a]	A	Google Docs Moodle WhatsApp	3	39	3[jk]	10	20	9	UN	G	UN	6	6/7	UN	UN	UN	ED
27	E3	16	C[a]	B	Facebook Skype Wiki	4[d]	70	2	50[o]	20	UN	2.50	G	UN	UN	UN	UN	UN	UN	EC
28*	CJE	R	R	R	RA 27 + YouTube	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
29	IJAL	UN	C[a]	S	Video-Conferencing Software	1	34	2	16	18	UN	1.12	G	UN	UN	UN	5	UN	UN	CU
30	CALL	12	C[a]	A	Discussion Forum Email Facebook Wix	4	76	2	22	54[o]	UN	2.45	G	2X5; 2X6; 2X7; 3X5; 3X6; 3X7	10	7-9	9[a]	W-	UN	CU
31*	Alsic	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

(continued)

V0	V1	V2	V3	V4	V5	V6	V7[g]	V8[i]	V9			V10	V11	V12	V13	V14	V15	V16	V17	V18
									G1[g]	G2[g]	G3[g]									
32	LLHE	UN	C[a]	B	Email Google Docs Prezi Zoom	4	12	2	8	4	UN	2.00	P	1X1	6	2	UN	UN	UN	OT
33	IJ-CALL	15[a]	C[a]	B	Facebook Google+ Google Drive Google Hangouts Instagram WhatsApp	6	115 (107)	4[jk]	52(45): 27;25[o]	63(62): 32;31[o]	UN	1.21	G	2X2	UN	3/4	UN	W	UN	VA
34	IJ-CALL	UN	C[a]	A	Padlet	1	UN[ef]	2	22[l]	UN	UN	UN	G,P	2X4; 2X5	UN	6/7	UN	UN	UN	OT
35	System	7	M	A	Email	1	32(28)	2	16(14)	16(14)	UN	1.00	UN	UN	UN	UN	UN	UN	UN	CU
36	ALRJ	8[a]	C[a]	S	BigBlueButton	1	24	2	12	12	UN	1.00	G	3X3	4	6	10	W+	90	CU
37	IJ-CALL	6	V	A	Facebook Movenote	2	36	2	17	19	UN	1.12	G	2X2	9	4	6[a]	W	UN	VA
38	EJLP	14	C[a]	S	About.Me Flipgrid[c] Moodle Padlet Unicko	5	139 (100)[f]	2[a]	UN (48)	UN (52)[o]	UN	UN	G	2X2; 2X3	UN	4-6	UN	UN	UN	VA

(continued)

V0	V19[p]		V20	V21	V22	V23	V24	V25
	M	F						
1	UN	UN	Poland	Europe	Polish	12	Primary	Elementary
			Spain	Europe	Spanish			
2	4	34	Colombia	South America	Spanish	19 – 21	Tertiary	Intermediate
			Kuwait	The Middle East	Arabic			
3	UN	UN	Portugal	Europe	Portuguese	6 – 7	Primary	UN
			The United Kingdom	Europe	Urdu, Punjabi			
4	UN	UN	Germany	Europe	German	13 – 14	Secondary	UN
			Turkey	The Middle East	Turkish			
5	UN	UN	Poland	Europe	Polish	19 – 24	Tertiary	Intermediate – Advanced
			Spain	Europe	Spanish			
6	UN	UN	Canada	North America	French	12 – 15	Secondary	Elementary
			Ghana	Africa	UN			
			Lebanon	The Middle East	Arabic			
			Taiwan	Asia	Chinese			
			The Netherlands	Europe	Dutch			
7	UN	UN	Japan	Asia	Japanese	18 – 24	Tertiary	Intermediate – Advanced
			Spain	Europe	Spanish			
8	10	13	Azerbaijan	Asia	Azerbaijani	14 – 16	Secondary	UN
			Turkey	The Middle East	Arabic, Turkish			
9	UN	UN	Algeria	Africa	Arabic	19 – 23	Mixed:	Intermediate
			Brazil	South America	Portuguese		Secondary	
			Indonesia	Asia	Indonesian		and Tertiary	
			Japan	Asia	Japanese			
			Taiwan	Asia	Chinese			
			The Netherlands	Europe	Dutch			

(continued)

V0	V19[p]		V20	V21	V22	V23	V24	V25
	M	F						
10	UN	UN	Spain	Europe	Spanish	11 – 13	Secondary	Intermediate
			Sweden	Europe	Swedish			
11	UN	UN	Austria	Europe	German	6 – 8	Primary	UN
			Spain	Europe	Spanish			
12	UN	UN	Japan	Asia	Japanese	19	Tertiary	Intermediate
			Taiwan	Asia	Chinese			
13	3	8	Japan	Asia	Japanese	21 – 56	Tertiary	Intermediate
			Taiwan	Asia	Chinese			
14	UN	UN	Germany	Europe	German	22 – 23	Tertiary	UN
			Hong Kong	Asia	Chinese			
15	UN	UN	Poland	Europe	Polish	20 – 21	Tertiary	Intermediate – Advanced
			Spain	Europe	Spanish			
16	9	10	Australia[r]	Australia[r]	UN	19 – 22	Tertiary	Intermediate – Advanced
			Bangladesh	Asia	Bengali			
			Iran	The Middle East	Persian			
			Serbia	Europe	Serbian			
			Sweden	Europe	Swedish			
17	UN	UN	Germany	Europe	German	22 – 23	Tertiary	UN
			Poland	Europe	Polish			
18	UN	UN	Colombia	South America	Spanish	19 – 23	Tertiary	UN
			Japan[q]	Asia	Japanese			
19	UN	UN	Japan	Asia	Japanese	19 – 26	Tertiary	UN
			South Korea	Asia	Korean			
			Taiwan	Asia	Chinese			
20	UN	UN	Japan	Asia	Japanese	19 – 22	Tertiary	Intermediate
			Taiwan	Asia	Chinese			

