

## Learning by pinning: Introducing Pinterest in sport management education

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### ARTICLE INFO

#### Keywords:

Pinterest  
Sport management education  
Social media  
Active learning  
Digital technology  
Higher education  
Blended learning

### ABSTRACT

In an increasingly digitized world, social media have emerged as valuable tools for both personal relationships and professional endeavors. While the potential of social media in higher education, particularly in creating online or blended teaching-learning spaces, has been acknowledged, certain platforms such as Pinterest remain underexplored. This study investigates the perceptions of sport management students regarding the utilization of Pinterest through an active learning methodology. Ninety-seven sport management students from a Spanish University participated in pre-test and post-test assessments to evaluate the impact of the educational intervention. The Wilcoxon test and Cohen's *d* analysis revealed compelling data, indicating that Pinterest serves as a digital tool facilitating peer and faculty feedback, improving productivity and flexibility in the teaching-learning process, promoting information filtering, and keeping students informed about aspects related to sport management. Consequently, we propose the introduction of Pinterest in higher education classes, asserting that, through pinning, students can simultaneously grasp course content, develop social media skills, and establish connections within their professional field.

### Introduction

The global pandemic caused by SARS-CoV-2 has reshaped the landscape of education, propelling institutions to reevaluate traditional teaching methodologies (Lin et al., 2022). As universities grappled with the unprecedented challenges imposed by COVID-19 restrictions, a rapid shift towards online and hybrid digital learning environments has become imperative (Bygstad et al., 2022; Ratten, 2023). This transformative period witnessed the emergence or consolidation of online platforms such as Zoom, Microsoft Teams, and BlackBoard Collaborate, revolutionizing the delivery of educational content (Kang & Park, 2022). Even as social restrictions eased, the educational landscape continued to evolve, highlighting a persistent preference for online and hybrid teaching

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<https://doi.org/10.1016/j.ijme.2025.101187>

Received 8 August 2024; Received in revised form 5 March 2025; Accepted 9 April 2025

Available online 25 April 2025

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models (Cobo-Rendón et al., 2022; Ironsi, 2022).

This enduring shift is partly attributed to the recognized advantages of digital technologies in education (Fütterer et al., 2023; Pinto & Leite, 2020). Digital environments have proven to enhance students' technological literacy, provide timely and personalized feedback, foster critical thinking, facilitate collaborative learning, improve academic performance, and increase overall motivation and engagement (Lu, 2021; Park et al., 2022). Despite these benefits, educators still face significant challenges in integrating digital tools effectively into the teaching-learning process (Astleitner & Schlick, 2024), from content delivery to assessment and feedback. Amidst this digital landscape, social media platforms (e.g., Facebook, YouTube, TikTok, LinkedIn, Instagram, WhatsApp) have emerged as valuable resources for educators (Manca & Ranieri, 2017), creating interactive and motivating learning spaces (Alshalawi, 2022). However, harnessing the positive aspects of social media in education requires a comprehensive understanding of school culture, teachers' professional development, and curriculum positions (van den Beemt et al., 2020). This includes exploring effective active learning methodologies, such as gamification, project-based learning, and service-learning, to fully leverage the potential of these digital tools.

Despite the growing prominence of social media in higher education (Manca, 2020), especially in the sports industry (Abeza, 2024), few studies have evaluated the educational impact of social media-based experiences on sport management students (López-Carril et al., 2020, 2022). Moreover, the role of social media in developing professional skills and mindsets calls for a focused effort to design and evaluate formative educational proposals that integrate these platforms (Habets et al., 2021; Luo et al., 2020). This study aims to bridge these gaps by investigating the educational possibilities offered by Pinterest. This platform has been relatively understudied compared to others, such as Twitter (now renamed as X) and Facebook (Alshalawi, 2022; Manca, 2020). While Pinterest's positive impact has been noted in diverse fields such as social work, nursing, and advertising (Baker & Hitchcock, 2017; Huntington, 2022; Mizelle & Beck, 2018), its potential in the context of sport management education remains unexplored.

The results of this study are poised to provide practical insights to university faculty, shedding light on the untapped potential of Pinterest in enhancing the learning process and cultivating the professional profiles of sport management students. In this way, this work responds to the calls of Chutiphongdech et al., (2024) and Vidal-Vilaplana et al., (2023) to redesign sport management education to better prepare students for their professional futures and enhance their employability. Furthermore, this study contributes to the ongoing discourse on the effective integration of social media platforms into higher education classrooms, particularly through active-learning approaches. The educational intervention design involving Pinterest, as presented in this study, facilitates the transversal development of digital skills. This can potentially address the gap identified by Zhao et al., (2021) regarding low levels of digital skills among both students and educators. Overall, this research may serve as a guide for future technology-based innovative pedagogical experiences, as advocated by Marriott et al., (2024) and Purohit & Dutt (2024) in the context of management education, offering formative value in the educational field amidst the enduring digital transformation in the post-COVID-19 landscape (Ratten, 2023).

## 2. Literature review

### 2.1. From social to professional: social media in the context of sport management

The term 'social media' has become an integral aspect of daily life, influencing personal relationships, work dynamics, and information-seeking behaviors (Muninger et al., 2022; Sutherland & Ho, 2017). Despite diverse and contested definitions and ongoing theoretical and practical negotiations (Jensen, 2015; Manca & Ranieri, 2016), the significance of social media is indisputable in an increasingly digitized society. Kaplan & Haenlein (2010) define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (p. 61). From this definition, we can see the social, interactive, and technological components that accompany social media, making them prominent elements in an increasingly digitized society.

Social media, initially satisfying the human need for social connections, has transcended the personal sphere to become invaluable tools in the professional domain (Pena et al., 2022). In the context of sport management, these platforms play a crucial role in various managerial areas such as sponsorship (Gillooly et al., 2017; Weimar et al., 2022), branding (Anagnostopoulos et al., 2018; Pearce & Learmonth, 2013, 2015), fan engagement (Romero-Jara et al., 2024), stakeholder interaction (Mamo & Anagnostopoulos, 2023), and handling a reputational crisis (Guo et al., 2023). Sport managers utilize social media not only to connect with new audiences, but also to enhance the overall sports product (Abeza, 2024).

Employers increasingly demand that graduates possess proficiency in using social media beyond their personal applications (Pate & Bosley, 2020). Therefore, it is imperative to integrate social media education into university classes. The uncertainty introduced by the COVID-19 pandemic further accentuates the need for universities to equip students with the tools and digital literacies essential for a successful transition from the university to the professional world (Petruzziello et al., 2023; Vidal-Vilaplana et al., 2023; Zhao et al., 2021). In this sense, social media proficiency has been identified as a crucial skill set for future graduates entering the professional workforce (López-Carril et al., 2022; Novakovic et al., 2017).

### 2.2. From the professional to the educational sphere: social media in sport management education

The omnipresence of social media in contemporary society, from its initial irruption in the early 21st century to its widespread popularity in the second decade, has prompted continuous exploration by university faculty (e.g., Astleitner & Schlick, 2024; Luo et al., 2020; Park et al., 2022). This exploration aims to understand which social media platforms can be effectively introduced into the

classroom to positively impact the teaching-learning process (Alshalawi, 2022; van den Beemt et al., 2020). Given that social media were not originally designed for educational purposes (Al-Balushi et al., 2022), this exploration phase becomes crucial as these platforms continue to evolve, with new ones emerging (e.g., TikTok, Threads, BeReal) transferring and mimicking some of the functionalities to other social media.

While social media have been successfully integrated into university classes as complementary teaching tool (Moghavvemi et al., 2018), there remains a critical need to create experiences that foster students' digital skills, especially in the post-COVID-19 context, where the digitization process has accelerated (Bygstad et al., 2022; Ratten, 2023). As highlighted by Luo et al. (2020) and Novakovich et al., (2017), this imperative becomes indispensable, urging educators to delve deeper into how social media can impact learning in the university context. This is particularly relevant when considering students' future professional needs.

The positive pedagogical value of social media has been highlighted in the context of sport management education. Scott and Stanway (2015) showcased that the use of Twitter, led to increased student engagement. O'Boyle (2014) explored the use of Facebook and Twitter, emphasizing their role in enhancing interactions between students and staff, creating rich online learning spaces, and facilitating industry engagement. Additionally, recent studies have delved into the educational potential of LinkedIn in developing professional profiles for sport management students (López-Carril et al., 2022). Despite the positive outcomes reported in the studies mentioned above, there is still limited scope of research in the specific context of sport management education (López-Carril et al., 2022). Moreover, as pointed out by Manca (2020), the exploration of educational potential beyond mainstream platforms such as Facebook and Twitter is necessary.

### 2.3. Pinterest for the implementation of active learning methodologies in a constructivist framework

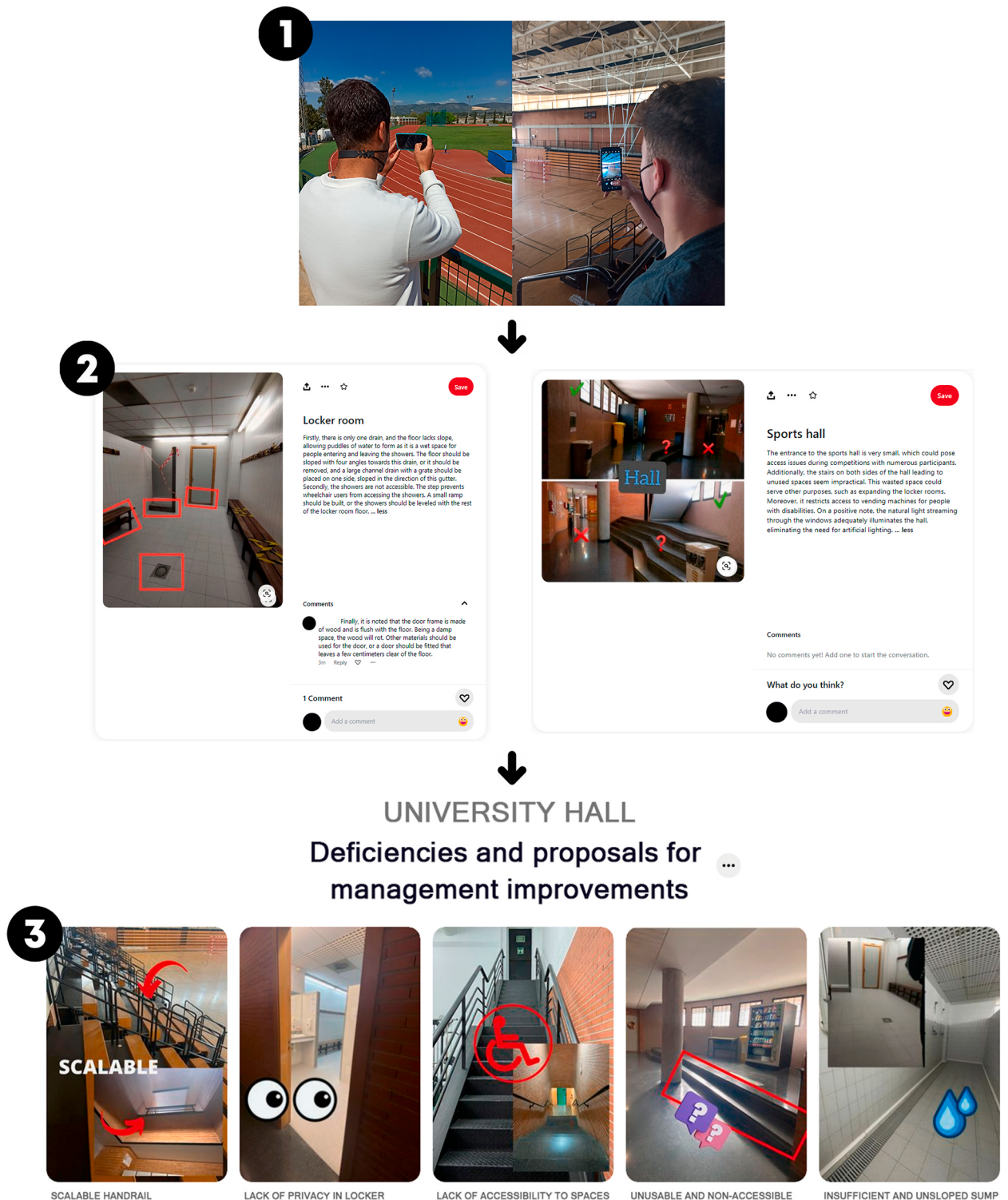
Among the less-explored social media platforms in the educational context, Pinterest stands out (Manca, 2020). Unlike Instagram, which primarily serves as a platform for social interaction, personal branding, and influencer marketing (Saternus et al., 2024; Sharifzadeh et al., 2021), Pinterest is more oriented toward content curation, organization, and thematic exploration within a visual bookmarking and image-sharing environment (Huntington, 2022). As a visually driven platform, it allows users to upload and organize multimedia content—such as photos, infographics, and videos—into “pins,” which can be systematically arranged into boards and sub-boards based on user-defined criteria (Mizelle & Beck, 2018). Beyond its primary functions, Pinterest fosters user interaction through features such as pin-sharing, commenting, and the “like” button (Pearce & Learmonth, 2013). Additionally, users can follow other individuals or specific boards, creating a sense of community and facilitating collaborative content curation (Schmidt, 2016).

Since its launch in 2010, Pinterest has experienced continuous growth, reaching 537 million active users worldwide by the end of 2024 (Dixon, 2025). This expansion has been driven by users seeking inspiration across diverse fields, including fashion, education, and home-related content. In an academic context, Pinterest's organizational structure—centered around boards and sub-boards—allows students to categorize, curate, and revisit learning resources more effectively than other platforms, fostering deeper engagement with educational content. Although studies such as Çelik et al. (2023) indicate that students generally prefer other social media platforms, such as Instagram for classroom use, integrating Pinterest into educational settings offers distinct advantages. Its unique features enable students to systematically collect, structure, and reflect on course-related materials, reinforcing its value as a pedagogical tool (Brannon, 2019; Joyce, 2017).

From a pedagogical perspective, the integration of Pinterest into the classroom aligns with constructivist learning theory, pioneered by renowned scholars such as Piaget and Vygotsky (Palincsar, 1998). This theory posits that knowledge is actively constructed by learners rather than passively received, emphasizing student-centered approaches in which learners engage in hands-on activities, peer collaboration, and real-world knowledge application (Elliott et al., 2000; Jonassen, Peck, & Wilson, 1999; Piaget, 1937). Pinterest's digital curation features create an environment conducive to these principles, allowing students to organize, critically analyze, and actively build their understanding of subject matter. This process, in turn, fosters active learning experiences (e.g., Joyce, 2017; López-Carril et al., 2024). Moreover, Pinterest's functionalities encourage students to take ownership of their learning, supporting the implementation of active learning methodologies in higher education (e.g., Brannon, 2019; Joyce, 2017; López-Carril et al., 2024).