(continued)

V0	V19[p]		V20	V21	V22	V23	V24	V25
	M	F						
21	28	29	Japan	Asia	Japanese	19 – 23	Tertiary	Intermediate – Advanced
			Taiwan	Asia	Chinese			
22	UN	UN	France[r]	Europe[r]	French[r]	14 – 16	Secondary	Intermediate
			Germany	Europe	German			
			Spain	Europe	Spanish			
			The Netherlands[r]	Europe[r]	Dutch[r]			
23	UN	UN	Argentina	South America	Spanish	UN	UN	UN
			Egypt	The Middle East	Arabic			
24	18[n]:	55[n]:	Germany	Europe	German	20 – 45	Tertiary	UN
	7	23	Poland	Europe	Polish			
	7	17						
	4	15						
25	UN	UN	Argentina	South America	Spanish	19	Tertiary	Intermediate
			Costa Rica	Central America	Spanish			
			Japan	Asia	Japanese			
			Russia	Asia	Russian			
			Thailand	Asia	Thai			
			Turkey	The Middle East	Turkish			
			Vietnam	Asia	Vietnamese			
26	UN	UN	Israel	The Middle East	Hebrew	20 – 40	Tertiary	Intermediate – Advanced
			Spain	Europe	Spanish			
			Sweden	Europe	Swedish			
27	UN	UN	Argentina	South America	Spanish	10 – 13	Primary	Elementary
			Denmark	Europe	Danish			
28*	R	R	R	R	R	R	R	R

(continued)

V0	V19[p]		V20	V21	V22	V23	V24	V25
	M	F						
29	UN	UN	Japan	Asia	Japanese	19 – 23	Tertiary	Elementary – Intermediate
			Taiwan	Asia	Chinese			
30	UN	UN	Canada	North America	French, Spanish[t]	19 – 23	Tertiary	UN
			Taiwan	Asia	Chinese			
31*	R	R	R	R	R	R	R	R
32	UN	UN	Israel	The Middle East	Hebrew	22 – 27	Tertiary	Intermediate
			Italy	Europe	Italian			
33	45[j]:	62[j]:				18 – 25	Tertiary	Intermediate
	23	22	Cyprus	Europe	UN			
	22	40	Spain	Europe	Spanish			
34	UN	UN	Finland	Europe	Finnish	19 – 23	Tertiary	Intermediate – Advanced
			The United Kingdom	Europe	Chinese			
35	UN	UN	Germany[s]	Europe	German	23 – 24	Tertiary	UN
			Poland	Europe	Polish			
			The USA[r]	North America[r]	UN			
36	14	10	Iran	The Middle East	Persian	16 – 18	Secondary	Elementary – Intermediate
			Turkey	The Middle East	Turkish			
37	UN	UN	Finland	Europe	Finnish	20 – 35	Tertiary	Advanced
			Spain	Europe	Spanish			
38	UN	UN	Germany	Europe	German	20 – 29	Tertiary	Intermediate – Advanced
			Israel[t]	The Middle East	Hebrew, Arabic, Russian			

Note. The following full names of variables, as well as full abbreviations and meanings of the acronyms, letters, and symbols used in the table above are valid only within this appendix:

Characteristics of ELFTC Projects (V1 – V18).

V1: Journals in Which Research Articles Were Published (n = 38).

CALL = Computer Assisted Language Learning; LL&T = Language Learning & Technology; IJ-CALL = International Journal of Computer-Assisted Language Learning and Teaching; ICG = International Communication Gazette; LRR = Language Related Research; HUJE = Hacettepe University Journal of Education; FLAn = Foreign Language Annals; JICR = Journal of Intercultural Communication Research; LTR = Language Teaching Research; EJLP = European Journal of Language Policy; ALJR = Applied Linguistics Research Journal; LLHE = Language Learning in Higher Education; CJE = Cambridge Journal of Education; JAPC = Journal of Asian Pacific Communication; JC = The JALT CALL Journal; IJAL = Indonesian Journal of Applied Linguistics; TQ = TESOL Quarterly; E3 = Education 3-13; E-m = E-mentor.

V2: Duration of TCs (n = 29; n = 28).

V3: Character of TCs (n = 36).

C = Compulsory; V = Voluntary; M = Mixed.

V4: TC Modes (n = 35).

S = Synchronous; A = Asynchronous; B = Both.

V5: TC Tools (n = 36).

V6: Number of Tools Used in TCs (n = 36).

V7: Total Number of Participants per TC (n = 24).

V8: Number of Groups per Country in Each TC (n = 36).

V9: Number of Participants in Groups per Country in Each TC (n = 22; n = 19).

G1 = First Group; G2 = Second Group; G3 = Third Group.

V10: Ratio of Participants in Group 1 and Group 2.

V11: Configurations of Multinational Groups That Took Part in TCs (n = 32).

G = Groups; P = Pairs.

V12: Specific Configurations of Multinational Groups That Took Part in TCs (n = 18)

V13: Number of Collaborating Multinational Groups per TC (n = 21).