The educational potential of Pinterest has been recognized in various studies. Baker & Hitchcock (2017) implemented an assignment with undergraduate social work students, wherein students reported acquiring skills in evaluating and curating professional content relevant to their discipline. In the field of marketing and advertising, Huntington (2022) underscored Pinterest's role in facilitating student interaction and cooperative learning. From a management perspective, Schmidt (2016) recognized the potential of integrating Pinterest into the classroom, emphasizing its ability to stimulate student discovery and foster discussions related to course content. Mizelle & Beck (2018) contend that Pinterest provides opportunities for innovation through active teaching strategies, engaging students and promoting collaboration. The authors concluded that Pinterest not only facilitated collaborative work, but also stimulated reflection and critical thinking, contributing to the overall learning experience. Similarly, Pearce and Learmonth (2013) highlighted Pinterest's contribution to the development of students' critical thinking and multimedia content curation, fostering digital literacy in the context of an introductory anthropology course. Lastly, López-Carril et al. (2024) introduced Pinterest in sport management classes through mobile learning, noting that students, particularly women, perceived the tool as beneficial, showing more favorable perceptions compared to men.

Despite the acknowledged positive aspects of social media, a prominent issue in the literature is the absence of a pedagogical approach to their integration into the classroom (Al-Balushi et al., 2022). Active learning methodologies have proven to be effective in introducing social media (Liu et al., 2022; Wang et al., 2024), placing students at the center of the teaching-learning process, fostering meaningful learning, and aligning with recognized benefits, such as improved motivation, subject engagement, academic performance, interaction, and critical thinking (Chiu et al., 2022; Liu et al., 2022). In the context of educational Pinterest use, various authors



**Fig. 1.** Workflow of students' work with Pinterest: (1) Students visit the sports facility and capture photos and videos with their smartphones; (2) students create pins, identify possible deficiencies, and provide managerial suggestions for improvement; and (3) students organize the pins into thematic boards and sub-boards.

Note. The pins have been adapted to English from the Spanish version created by the students.

have demonstrated its effectiveness in promoting active teaching methodologies (Baker & Hitchcock., 2017; Brannon, 2019; Huntington, 2022; Joyce, 2017). However, within the context of sport management education, aside from the work of López-Carril et al., (2024), the teaching potential of Pinterest in classroom settings remains largely unexplored.

While previous studies have examined Pinterest's role in education through quantitative or mixed-method approaches (e.g., Baker & Hitchcock, 2017; Brannon, 2019; Huntington, 2022), there remains a gap in structured, large-scale analyses that quantify students' perceptions of its pedagogical impact—particularly in sport management education, where the absence of literature limits a comprehensive understanding of its effectiveness. A quantitative approach allows for the systematic measurement of students' perspectives before and after engaging with Pinterest in an active learning environment, providing statistically supported insights into its role in enhancing the teaching-learning process. By adopting this approach, the study seeks to offer empirical evidence that can inform future pedagogical implementations of Pinterest in higher education.

Consequently, the primary research question is formulated as follows.

RQ1: What are students' perceptions of using Pinterest in sport management classes through an active learning methodology?

This research question will guide the investigation of the efficacy of Pinterest as an educational tool in the specific context of sport management education, shedding light on its potential role in enhancing students' learning and cultivating professional profiles.

### 3. Educational intervention with students of sport management through a Pinterest assignment

To fulfill the objective and research question of this study, an educational intervention was devised, employing an active learning methodology utilizing Pinterest in the semester course on "Sports Equipment and Facilities" for third-year students in sports science at a Spanish University. Throughout the intervention, each student visited two sports facilities: one designated by the teaching staff and the other chosen by the students themselves. They actively engaged in collecting audiovisual materials and capturing photos and videos using their smartphones. Subsequently, by leveraging this material, students created a series of pins showcasing diverse sports facilities and equipment organized into thematic boards and sub-boards (see Fig. 1).

To foster students' critical thinking and immerse them in the role of sport managers, each student was required to append a brief text to every pin. This text aimed to delineate the distinct features of various sports facilities and equipment by utilizing the technical language imparted in the content course. Furthermore, the students were tasked with identifying areas for improvement within the sports facility, drawing on potential deficiencies discerned during their on-site visits. This approach, facilitated through Pinterest, sought to establish a bridge between classroom theory and the practical realm of sport management. By prompting students to make decisions in real sports environments, the intention was to cultivate their managerial mindset and prepare them for situations they may encounter in their forthcoming professional careers.

To enhance students' active engagement in the learning process, each student took responsibility for co-evaluating a peer's work on Pinterest, utilizing a predefined rubric. To further emphasize the formative aspect of the assessment, each student received a Pinterest assignment focused on a sports facility that differed in typology from their initial choice. For example, if a student selects a swimming pool for their Pinterest assignment, the assigned project for co-evaluation might be a fitness center. This strategy ensures that while reviewing their peers' work, students gain insights into the professional realities associated with diverse types of sports facilities and equipment. Moreover, they can draw lessons from solutions devised by their peers to address identified deficiencies.

## 4. Methods

### 4.1. Research design and participants

This study employed a quantitative quasi-experimental design using a convenience sample. The sample comprised 97 Spanish university students enrolled in a "Sports Equipment and Facilities" course during the second semester of the 2020/2021 academic year. Among them, 80.40 % were male and 19.60 % were female, with a mean age of 22.33 ( $SD = 3.70$ ) years.

### 4.2. Instrument

The instrument used for data collection was a structured questionnaire designed to assess students' perceptions of Pinterest in sport management education. The questionnaire was based on the unidimensional scale developed by López-Carril et al., (2024), adapted from Adams et al., 2018. This 16-item scale measures various aspects of Pinterest's integration into the classroom, employing a 6-point Likert scale ranging from 1 = "strongly disagree" to 6 = "strongly agree", allowing for a nuanced assessment of students' perceptions. Examples of statements include "Pinterest can increase flexibility in learning and teaching", "Pinterest can be interesting to gain insights into the opinions of peers", and "Pinterest can be useful to stimulate critical thinking on issues related to sport management". López-Carril et al., (2024) reported strong internal consistency for this scale (Cronbach's  $\alpha = .96$ ).

In addition to the 16-item scale, the questionnaire included demographic questions (e.g., gender, age) and items regarding participants' prior experience with Pinterest, such as whether they had used the platform before and their self-perceived competence in its use.

#### 4.3. Data collection procedure

A non-probabilistic convenience sampling method was used to recruit participants. Data collection occurred at two time points: before the educational intervention with Pinterest (pre-test) and after its completion (post-test), enabling a comparative analysis of students' perceptions before and after engaging in the active learning activity. The questionnaire was administered online using the LimeSurvey platform, ensuring accessibility and standardization in data collection.

All participants voluntarily completed the questionnaire, adhering to the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2013). Before the commencement of the study, participants provided informed consent, were briefed on the research objectives, and received detailed information on data management and processing. Confidentiality was maintained throughout the study, and participants were explicitly informed of their right to withdraw at any time.

#### 4.4. Statistical analysis

A multi-step statistical approach was employed to analyze the collected data, starting with an assessment of sampling adequacy to determine the suitability of the analysis model (Ferrando & Anguiano-Carrasco, 2010).

First, the construct validity of the Pinterest perception scale was evaluated using EFA (see Section 5.1). The Kaiser-Meyer-Olkin (KMO) test (Kaiser, 1970) was conducted to assess sampling adequacy, with a threshold of .80 or higher considered acceptable. Additionally, Bartlett's test of sphericity was applied to confirm that the dataset was suitable for factor analysis. Once sample adequacy was established, principal components were extracted using the oblique Promax method, as recommended by Izquierdo et al. (2014). Following McLeod et al. (2001), oblique rotation was applied to enhance structural simplicity, particularly when latent traits were highly correlated, as observed in this study. Given that the scale comprised a single dimension, confirmatory analysis was deemed unnecessary.

To further evaluate the instrument's reliability, Cronbach's alpha was calculated based on the guidelines of Cronbach and Shavelson (2004), with values above .70 indicating high reliability, those between .60 and .70 considered acceptable, and those below .60 classified as low reliability (see Section 5.2).