V14: Number of Participants in a Multinational Group per TC (n = 24; n = 22).

~ = Around.

V15: Number of TC Sessions (n = 19; n = 18).

V16: Frequency of TC Sessions (n = 21).

W = Weekly; W+ = More than Weekly; W- = Less than Weekly.

V17: Duration of TC Sessions (n = 14; n = 13).

V18: Topics of TC Projects (n = 33).

CU = Cultural; EC = Ecological; ED = Educational; OT = Other; VA = Various.

Characteristics of Participants of ELFTC Projects (V19 – V25).

V19: Gender (n = 8).
M = Males; F = Females.
V20: Countries of Residence (n = 36).
V21: Regions of Origin (n = 36).
V22: Mother Tongues (L1s) (n = 36).
V23: Age and/or Age Groups (n = 35).
V24: Educational Stages (n = 35).
V25: Proficiency in English (n = 24).
*RA whose numerical data was not considered because it was the second one in the pair of RAs that report on the same TC project and, thus, contains identical data in nearly all cases. Hereinafter marked with "R." If this RA contained additional information, it was noted in the table.
[a] Status assumed on the basis of information provided in the given RA.
[b] Now ScreenPal.
[c] Now Flip.
[d] The sum of TC tools used in the given pair of RAs.
[e] Unilateral perspective on the TC offered – sparse or no data on the partner group available.
[f] Multi-year report.
[g] The number presented in the parentheses corresponds to the number of participants that actually took part in the TC and/or filled in the required questionnaires, and/or were in focus of the given RA. The authors of several RAs reported this number in addition to the total number of participants, hence, it is also presented in this table when available.
[h] Control group.
[i] Experimental group.
[j] Multi-group report.
[k] RAs with three or more groups of participants were excluded from some calculations, such as the number of groups of participants per TC.
[l] Not included in the calculations concerning the number of students per collaborating multinational group due to the lack of the number of participants in the partner group.
[m] Other groups included 38, 86, and 7 participants respectively to the country of origin of TC participants, as outlined in V20.
[n] Although this RA reported on three multi-year TC projects, the number of participants in each annual iteration was provided. Consequently, the offered partial numbers were incorporated into the calculations on the number of students per collaborating multinational group.
[o] RA identified as an outlier and, thus, not included as a whole in some calculations.
[p] Participants' gender corresponds to the actual number of participants that took part in the TC project in the given study and not the total number of participants in the given RA if the latter number is different.

[q] This TC project included 13 others countries, however, there were not specified in the RA. Nevertheless, the vast majority of the TC participants included students from the two countries outlined in this table.

[r] Not included in some calculations.

[s] The German group of this RA included also one exchange student from each of the following countries: Croatia, Czechia, and Sweden. Nevertheless, due to the fact that German participants constituted the majority of that group per country, it was understood that the TC exchange took part between two groups per country, as it was referred to in the RA.

[t] Singular English NSs were present in this group of participants, however, they are not included in the total count.

Appendix 25

Table 25.1

The Aspects of TCs Reported in the Quantitative Results, the Number of RAs Reporting on Them, and the References of These RAs

Code	Aspect	Count	References
A	Project-Related Aspects	37	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Austin et al. (2017), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Clavel-Arroitia and Pennock-Speck (2021), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Dooly and Sadler (2016), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kulavuz-Onal and Vásquez (2018), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2016), Porto (2018), Pouromid (2019), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Turula (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
A1	Planning and Organization of TC Projects	13	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Dooly and Sadler (2016), Freiermuth and Huang (2021), Fuchs (2019), Grau and Turula (2019), O'Dowd et al. (2020), Porto (2016), Porto (2018), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Smith and Keng (2017), Vahed (2020)
A2	Prior Training	5	Alghasab and Alvarez-Ayure (2021), Bueno-Alastuey and Kleban (2016), Fuchs (2019), Kohn and Hoffstaedter (2017), Nguyen et al. (2020)
A2.1	Pedagogical Mentoring Prior to TC	2	Alghasab and Alvarez-Ayure (2021), O'Dowd et al. (2020)
A3	Time	18	Bueno-Alastuey and Kleban (2016), Dendenne (2021), Dooly and Davitova (2018), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kurek and Müller-Hartmann (2019), Porto (2018), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Turula (2017), Vurdien and Puranen (2016), Waldman et al. (2019)

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Code	Aspect	Count	References
A4	TC Modes	19	Austin et al. (2017), Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Fuchs (2019), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), O'Dowd et al. (2020), Pouromid (2019), Scott-Monkhouse et al. (2021), Smith and Keng (2017), Vurdien and Puranen (2016), Waldman et al. (2019)
A4.1	Synchronous TC	8	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Jung et al. (2019), Nguyen et al. (2020), Smith and Keng (2017)
A4.2	Asynchronous TC	5	Dendenne (2021), Kelsen and Flowers (2017), O'Dowd et al. (2020), Smith and Keng (2017), Vurdien and Puranen (2016)
A4.3	Oral vs. Written TC	1	Kohn and Hoffstaedter (2017)
A4.4	Multimodal TC	7	Austin et al. (2017), Dooly and Davitova (2018), Jung et al. (2019), Ke (2016), Pouromid (2019), Scott-Monkhouse et al. (2021), Waldman et al. (2019)
A5	TC Tools Used	18	Austin et al. (2017), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Kelsen and Flowers (2017), Kulavuz-Onal and Vásquez (2018), Nguyen et al. (2020), O'Dowd et al. (2020), Priego and Liaw (2017b),Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016)
A6	Curriculum	5	Chen and Yang (2016), Demir and Kayaoğlu (2021), Pouromid (2019), Scott-Monkhouse et al. (2021), Vahed (2020)
A7	Topics	26	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Austin et al. (2017), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Clavel-Arroitia and Pennock-Speck (2021), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Jung et al. (2019), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2016), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Turula (2017), Vurdien and Puranen (2016), Waldman et al. (2019)
A8	Task Design	9	Chen and Yang (2016), Dendenne (2021), Dooly and Sadler (2016), Gholami Pasand et al. (2021), Grau and Turula (2019), Jung et al. (2019), Kohn and Hoffstaedter (2017), Kulavuz-Onal and Vásquez (2018), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020)

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Code	Aspect	Count	References
A9	Tasks	13	Austin et al. (2017), Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Gajek and Calderón-Quindós (2018), Hagley (2020), Kelsen and Flowers (2017), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Turula (2017), Vurdien and Puranen (2016)
A10	Feedback	6	Dendenne (2021), Jung et al. (2019), Ke (2016)
A11	Critical Reflection	14	Bueno-Alastuey and Kleban (2016), Dooly and Davitova (2018), Flowers et al. (2019), Gajek and Calderón-Quindós (2018), Hagley (2020), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016)
A12	Assessment	4	Bueno-Alastuey and Kleban (2016), Fuchs (2019), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021)
A13	Group Characteristics	6	Demir and Kayaoğlu (2021), Fuchs (2019), Hagley (2020), O'Dowd et al. (2020), Smith and Keng (2017), Vurdien and Puranen (2016)
A14	Workload	7	Chen and Yang (2016), Fuchs (2019), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017)
A15	Technical Issues	11	Bozdağ (2018), Demir and Kayaoğlu (2021), Dendenne (2021), Freiermuth and Huang (2021), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Vahed (2020), Waldman et al. (2019)
B	Instructors' Role	20	Alghasab and Alvarez-Ayure (2021), Austin et al. (2017), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Flowers et al. (2019), Grau and Turula (2019), Ke (2016), Kelsen and Flowers (2017), Kulavuz-Onal and Vásquez (2018), Kurek and Müller-Hartmann (2019), O'Dowd et al. (2020), Priego and Liaw (2017a), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Turula (2017), Vurdien and Puranen (2016), Waldman et al. (2019)
B1	Teachers' Monitoring	5	Austin et al. (2017), Nguyen et al. (2020), O'Dowd et al. (2020), Priego and Liaw (2017a), Priego and Liaw (2017b)
B2	Pedagogical Mentoring and Teaching Presence	5	Grau and Turula (2019), Kelsen and Flowers (2017), Kurek and Müller-Hartmann (2019), O'Dowd et al. (2020), Turula (2017)
B3	Cooperation Between Partner Teachers	6	Demir and Kayaoğlu (2021), Kurek and Müller-Hartmann (2019), O'Dowd et al. (2020), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Turula (2017)

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Code	Aspect	Count	References
C	Participant-Related Aspects	25	Alghasab and Alvarez-Ayure (2021), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Clavel-Arroitia and Pennock-Speck (2021), Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2016), Pouromid (2019), Priego and Liaw (2017a), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
C1	Participation	14	Alghasab and Alvarez-Ayure (2021), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Porto (2016), Priego and Liaw (2017a), Priego and Liaw (2017b), Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016)
C1.1	Compulsory vs. Elective	2	Bueno-Alastuey and Kleban (2016), Fuchs (2019)
C1.2	Goals vs. No Goals	1	Bueno-Alastuey and Kleban (2016)
C1.3	The Same vs. Different Goals	4	Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Kohn and Hoffstaedter (2017)
C1.4	Credit for Participation	1	Bueno-Alastuey and Kleban (2016)
C1.5	TC in the Classroom, After Classes, or at Home	5	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Nguyen et al. (2020)
C1.6	Introverts vs. Extroverts	1	Kelsen and Flowers (2017),
C1.7	Unequal Participation	8	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Nguyen et al. (2020), Priego and Liaw (2017b), Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016)
C1.8	Lack of Participation	4	Alghasab and Alvarez-Ayure (2021), Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Kohn and Hoffstaedter (2017)
C1.9	Benefits Linked to Students' Participation in TC	7	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Kelsen and Flowers (2017), Nguyen et al. (2020), Porto (2016), Priego and Liaw (2017b), Sevilla-Pavón and Nicolaou (2017)
C2	Participants' Proficiency in English	12	Bueno-Alastuey and Kleban (2016), Clavel-Arroitia and Pennock-Speck (2021), Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Gholami Pasand et al. (2021), Hagley (2020), Ke (2016), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), Pouromid (2019), Scott-Monkhouse et al. (2021), Vahed (2020)