After ensuring the validity of the instrument, a paired-sample approach was used to examine changes in students' perceptions before and after the educational intervention (see Section 5.3). Since the data did not meet the normality assumption, as verified by the Kolmogorov-Smirnov test, a Wilcoxon signed-rank test was conducted to compare pre-test and post-test mean scores. To complement this analysis, Cohen's *d* was calculated to determine effect sizes, following Cohen (1988) classification: values below .20 indicate a small effect, between .20 and .80 a medium effect, and above .80 a large effect.

All statistical analyses were performed using SPSS version 26 (IBM Corp, Armonk, NY, USA). The combination of validity testing, reliability assessment, and comparative analysis ensured a rigorous methodological framework for evaluating the impact of Pinterest on students' learning experiences.

### 5. Results

The results section presents the findings in two parts. First, the results pertaining to the reliability and validity of the instrument from López-Carril et al. (2024) are discussed. Second, the section includes a comparison of post-test and pre-test means, providing insights into participants' perceptions of Pinterest usage in sport management education classes.

**Table 1**

Means and factor loadings and uniqueness of the items that make up the scale on perceptions of the use of Pinterest in sport management classes.

| Items                                                                                                 | M       | SD   | Factor loads |
|-------------------------------------------------------------------------------------------------------|---------|------|--------------|
| 1. Pinterest can be an interesting tool for learning                                                  | 3.66    | 1.45 | .87          |
| 2. Pinterest can be interesting to get an insight into the opinions of peers                          | 3.94    | 1.27 | .89          |
| 3. Pinterest can be interesting to get an insight into teachers' opinions                             | 3.88    | 1.37 | .89          |
| 4. Pinterest can be interesting to learn how to formulate my own opinion                              | 3.67    | 1.47 | .88          |
| 5. Pinterest can impact productivity in learning and teaching                                         | 3.77    | 1.43 | .91          |
| 6. Pinterest can increase flexibility in learning and teaching                                        | 3.92    | 1.37 | .86          |
| 7. Pinterest can make you more connected with the teacher                                             | 3.53    | 1.45 | .85          |
| 8. Pinterest can bridge the gap between formal and informal learning                                  | 3.96    | 1.34 | .74          |
| 9. Pinterest is a good tool to stay informed about sport management issues                            | 3.43    | 1.40 | .79          |
| 10. Pinterest gives you the opportunity to follow and/or connect with important people                | 3.37    | 1.33 | .81          |
| 11. Pinterest can be a good tool to gain relevant experience in our field                             | 3.56    | 1.32 | .85          |
| 12. The use of Pinterest in education can blur the separation between education and private life      | 3.48    | 1.25 | .60          |
| 13. Pinterest can be a good tool to learn how to filter information                                   | 3.79    | 1.33 | .83          |
| 14. Pinterest can be useful to stimulate your critical thinking on issues related to sport management | 3.86    | 1.49 | .84          |
| 15. Pinterest can be useful to expand my professional network                                         | 3.95    | 1.36 | .84          |
| 16. The added value of Pinterest depends on how you personally manage it                              | 4.33    | 1.40 | .82          |
| <b>Eingvalue</b>                                                                                      | 11.08   |      |              |
| <b>Total variance explained</b>                                                                       | 69.22 % |      |              |

### 5.1. Exploratory analysis

An exploratory analysis was conducted to identify the potential dimensions constituting the scale of perceptions of Pinterest. The initial step involved analyzing sample adequacy, resulting in a KMO value of .95 ( $p < .001$ ), confirming the adequacy of the sample. Bartlett's test of sphericity value was 1592.25,  $df = 120$  ( $p < .001$ ), indicating a significant correlation between the items.

Upon confirming sample adequacy and item correlations, a promax oblique rotation was applied to the 16 items, revealing that the scale consisted of a single dimension. As indicated in Table 1, all loadings were equal to or higher than .60, obviating the need to eliminate items. Consequently, the scale, consisting of 16 items and one dimension, explained 69.22 % of the perceptions regarding Pinterest as an educational tool in sport management education classes.

### 5.2. Reliability

The second step involved the evaluation of the internal reliability of the scale. Table 2 presents the correlations between the items and examines whether the removal of any item would lead to an increase in Cronbach's alpha value. It is noteworthy that all items exhibit correlations above .60, except for item 12. However, given that the correlation value for item 12 was near .60 ( $r_{12} = .58$ ) and the removal of this item did not result in an increase in Cronbach's alpha, the decision was made to retain it. Consequently, no items were excluded and the final Cronbach's alpha value was .97.

### 5.3. Mean differences between the post-test and the pre-test regarding the use of Pinterest in sport management classes

First, it is noteworthy that students were queried about their Pinterest usage prior to the commencement of the educational intervention. The responses revealed that 59.80 % did not have a Pinterest profile, 23.70 % had a profile but did not use it, 12.40 % used it sporadically, and 4.10 % had a profile and used it frequently before the innovation.

Table 3 presents the averages of students' perceptions regarding Pinterest use in sport management classes. Generally, the averages were notably high, exceeding three points in all instances, both during the pre-test and post-test. Except for item no. 5, "Pinterest can be useful to expand my professional network," the post-test means surpassed the pre-test means, with statistically significant differences in 10 of the 16 items constituting the scale. Among the items with significant differences, the effect size (Cohen's  $d$ ) is medium for all of them, except for item 9, which is small.

Specifically, these means exhibited statistically significant post-test elevations in items related to Pinterest's importance for teaching ( $M_{\text{Post-test}} = 4.36$ ,  $DT_{\text{Post-test}} = 1.32$ ;  $M_{\text{Pre-test}} = 3.66$ ,  $DT_{\text{Pre-test}} = 1.45$ ,  $p < .001$ ), gaining insight into peers' opinions ( $M_{\text{Post-test}} = 4.36$ ,  $DT_{\text{Post-test}} = 1.39$ ;  $M_{\text{Pre-test}} = 3.94$ ,  $DT_{\text{Pre-test}} = 1.27$ ,  $p < .01$ ), and teachers' opinions ( $M_{\text{Post-test}} = 4.37$ ,  $DT_{\text{Post-test}} = 1.30$ ;  $M_{\text{Pre-test}} = 3.88$ ,  $DT_{\text{Pre-test}} = 1.37$ ,  $p < .001$ ).

Moreover, statistically significant differences between the post-test and pre-test were observed in perceptions that Pinterest can be interesting for formulating one's own opinion ( $M_{\text{Post-test}} = 3.98$ ,  $DT_{\text{Post-test}} = 1.32$ ;  $M_{\text{Pre-test}} = 3.67$ ,  $DT_{\text{Pre-test}} = 1.47$ ,  $p < .05$ ), its impact on productivity within learning and teaching ( $M_{\text{Post-test}} = 4.26$ ,  $DT_{\text{Post-test}} = 1.32$ ;  $M_{\text{Pre-test}} = 3.77$ ,  $DT_{\text{Pre-test}} = 1.43$ ,  $p < .001$ ), its ability to enhance flexibility in learning and teaching ( $M_{\text{Post-test}} = 4.52$ ,  $DT_{\text{Post-test}} = 1.30$ ;  $M_{\text{Pre-test}} = 3.92$ ,  $DT_{\text{Pre-test}} = 1.37$ ,  $p < .001$ ), and its potential to reduce the gap between formal and informal learning ( $M_{\text{Post-test}} = 4.45$ ,  $DT_{\text{Post-test}} = 1.25$ ;  $M_{\text{Pre-test}} = 3.96$ ,  $DT_{\text{Pre-test}} = 1.34$ ,  $p < .001$ ).