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Code	Aspect	Count	References
C3	Future Teachers Training	7	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Kurek and Müller-Hartmann (2019), O'Dowd et al. (2020), Waldman et al. (2019)
C4	Current Teachers Training	3	Demir and Kayaoğlu (2021), Freiermuth and Huang (2021), Kohn and Hoffstaedter (2017)
D	Advantages and Disadvantages of ELFTC Projects	37	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Austin et al. (2017), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Dooly and Sadler (2016), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kulavuz-Onal and Vásquez (2018), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2016), Porto (2018), Pouromid (2019), Priego and Liaw (2017a), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Turula (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
D1	Learning Environment	27	Austin et al. (2017), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Sadler (2016), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2016), Porto (2018), Pouromid (2019), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
D1.1	More Authentic Learning Environment	17	Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Jung et al. (2019), Ke (2016), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Porto (2016), Porto (2018), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Waldman et al. (2019)
D1.2	Safe and Supportive Learning Environment	5	Demir and Kayaoğlu (2021), Dooly and Sadler (2016), Fuchs (2019), Kurek and Müller-Hartmann (2019), Scott-Monkhouse et al. (2021)
D1.3	Innovative Teaching Approach	6	Chen and Yang (2016), Flowers et al. (2019), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Pouromid (2019), Sevilla-Pavón and Nicolaou (2017)
D1.4	Traditional Classroom Activities vs. TC Projects	6	Austin et al. (2017), Demir and Kayaoğlu (2021), Kohn and Hoffstaedter (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
D1.5	Connectivity	2	Freiermuth and Huang (2021), Kelsen and Flowers (2017)

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Code	Aspect	Count	References
D1.6	TC as an Alternative to Study Abroad	4	Freiermuth and Huang (2021), Kelsen and Flowers (2017), Nguyen et al. (2020), Pouromid (2019)
D2	Learning Aspects of TC	27	Austin et al. (2017), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Dooly and Sadler (2016), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Turula (2017), Vahed (2020), Vurdien and Puranen (2016)
D2.1	Learner Autonomy	16	Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Flowers et al. (2019), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Turula (2017), Vahed (2020), Vurdien and Puranen (2016)
D2.2	Motivation	15	Austin et al. (2017), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dooly and Sadler (2016), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Kelsen and Flowers (2017), Nguyen et al. (2020), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Turula (2017), Vurdien and Puranen (2016)
D2.3	Rapport, Face, and Voice	5	Demir and Kayaoğlu (2021), Dendenne (2021), Freiermuth and Huang (2021), Ke (2016), Kohn and Hoffstaedter (2017)
D2.4	Learning Presence	1	Kurek and Müller-Hartmann (2019)
D2.5	Misunderstandings and Learning Chances	5	Bueno-Alastuey and Kleban (2016), Fuchs (2019), Kurek and Müller-Hartmann (2019), O'Dowd et al. (2020), Priego and Liaw (2017b)

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Code	Aspect	Count	References
D3	Linguistic Aspects of TC	28	Alghasab and Alvarez-Ayure (2021), Austin et al. (2017), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Dooly and Sadler (2016), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Kulavuz-Onal and Vásquez (2018), O'Dowd et al. (2020), Porto (2016), Porto (2018), Pouromid (2019), Priego and Liaw (2017a), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Vahed (2020), Vurdien and Puranen (2016)
D3.1	Language Skills	12	Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Freiermuth and Huang (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Vahed (2020)
D3.1.1	Reading	4	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Dendenne (2021), O'Dowd et al. (2020)
D3.1.2	Writing	11	Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Priego and Liaw (2017a), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Vurdien and Puranen (2016)
D3.1.3	Speaking	8	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Jung et al. (2019), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017)
D3.1.4	Vocabulary	7	Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dooly and Sadler (2016), Jung et al. (2019), Kohn and Hoffstaedter (2017), Sevilla-Pavón and Nicolaou (2017)
D3.2	Language-Related Episodes (LREs)	1	Jung et al. (2019)
D3.3	Linguistic Accuracy	2	Ke (2016), Kohn and Hoffstaedter (2017)
D3.4	English as a Tool for Communication	7	Alghasab and Alvarez-Ayure (2021), Austin et al. (2017), Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Freiermuth and Huang (2021), Porto (2018), Scott-Monkhouse et al. (2021)
D3.5	Foreign Language Enjoyment (FLE)	9	Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Sadler (2016), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Jung et al. (2019), Scott-Monkhouse et al. (2021)

(continued)

Code	Aspect	Count	References
D3.6	Foreign Language Anxiety (FLA)	10	Bozdağ (2018), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Freiermuth and Huang (2021), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021)
D3.7	Negotiation of Meaning (NoM)	10	Austin et al. (2017), Dooly and Davitova (2018), Dooly and Sadler (2016), Freiermuth and Huang (2021), Ke (2016), Kohn and Hoffstaedter (2017), Kulavuz-Onal and Vásquez (2018), Scott-Monkhouse et al. (2021), Vahed (2020), Vurdien and Puranen (2016)
D3.8	Translanguaging, L1, and L3 Use	8	Austin et al. (2017), Dendenne (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Ke (2016), Kulavuz-Onal and Vásquez (2018), Porto (2016), Pouromid (2019)
D3.8.1	L1 Use	3	Austin et al. (2017), Kulavuz-Onal and Vásquez (2018), Pouromid (2019)
D3.8.2	L3 Use	5	Dendenne (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Ke (2016), Kulavuz-Onal and Vásquez (2018)
D3.8.3	L1 and L3 Use	3	Ke (2016), Kulavuz-Onal and Vásquez (2018), Porto (2016)
D3.8.4	Translanguaging	3	Ke (2016), Kulavuz-Onal and Vásquez (2018), Pouromid (2019)
D3.9	English as a Lingua Franca Environment	7	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Gajek and Calderón-Quindós (2018), Ke (2016), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021)
D3.10	Language Learner – Language User Transformation	5	Chen and Yang (2016), Flowers et al. (2019), Freiermuth and Huang (2021), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021)
D3.11	Language and Culture	2	Ke (2016), Scott-Monkhouse et al. (2021)
D4	Cultural Aspects of TC	26	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kohn and Hoffstaedter (2017), Porto (2016), Porto (2018), Pouromid (2019), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)

(continued)

Code	Aspect	Count	References
D4.1	Cultural Awareness	22	Alghasab and Alvarez-Ayure (2021), Bozdağ (2018), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Flowers et al. (2019), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Nguyen et al. (2020), Porto (2016), Porto (2018), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
D4.2	Intercultural Communicative Competence (ICC)	18	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Flowers et al. (2019), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Hagley (2020), Jung et al. (2019), Ke (2016), Kohn and Hoffstaedter (2017), Porto (2016), Porto (2018), Pouromid (2019), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
D4.3	Intercultural Sensitivity (IS)	3	Alcaraz-Mármol (2020), Gholami Pasand et al. (2021), Hagley (2020)
D5	Knowledge and Skills	31	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Austin et al. (2017), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Davitova (2018), Flowers et al. (2019), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kohn and Hoffstaedter (2017), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2018), Priego and Liaw (2017a), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Turula (2017), Vahed (2020), Vurdien and Puranen (2016), Waldman et al. (2019)
D5.1	Collaboration and Teamwork	12	Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Kurek and Müller-Hartmann (2019), O'Dowd et al. (2020), Priego and Liaw (2017a), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Vurdien and Puranen (2016)
D5.2	Communication Skills	15	Austin et al. (2017), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Ke (2016), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Priego and Liaw (2017a), Sevilla-Pavón and Nicolaou (2017), Turula (2017), Vurdien and Puranen (2016)
D5.3	Confidence	9	Bueno-Alastuey and Kleban (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Flowers et al. (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021)

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Code	Aspect	Count	References
D5.4	Curiosity	6	Alghasab and Alvarez-Ayure (2021), Chen and Yang (2016), Demir and Kayaoğlu (2021), Freiermuth and Huang (2021), Vahed (2020), Vurdien and Puranen (2016)
D5.5	Various	18	Alcaraz-Mármol (2020), Bozdağ (2018), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Flowers et al. (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2018), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Vurdien and Puranen (2016), Waldman et al. (2019)
D5.5.1	21st-Century Skills	6	Bozdağ (2018), Dooly and Davitova (2018), Nguyen et al. (2020), Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016), Waldman et al. (2019)
D5.5.2	Awareness Raising	4	Chen and Yang (2016), Demir and Kayaoğlu (2021), Gholami Pasand et al. (2021), Kohn and Hoffstaedter (2017)
D5.5.3	Comparative Interpretation	1	Porto (2018)
D5.5.4	Consciousness	2	Porto (2018), Scott-Monkhouse et al. (2021)
D5.5.5	Creativity	3	Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Sevilla-Pavón and Nicolaou (2017)
D5.5.6	Critical Thinking	6	Chen and Yang (2016), Gajek and Calderón-Quindós (2018), Nguyen et al. (2020), Porto (2018), Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016)
D5.5.7	E-Safety and Netiquette	2	Demir and Kayaoğlu (2021), O'Dowd et al. (2020)
D5.5.8	ICT Skills	5	Alcaraz-Mármol (2020), Demir and Kayaoğlu (2021), Dooly and Davitova (2018), Sevilla-Pavón and Nicolaou (2017), Waldman et al. (2019)
D5.5.9	Identifying Own Weaknesses	3	Chen and Yang (2016), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021)
D5.5.10	Negotiating Skills	4	Grau and Turula (2019), Kohn and Hoffstaedter (2017), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017)
D5.5.11	Organizational Skills	2	Gajek and Calderón-Quindós (2018), Sevilla-Pavón and Nicolaou (2017)
D5.5.12	Peer-Assessment Skills	1	Sevilla-Pavón and Nicolaou (2017)
D5.5.13	Presentation Skills	1	Scott-Monkhouse et al. (2021)
D5.5.14	Problem-Solving Skills	2	Gajek and Calderón-Quindós (2018), Nguyen et al. (2020)
D5.5.15	Research Skills	3	Chen and Yang (2016), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017)
D5.5.16	Self-Efficacy	1	Flowers et al. (2019)
D5.5.17	Sense of Achievement	1	Chen and Yang (2016)

(continued)