Similarly, statistically significant differences were identified between the post-test and pre-test perceptions concerning Pinterest as a valuable tool for staying informed about sport management issues ( $M_{\text{Post-test}} = 3.66$ ,  $DT_{\text{Post-test}} = 1.56$ ;  $M_{\text{Pre-test}} = 3.43$ ,  $DT_{\text{Pre-test}} =$

**Table 2**

Correlations between the items that comprise the scale on perceptions of the use of Pinterest in sport management classes and Cronbach's alpha value if any item is removed.

| Items                                                                                                 | $r_{1x}$ | $\alpha - x$ |
|-------------------------------------------------------------------------------------------------------|----------|--------------|
| 1. Pinterest can be an interesting tool for learning                                                  | .85      | .97          |
| 2. Pinterest can be interesting to get an insight into the opinions of peers                          | .87      | .97          |
| 3. Pinterest can be interesting to get an insight into teachers' opinions                             | .87      | .97          |
| 4. Pinterest can be interesting to learn how to formulate my own opinion                              | .86      | .97          |
| 5. Pinterest can impact productivity in learning and teaching                                         | .89      | .97          |
| 6. Pinterest can increase flexibility in learning and teaching                                        | .84      | .97          |
| 7. Pinterest can make you more connected with the teacher                                             | .83      | .97          |
| 8. Pinterest can bridge the gap between formal and informal learning                                  | .71      | .97          |
| 9. Pinterest is a good tool to stay informed about sport management issues                            | .76      | .97          |
| 10. Pinterest gives you the opportunity to follow and/or connect with important people                | .78      | .97          |
| 11. Pinterest can be a good tool to gain relevant experience in our field                             | .83      | .97          |
| 12. The use of Pinterest in education can blur the separation between education and private life      | .57      | .97          |
| 13. Pinterest can be a good tool to learn how to filter information                                   | .80      | .97          |
| 14. Pinterest can be useful to stimulate your critical thinking on issues related to sport management | .81      | .97          |
| 15. Pinterest can be useful to expand my professional network                                         | .81      | .97          |
| 16. The added value of Pinterest depends on how you personally manage it                              | .79      | .97          |
| <b>Cronbach's alpha</b>                                                                               | .97      |              |

**Table 3**

Mean comparisons of the pre-test and post-test on students' perception of the use of Pinterest in sport management classes.

|                                                                                                       | Pre-test |      | Post -test |      | Z     | p    | Cohen's d |
|-------------------------------------------------------------------------------------------------------|----------|------|------------|------|-------|------|-----------|
|                                                                                                       | M        | SD   | M          | SD   |       |      |           |
| 1. Pinterest can be an interesting tool for learning                                                  | 3.66     | 1.45 | 4.36       | 1.32 | -5.32 | .000 | .50       |
| 2. Pinterest can be interesting to get an insight into the opinions of peers                          | 3.94     | 1.27 | 4.36       | 1.39 | -3.05 | .002 | .32       |
| 3. Pinterest can be interesting to get an insight into teachers' opinions                             | 3.88     | 1.37 | 4.37       | 1.30 | -3.81 | .000 | .37       |
| 4. Pinterest can be interesting to learn how to formulate my own opinion                              | 3.67     | 1.47 | 3.98       | 1.47 | -2.36 | .018 | .21       |
| 5. Pinterest can impact productivity in learning and teaching                                         | 3.77     | 1.43 | 4.26       | 1.32 | -3.79 | .000 | .36       |
| 6. Pinterest can increase flexibility in learning and teaching                                        | 3.92     | 1.37 | 4.52       | 1.30 | -4.41 | .000 | .45       |
| 7. Pinterest can make you more connected with the teacher                                             | 3.53     | 1.45 | 3.73       | 1.47 | -1.38 | .168 | –         |
| 8. Pinterest can bridge the gap between formal and informal learning                                  | 3.96     | 1.34 | 4.45       | 1.25 | -3.78 | .000 | .38       |
| 9. Pinterest is a good tool to stay informed about sport management issues                            | 3.43     | 1.40 | 3.66       | 1.56 | -1.94 | .053 | .16       |
| 10. Pinterest gives you the opportunity to follow and/or connect with important people                | 3.37     | 1.33 | 3.48       | 1.45 | -1.03 | .304 | –         |
| 11. Pinterest can be a good tool to gain relevant experience in our field                             | 3.56     | 1.32 | 3.79       | 1.45 | -1.78 | .074 | –         |
| 12. The use of Pinterest in education can blur the separation between education and private life      | 3.48     | 1.25 | 3.59       | 1.41 | -.74  | .460 | –         |
| 13. Pinterest can be a good tool to learn how to filter information                                   | 3.79     | 1.33 | 4.12       | 1.36 | -2.82 | .005 | .25       |
| 14. Pinterest can be useful to stimulate your critical thinking on issues related to sport management | 3.86     | 1.49 | 4.04       | 1.44 | -.450 | .652 | –         |
| 15. Pinterest can be useful to expand my professional network                                         | 3.95     | 1.36 | 3.89       | 1.55 | -.485 | .628 | –         |
| 16. The added value of Pinterest depends on how you personally manage it                              | 4.33     | 1.40 | 4.61       | 1.42 | -2.45 | .014 | .20       |

1.40,  $p < .05$ ), its efficacy in learning how to filter information ( $M_{\text{Post-test}} = 4.12$ ,  $DT_{\text{Post-test}} = 1.36$ ;  $M_{\text{Pre-test}} = 3.79$ ,  $DT_{\text{Pre-test}} = 1.33$ ,  $p < .01$ ), and its added value, depending on how it is managed ( $M_{\text{Post-test}} = 4.61$ ,  $DT_{\text{Post-test}} = 1.42$ ;  $M_{\text{Pre-test}} = 4.33$ ,  $DT_{\text{Pre-test}} = 1.40$ ,  $p < .05$ ).

Finally, students were asked about their competence in Pinterest before the commencement and after the completion of the educational intervention. The post-test means demonstrated a statistically significant increase ( $p < .001$ ;  $Z = -7.16$ ), with a higher mean in the post-test ( $M = 6.76$ ;  $SD = 1.94$ ) than in the pre-test ( $M = 4.90$ ;  $SD = 2.17$ ).

## 6. Discussion

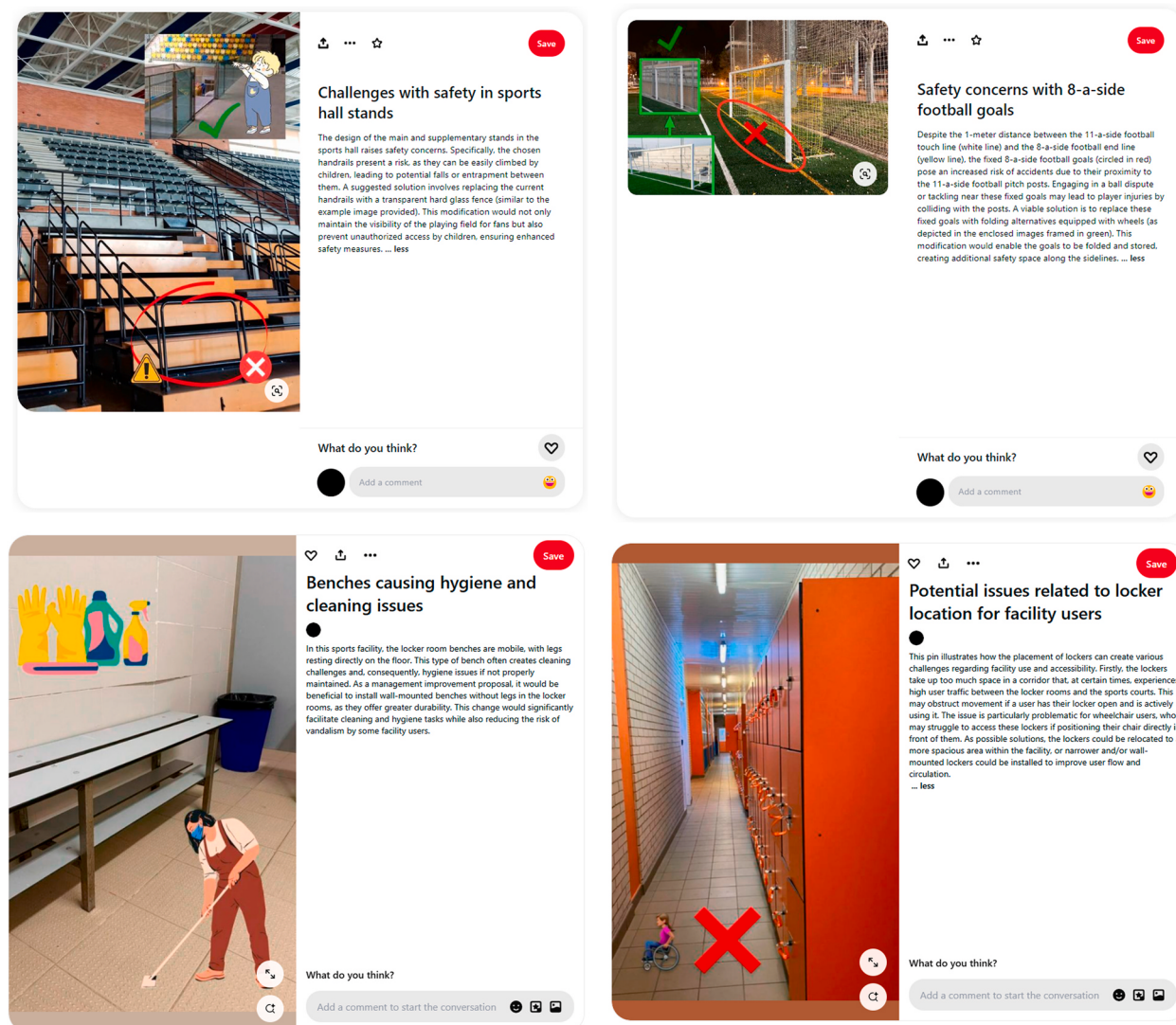
In an increasingly digitized world, exploring the potential of various digital technologies in higher education, especially social media, is essential to provide training that prepares students for their professional future (Al-Balushi et al., 2022; Pate & Bosley., 2020; Ratten, 2023). This study focuses on Pinterest, an underexplored social media platform where audiovisual, organizational, and aesthetic components prevail, and its potential in higher education is yet to be fully explored (Manca, 2020). To evaluate its educational potential, Pinterest was integrated into the classroom through an educational intervention employing an active learning methodology grounded in constructivist learning theory, aiming to engage students meaningfully in the teaching-learning process. The main findings are discussed below.

First, as the study is situated in the context of sport management education, the initial contribution of this work has been to confirm that the López-Carril et al., (2024) scale, adapted from Adams et al., 2018, exhibits good psychometric properties. Given the results obtained, the instrument used in this study can be valuable for future educators and researchers to assess Pinterest's potential in sport management classes.

Regarding the results related to the impact of the educational intervention, they clearly demonstrated that participants perceived Pinterest as a positive tool for their learning. In this way, our study aligns with Joyce (2017), Mizelle & Beck (2018) and Schmidt (2016). At a time when Artificial Intelligence is introduced into the classroom, educators must seek resources and educational proposals that encourage students to actively learn and become real protagonists. Pinterest offers these possibilities through active learning methodologies, as highlighted by Baker & Hitchcock (2017), Brannon (2019), and Huntington (2022), allowing students to capture their photographs and videos, convert them into pins, and organize them into boards. Throughout this process, students can reflect and develop their critical thinking, as noted by Mizelle & Beck (2018), and stimulate discussions among students linked to the professional field, as previously highlighted by Schmidt (2016).

In this study, the emphasis lies in students immersing themselves in the role of sport managers by pinning solutions to real-life problem situations related to the management of sports equipment and facilities (see Fig. 2). This approach designs learning experiences that bridge the gap between the academic and professional worlds, aligning with perspectives advocated by authors, such as Pate and Bosley (2020) and Vidal-Vilaplana et al. (2023). Consequently, it aids in preparing students for professional careers. Despite the positive impact on students, a critical consideration of future experiences with Pinterest suggests a need to complement the intervention design presented in this work. The current educational intervention does not explicitly guide students in using Pinterest in a professional manner, such as in generating marketing campaigns, designing strategies for fan engagement, or activating sponsors. In this case, Pinterest was utilized as a tool to address practical content linked to the course. Future research should address this gap to enhance students' professional development.

Building on the aforementioned point, as noted by Baker and Hitchcock (2017), although university students are familiar with social media for personal use, they require support for effective application in professional contexts. This observation aligns with Novakovich et al. (2017), who highlighted the disparity between students' personal use of social media and their potential professional



**Fig. 2.** Examples of four pins created by students participating in the study, focusing on issues related to athlete and fan safety management, hygiene and cleanliness in locker rooms, as well as the management of user flow and accessibility to lockers in a sports facility. Note. The pins have been adapted to English from the Spanish version created by the students.

applications. These disparities further contribute to low levels of digital skills among students, as emphasized by Zhao et al. (2021). Incorporating digital learning spaces into the curriculum, as suggested by Chutipongdech et al. (2024), Marriot et al. (2024) and Novakovich et al. (2017), presents a viable solution. Consequently, in alignment with López-Carril et al. (2022), educators must design and implement educational initiatives that equip students with the skills to utilize social media from a professional perspective.

From a pedagogical perspective, the Pinterest-based educational intervention presented in this study aligns with Bygstad et al. (2022), supporting the assertion that digital learning spaces offer new and profound forms of learning. In this case, students engaged in learning by pinning, transcending the physical and institutional boundaries of the classroom and connecting with society through social media platforms such as Pinterest. This commitment to an active learning methodology responds to the call for action by Al-Balushi et al. (2022) and Purohit and Dutt (2024), who emphasize the need to explore the pedagogical aspects of social media integration in the classroom. In our context, the intervention design incorporating Pinterest within an active learning framework was positively perceived by students. Thus, Pinterest emerges as a valuable tool that educators can integrate into the classroom, enabling students to learn under constructivist learning principles. By doing so, it encourages reflection, fosters learning by doing, and facilitates the connection between prior knowledge and real-world learning scenarios presented by the instructor.

### 6.1. Practical insights for educators

Drawing from our experience with Pinterest educational intervention and the results obtained, we present five aspects to guide

future educational proposals through Pinterest.

1. Diversify teaching methodologies: While active learning methodology has proven effective with Pinterest, we encourage educators to explore alternative pedagogical foundations.
2. Leverage Pinterest's platform strengths: The platform's audio-visual orientation, aesthetics, and organizational features render it an ideal tool for reinforcing theoretical aspects, especially those of a technical nature, through practical and visual consolidation. Thus, faculty should design educational interventions that harness these specific attributes of Pinterest to maximize its potential.
3. Be prepared and understand your students' prior Pinterest usage before designing your learning proposal: In line with Schmidt (2016), the effective integration of Pinterest in the classroom demands well-trained educators. Therefore, allocate a preliminary training session to explore and comprehend the potential of Pinterest through pinning. Additionally, if students are unfamiliar with Pinterest, the faculty can introduce a simple assignment initially to acquaint them before advancing to more complex tasks.
4. Extend your students' engagement with Pinterest beyond the classroom: In addition to identifying areas for improvement (in our case, focusing on sports facilities and equipment), students can proactively address these issues with sports industry managers or policymakers. This enhances the university's connection with the professional sphere and society.
5. Explore collaborative possibilities brought by Pinterest: while collaborative potential on Pinterest has been acknowledged in other studies (e.g., Huntington, 2022), our work did not delve into this aspect. Future interventions could explore collaborative Pinterest boards within the same university, or even connect students from different universities in the online space provided by Pinterest.