Code	Aspect	Count	References
D5.5.18	Specialist Knowledge	2	Flowers et al. (2019), Gajek and Calderón-Quindós (2018)
D6	Social Aspects of TC	18	Alghasab and Alvarez-Ayure (2021), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Flowers et al. (2019), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Kurek and Müller-Hartmann (2019), Nguyen et al. (2020), O'Dowd et al. (2020), Porto (2016), Porto (2018), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016)
D6.1	Meeting New People, Making New (International) Friends	16	Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Flowers et al. (2019), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Nguyen et al. (2020), Porto (2016), Porto (2018), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Vurdien and Puranen (2016)
D6.2	Social Presence	3	Grau and Turula (2019), Kurek and Müller-Hartmann (2019), O'Dowd et al. (2020)
D7	Values	19	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dooly and Sadler (2016), Flowers et al. (2019), Freiermuth and Huang (2021), Gajek and Calderón-Quindós (2018), Grau and Turula (2019), Hagley (2020), Ke (2016), Kurek and Müller-Hartmann (2019), Porto (2016), Porto (2018), Turula (2017), Vahed (2020), Waldman et al. (2019)
D7.1	Eliminating Stereotypes	10	Alghasab and Alvarez-Ayure (2021), Bozdağ (2018), Chen and Yang (2016), Demir and Kayaoğlu (2021), Flowers et al. (2019), Gajek and Calderón-Quindós (2018), Hagley (2020), Ke (2016), Turula (2017), Waldman et al. (2019)
D7.2	Various	11	Alcaraz-Mármol (2020), Alghasab and Alvarez-Ayure (2021), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Freiermuth and Huang (2021), Grau and Turula (2019), Kurek and Müller-Hartmann (2019), Porto (2016), Porto (2018), Vahed (2020)
D7.2.1	Ecological Citizenship	1	Porto (2016)
D7.2.2	Global Citizenship and Education	1	Alcaraz-Mármol (2020)
D7.2.3	Human Values	1	Demir and Kayaoğlu (2021)
D7.2.4	Openness	2	Alghasab and Alvarez-Ayure (2021), Chen and Yang (2016)
D7.2.5	Politeness	2	Alghasab and Alvarez-Ayure (2021), Freiermuth and Huang (2021)
D7.2.6	Tolerance	1	Vahed (2020)
D7.2.7	Transnational Identification	2	Porto (2016), Porto (2018)

(continued)

Code	Aspect	Count	References
D7.2.8	Trust	2	Grau and Turula (2019), Kurek and Müller-Hartmann (2019)
D8	Success of ELFTC Projects	24	Bozdağ (2018), Bueno-Alastuey and Kleban (2016), Chen and Yang (2016), Demir and Kayaoğlu (2021), Dendenne (2021), Dooly and Sadler (2016), Freiermuth and Huang (2021), Fuchs (2019), Gajek and Calderón-Quindós (2018), Gholami Pasand et al. (2021), Grau and Turula (2019), Hagley (2020), Jung et al. (2019), Ke (2016), Kelsen and Flowers (2017), Kohn and Hoffstaedter (2017), Nguyen et al. (2020), Priego and Liaw (2017b), Scott-Monkhouse et al. (2021), Sevilla-Pavón and Nicolaou (2017), Smith and Keng (2017), Turula (2017), Vahed (2020), Vurdien and Puranen (2016)

Appendix 26

Table 26.1

The Retrospective Analysis, Rank 1: The Number of Telecollaboration Aspects Discussed per Research Article

Statistic	Number of Aspects Discussed per Research Article
Mean	16.605
Standard Deviation	9.119
Minimum	2.000
Maximum	44.000

Note. n = 38.

Table 26.2

The Retrospective Analysis, Rank 2: The Ratio Between the Number of Telecollaboration Aspects Discussed and the Amount of Content Included per Research Article

Statistic	Ratio
Mean	1.004
Standard Deviation	0.487
Minimum	0.160
Maximum	2.120

Note. n = 38.

Table 26.3

The Retrospective Analysis: The Average Score of Rank 1 and Rank 2 per Research Article

Statistic	Ratio
Mean	39.000
Standard Deviation	20.603
Minimum	4.000
Maximum	76.000

Note. n = 38.

Appendix 27

Table 27.1

Results of the Retrospective Analyses

Research Article	V1	V2	V3	V4	V4%	V5	V5%	V6	R1	R2	R3
Alcaraz-Mármol (2020)	829	382	5	0,008	1%	0,012	1%	0,645	37	29	66
Alghasab and Alvarez-Ayure (2021)	2627	787	12	0,019	2%	0,025	3%	0,751	23	25	48
Austin et al. (2017)	4857	1112	12	0,019	2%	0,036	4%	0,532	24	33	57
Bozdağ (2018)	3609	930	10	0,016	2%	0,030	3%	0,530	28	34	62
Bueno-Alastuey and Kleban (2016)	3608	878	**35**	**0,055**	**6%**	0,028	3%	**1,965**	**2**	**2**	**4**
Chen and Yang (2016)	4213	1059	26	0,041	4%	0,034	3%	1,210	6	13	19
Clavel-Arroitia and Pennock-Speck (2021)	2733	627	2	0,003	0%	0,020	2%	0,157	38	38	76
Demir and Kayaoglu (2021)	5958	1362	**44**	**0,070**	**7%**	0,044	4%	1,592	**1**	6	**7**
Dendenne (2021)	4410	1241	20	0,032	3%	0,040	4%	0,794	12	22	34
Dooly and Davitova (2018)	3639	1054	12	0,019	2%	0,034	3%	0,561	25	30	55
Dooly and Sadler (2016)	1313	566	8	0,013	1%	0,018	2%	0,697	33	26	59
Flowers et al. (2019)	2329	715	15	0,024	2%	0,023	2%	1,034	19	16	35
Freiermuth and Huang (2021)	3243	968	28	0,044	4%	0,031	3%	1,426	5	7	12
Fuchs (2019)	3659	1038	16	0,025	3%	0,033	3%	0,760	16	24	40
Gajek and Calderon-Quindos (2018)	2059	679	25	0,040	4%	0,022	2%	**1,815**	7	**5**	12
Gholami Pasand et al. (2021)	2153	573	6	0,010	1%	0,018	2%	0,516	35	35	70
Grau and Turula (2019)	4552	1138	19	0,030	3%	0,037	4%	0,823	14	19	33
Hagley (2020)	1981	570	15	0,024	2%	0,018	2%	1,297	20	11	31
Jung et al. (2019)	2622	720	20	0,032	3%	0,023	2%	1,369	13	9	22
Ke (2016)	3559	930	22	0,035	3%	0,030	3%	1,166	10	14	24
Kelsen and Flowers (2017)	1826	712	16	0,025	3%	0,023	2%	1,107	17	15	32
Kohn and Hoffstaedter (2017)	3865	1135	**29**	**0,046**	**5%**	0,036	4%	1,259	**4**	12	16
Kulavuz-Onal and Vásquez (2018)	2855	739	8	0,013	1%	0,024	2%	0,534	34	32	66
Kurek and Müller-Hartmann (2019)	4210	1005	16	0,025	3%	0,032	3%	0,785	18	23	41