## 6.2. Implications for management education

Beyond the practical insights provided for educators, this study contributes to the academic discourse on management education by expanding the discussion on social media integration in higher education. While research on platforms such as YouTube, Facebook, and LinkedIn in management education is well-established (e.g., López-Carril et al., 2022; Moghavvemi et al., 2018), the role of Pinterest remains largely unexplored. This study addresses this gap by demonstrating how Pinterest can function as a digital tool that enhances students' learning experiences through an active learning methodology grounded in constructivist learning principles.

Second, in a post-pandemic context where management education is undergoing significant transformations in response to emerging challenges (Ratten, 2023), innovative pedagogical approaches are required (Purohit & Dutt, 2024; Vidal-Vilaplana et al., 2023) to better prepare management students for their professional future. Our findings provide empirical evidence supporting the effectiveness of active learning methodologies that incorporate digital tools such as Pinterest. By adopting a quantitative approach, this study offers measurable insights into students' perceptions before and after engaging with Pinterest, reinforcing its potential as an educational resource in management education.

Finally, this study proposes an educational intervention for integrating Pinterest into management education, with the potential for adaptation to other disciplines. Therefore, it contributes to the growing body of research advocating for innovative teaching strategies in management education, as highlighted by Purohit and Dutt (2024). As Marriott et al. (2024) argue, the continuous evolution of management education curricula necessitates new pedagogical perspectives that drive the advancement of the field. This study serves as a starting point for further research on how social media can be leveraged to bridge the gap between industry and academia, fostering stronger connections between students and the professional landscape while promoting active engagement in the learning process.

## 7. Conclusions

This study underscores the educational potential of introducing Pinterest in higher education, specifically in sport management classes, through an active learning methodology grounded in constructivist learning principles. Study participants perceived Pinterest as a tool that facilitates peer and faculty feedback, enhances productivity and flexibility in the teaching-learning process, promotes information filtering, and keeps them informed about aspects related to sport management.

Furthermore, students apply theoretical content from the classroom in a practical manner, utilizing real-world examples from the professional realm of sport management. This approach cultivates critical thinking and fosters a managerial mindset that is beneficial to their professional future. Additionally, students develop digital skills by utilizing devices such as mobile phones and computers to collect and edit audiovisual materials on Pinterest while creating pins, boards, and sub-boards. In an increasingly digitized society, these digital skills can contribute to success in the workplace. Given these findings, we recommend that university educators incorporate Pinterest into active learning methodologies.

### 7.1. (De)limitations and future lines of research

Despite the positive aspects of the results of the study regarding the use of Pinterest in sport management classes, several (de)limitations require that they should be received with caution. First, the convenience sample size was small, and the sample was from a specific geographical area (Spain). Second, there was no control group, so some of the results may be due to other factors unrelated to the educational intervention with Pinterest. Despite this, this study had a larger sample than similar studies with Pinterest, which also did not have a control group (e.g., Baker & Hitchcock, 2017; Huntington, 2022; López-Carril et al., 2024) and the sample was also from a single geographical area of origin. Third, the research design has been quantitative, thus leaving aside a qualitative or mixed approach that may help enrich the understanding of the educational reach of Pinterest in sport management education classes. Finally,

the students and the design of educational intervention with Pinterest are linked to the area of sport management, leaving aside other higher education areas of knowledge.

The (de)limitations described above offer opportunities for further studies. Above all, it is recommended that as far as possible, the research design should include larger, randomized samples and students from different geographical areas. In addition, it may also be useful to introduce a qualitative perspective to complement the quantitative results from another perspective, which will certainly help advance the knowledge of the educational potential of Pinterest. Finally, it is recommended that educators explore the educational potential in educational areas other than sport management education to determine whether Pinterest can become a transversal tool available to university educators.

### Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used ChatGPT and Paperpal for proofreading and improving the readability of the text. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

### Funding

This work was supported by the project: “¡Hazte con todas!: Mapeando instalaciones deportivas a través de Pinterest” (Project code: UV- SFPIE\_PID-1356182) selected in the call for grants for the development of educational innovation projects for the academic year 2020–2021, convened by the Vice Rectorate for Employment and Training Programs of the Universitat de València.

### CRedit authorship contribution statement

**Samuel López-Carril:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Conceptualization. **Nicholas M. Watanabe:** Writing – review & editing, Supervision. **Christos Anagnostopoulos:** Writing – review & editing, Supervision. **María Huertas González-Serrano:** Writing – review & editing, Visualization, Methodology, Formal analysis, Data curation.

### Declaration of competing interest

The authors declare that they have no competing interests.

### Acknowledgements

The first author would like to acknowledge the support of the postdoctoral contract “Juan de la Cierva-formación 2021” (FJC2021-0477779-I) granted by the Spanish Ministry of Science and Innovation and by the European Union through the NextGenerationEU Funds (Plan de Recuperación, Transformación y Resiliencia).

The authors acknowledge that the open-access publication of this article was funded under the terms of the transformative agreement between Elsevier, Qatar National Library, and Hamad Bin Khalifa University.

### Data availability

Data will be made available on request.

### References

- Abeza, G. (2024). Interview with Brendon Hanley, head of global social media at FIFA. *International Journal of Sport Communication*, 17(1), 3–4. <https://doi.org/10.1123/ijsc.2023-0166>
- Adams, B., Raes, A., Montrieux, H., & Schellens, T. (2018). “Pedagogical tweeting” in higher education: Boon or bane? *Journal of Educational Technology in Higher Education*, 15(1). Article 19 <https://doi.org/10.1186/s41239-018-0102-5>.
- Al-Balushi, W., Al-Busaidi, F. S., Malik, A., & Al-Salti, Z. (2022). Social media use in higher education during the covid-19 pandemic: A systematic literature review. *International Journal of Emerging Technologies in Learning*, 17(24), 4–24. <https://doi.org/10.3991/ijet.v17i24.32399>.
- Alshalawi, A. S. (2022). The influence of social media networks on learning performance and students’ perceptions of their use in education: A literature review. *Contemporary Educational Technology*, 14(4). Article ep378 <https://doi.org/10.30935/cedtech/12164>.
- Anagnostopoulos, C., Parganas, P., Chadwick, S., & Fenton, A. (2018). Branding in pictures: Using Instagram as a brand management tool in professional team sport organisations. *European Sport Management Quarterly*, 18(4), 413–438. <https://doi.org/10.1080/16184742.2017.1410202>
- Astleitner, H., & Schlick, S. (2024). The social media use of college students: Exploring identity development, learning support, and parallel use. *Active learning in higher education*. Advance online publication. <https://doi.org/10.1177/14697874241233605>
- Baker, L. R., & Hitchcock, L. I. (2017). Using Pinterest in undergraduate social work education: Assignment development and pilot survey results. *Journal of Social Work Education*, 53(3), 535–545. <https://doi.org/10.1080/10437797.2016.1272515>
- Brannon, D. (2019). Pinterest: Pins, problems, and possibilities. *Academic Exchange Quarterly*, 23(4).
- Bygstad, B., Øvrelid, E., Ludvigsen, S., & Dæhlen, M. (2022). From dual digitalization to digital learning space: Exploring the digital transformation of higher education. *Computers & Education*, 182. Article 104463 <https://doi.org/10.1016/j.compedu.2022.104463>.
- Çelik, B., Uzunboyulu, H., & Demirbaş-Çelik, N. (2023). Higher education students’ social media platform preferences for educational purpose. *Revista de Educación a Distancia (RED)*, 23(72). Article 7 <https://doi.org/10.6018/red.491551>.