(continued)

Research Article	V1	V2	V3	V4	V4%	V5	V5%	V6	R1	R2	R3
Nguyen et al. (2020)	2600	820	23	0,036	4%	0,026	3%	1,382	8	8	16
O'Dowd et al. (2020)	3506	975	18	0,029	3%	0,031	3%	0,910	15	18	33
Porto (2016)	3317	896	9	0,014	1%	0,029	3%	0,495	29	36	65
Porto (2018)	2151	651	9	0,014	1%	0,021	2%	0,681	30	27	57
Pouromid (2019)	2682	805	9	0,014	1%	0,026	3%	0,551	31	31	62
Priego and Liaw (2017a)	2309	665	6	0,010	1%	0,021	2%	0,445	36	37	73
Priego and Liaw (2017b)	2316	675	9	0,014	1%	0,022	2%	0,657	32	28	60
Scott-Monkhouse et al. (2021)	2168	861	**32**	**0,051**	**5%**	0,028	3%	**1,832**	**3**	**4**	**7**
Sevilla-Pavón and Nicolaou (2017)	2040	535	23	0,036	4%	0,017	2%	**2,119**	9	**1**	10
Smith and Keng (2017)	861	341	13	0,021	2%	0,011	1%	**1,879**	22	**3**	25
Turula (2017)	2357	674	11	0,017	2%	0,022	2%	0,804	27	20	47
Vahed and Soleimani (2020)	2249	709	14	0,022	2%	0,023	2%	0,973	21	17	38
Vurdien and Puranen (2016)	2655	835	22	0,035	3%	0,027	3%	1,298	11	10	21
Waldman et al. (2019)	2321	736	12	0,019	2%	0,024	2%	0,804	26	21	47
Sum	110241	31098	631	1	100%	1	100%	N/A	N/A	N/A	N/A

Note. Scores highlighted in bold correspond to the key RAs and data discussed in the main text.

V1 = The total number of words used in the RA.

V2 = The number of words from the RA used for the purpose of the qualitative analysis of this dissertation.

V3 = The number of aspects of TC addressed by the RA.

V4 = The ratio of V3 and the total number of aspects of TC addressed in all RAs (631).

V5 = The ratio of V2 and the number of words from all RAs used for the purpose of the qualitative analysis of this dissertation (31,098).

V6 = The ratio of V5 and V4.

R1 = Rank of RA in V4.

R2 = Rank of RA in V6.

R3 = The sum of R1 and R2.

N/A = Not Applicable.

Appendix 28

Proposed Standardized Description of a Telecollaboration Project: A List of Variables

1. Characteristics of TC Projects:
    1.1. TL(s) of TC;
    1.2. Duration of TC (in weeks);
    1.3. Character of TC (compulsory/voluntary; with or without set goals; with the same of different goals for different groups of participants);
    1.4. TC modes used (asynchronous/synchronous/both; oral/written; uni- or multimodal);
    1.5. TC tools used;
    1.6. Total number of participants taking part in TC;
    1.7. Number of groups per country taking part in TC;
    1.8. Number of participants in each group per country;
    1.9. Configuration of collaborating multinational groups (pairs, groups, etc., and of how many students);
    1.10. Number of collaborating multinational groups per TC;
    1.11. Number of participants in each collaborating multinational group;
    1.12. Total number, frequency (weekly, biweekly, monthly, etc.), and duration of TC sessions (in hours or minutes);
    1.13. Topics of TCs;
    1.14. Location where the TC sessions were carried out (at school, at home, etc.);
    1.15. Provision of training prior to TC (if present – how successful was it);
    1.16. Provision of pedagogical mentoring prior to and/or during the TC (if present – how successful was it);
    1.17. Curriculum use and fulfillment;
    1.18. Types of tasks used;
    1.19. Provision of feedback (if present – how was it provided and by whom);
    1.20. Critical reflection (if present – how was it inspired/carried out);
    1.21. Assessment (how were the students assessed and/or credited during or after the TC);
    1.22. Workload (was the workload equally distributed among students; was TC a significant workload for its participants);
    1.23. Roles taken up by the teachers; quality of cooperation between the teachers;
    1.24. Issues encountered during TCs and their nature:
        1.24.1. Institutional;
        1.24.2. Logistical;
        1.24.3. Technological;
        1.24.4. Methodological (teaching);
        1.24.5. Other.
2. Characteristics of TC Participants:
    2.1. Gender;
    2.2. Country of residence;
    2.3. Mother tongue(s);
    2.4. Other know languages (if applicable);
    2.5. Age;
    2.6. Educational Stage;
    2.7. Proficiency in TL(s).

3. Results categorized according to their nature:
    3.1. Linguistic;
    3.2. Learning;
    3.3. Cultural;
    3.4. Knowledge and skills;
    3.5. Social;
    3.6. Other.
4. Overall degree of success of TC.