- Chiu, P. H. P., Im, S. W. T., & Shek, C. H. (2022). Disciplinary variations in student perceptions of active learning classrooms. *International Journal of Educational Research Open*, 3. Article 100131 <https://doi.org/10.1016/j.ijedro.2022.100131>.
- Chutipongdech, T., Phengkona, J., Roopkrom, P., & Sawangdee, Y. (2024). Sport management education redesign after COVID-19: A case of Thailand. *International Journal of Management in Education*, 22(3). Article 101015 <https://doi.org/10.1016/j.ijme.2024.101015>.
- Cobo-Rendón, R., Bruna Jofre, C., Lobos, K., Cisternas San Martín, N., & Guzmán, E. (2022). Return to university classrooms with blended learning: A possible post-pandemic COVID-19 scenario. *Frontiers in Education*, 7. Article 957175 <https://doi.org/10.3389/feduc.2022.957175>.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Lawrence Erlbaum Associates Inc. <https://doi.org/10.4324/9780203771587>.
- Cronbach, L. J., & Shavelson, R. J. (2004). My current thoughts on coefficient alpha and successor procedures. *Educational and Psychological Measurement*, 64(3), 391–418. <https://doi.org/10.1177/0013164404266386>
- Dixon, S. J. (2025). Number of Monthly active Pinterest users worldwide from 1st quarter 2016 to 3rd quarter 2024. Statista. <https://www.statista.com/statistics/463353/pinterest-global-mau>.
- Elliott, S. N., Kratochwill, T. R., Littlefield Cook, J., & Travers, J. (2000). *Educational Psychology: Effective Teaching, Effective Learning*. McGraw-Hill.
- Ferrando, P. J., & Anguiano-Carrasco, C. (2010). El análisis factorial como técnica de investigación en psicología. *Papeles del Psicólogo*, 31(1), 18–33.
- Fütterer, T., Hoch, E., Lachner, A., Scheiter, K., & Stürmer, K. (2023). High-quality digital distance teaching during COVID-19 school closures: Does familiarity with technology matter? *Computers & Education*, 199. Article 104788 <https://doi.org/10.1016/j.compedu.2023.104788>.
- Gillooly, L., Anagnostopoulos, C., & Chadwick, S. (2017). Social media-based sponsorship activation – a typology of content. *Sport, Business and Management*, 7(3), 293–314. <https://doi.org/10.1108/SBM-04-2016-0016>
- Guo, S., Billings, A. C., Brown, K. A., & Vincent, J. (2023). The tweet heard round the world: Daryl Morey, the NBA, China, and attribution of responsibility. *Communication & Sport*, 11(1), 97–114. <https://doi.org/10.1177/2167479520983254>
- Habets, O., Van der Heijden, B., Ramzy, O., Stoffers, J., & Peters, P. (2021). Employable through social media: An intervention study. *Sustainability*, 13(9). Article 5093 <https://doi.org/10.3390/su13095093>.
- Huntington, H. E. (2022). Find, pin, discuss: Incorporating Pinterest to foster community and collaboration in online advertising classes. *Journal of Advertising Education*, 26(1), 64–73. <https://doi.org/10.1177/10980482221091239>
- Ironsi, C. S. (2022). Navigating learners towards technology-enhanced learning during post COVID-19 semesters. *Trends in Neuroscience and Education*, 29. Article 100189 <https://doi.org/10.1016/j.tine.2022.100189>.
- Izquierdo, I., Díaz, J. O., & Abad, F. J. (2014). Exploratory factor analysis in validation studies: Uses and recommendations. *Psicothema*, 26(3), 395–400. <https://doi.org/10.7334/psicothema2013.349>
- Jensen, K. B. (2015). What's social about social media? *Social Media + Society*, 1(1), 1–2. <https://doi.org/10.1177/2056305115578874>
- Jonassen, D. H., Peck, K. L., & Wilson, B. G. (1999). *Learning with Technology: A Constructivist Perspective*. Merrill Prentice Hall.
- Joyce, A. (2017). I remember that from my pins!: Using Pinterest to encourage active learning. *Psychology Learning and Teaching*, 16(3), 393–403. <https://doi.org/10.1177/1475725717110210>
- Kaiser, H. (1970). A second generation little Jiffy. *Psychometrika*, 35, 401–415. <https://doi.org/10.1007/BF02291817>
- Kang, D., & Park, M. J. (2022). Interaction and online courses for satisfactory university learning during the COVID-19 pandemic. *International Journal of Management in Education*, 20(3). Article 100678 <https://doi.org/10.1016/j.ijme.2022.100678>.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53, 59–68. <https://doi.org/10.1016/j.bushor.2009.09.003>
- Lin, P.-H., Huang, L.-R., & Lin, S.-H. (2022a). Why teaching innovation matters: Evidence from a pre- versus peri-COVID-19 pandemic comparison of student evaluation data. *Frontiers in Psychology*, 19. Article 963953 <https://doi.org/10.3389/fpsyg.2022.963953>.
- Liu, S., Zaigham, G. H. K., Rashid, R. M., & Bilal, A. (2022b). Social media-based collaborative learning effects on student performance/learner performance with moderating role of academic self-efficacy. *Frontiers in Psychology*, 13. Article 903919 <https://doi.org/10.3389/fpsyg.2022.903919>.
- López-Carril, S., Alguacil, M., & Anagnostopoulos, C. (2022). LinkedIn in sport management education: Developing the students' professional profile boosting the teaching-learning process. *International Journal of Management in Education*, 20(1). Article 100611 <https://doi.org/10.1016/j.ijme.2022.100611>.
- López-Carril, S., Anagnostopoulos, C., & Parganas, P. (2020). Social media in sport management education: Introducing LinkedIn. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 27. Article 100262. <https://doi.org/10.1016/j.jhlste.2020.100262>.
- López-Carril, S., González-Serrano, M. H., & García-Pascual, F. (2024). Introducing mobile learning in sport management education: Exploring gender differences in Pinterest usage. *Proceedings of the Institution of Mechanical Engineers - Part P: Journal of Sports Engineering and Technology*, 238(2), 181–190. <https://doi.org/10.1177/17543371231219381>
- Lu, D. (2021). Students' perceptions of a blended learning environment to promote critical thinking. *Frontiers in Psychology*, 12, Article 696845. <https://doi.org/10.3389/fpsyg.2021.696845>.
- Luo, T., Freeman, C., & Stefaniak, J. (2020). "Like, comment, and share"—professional development through social media in higher education: A systematic review. *Educational Technology Research & Development*, 68(4), 1659–1683. <https://doi.org/10.1007/s11423-020-09790-5>
- Mamo, Y., & Anagnostopoulos, C. (2023). Stakeholders' "voice" through social media: The case of corporate social responsibility in sport. *International Journal of Sports Marketing & Sponsorship*, 24(5), 1002–1020. <https://doi.org/10.1108/IJSM-05-2023-0084>
- Manca, S. (2020). Snapping, pinning, liking or texting: Investigating social media in higher education beyond Facebook. *Internet and Higher Education*, 44. Article 100707 <https://doi.org/10.1016/j.iheduc.2019.100707>.
- Manca, S., & Ranieri, M. (2016). Facebook and the others. Potentials and obstacles of Social Media for teaching in higher education. *Computers & Education*, 95, 216–230. <https://doi.org/10.1016/j.compedu.2016.01.012>
- Manca, S., & Ranieri, M. (2017). Implications of social network sites for teaching and learning. where we are and where we want to go. *Education and Information Technologies*, 22(2), 605–622. <https://doi.org/10.1007/s10639-015-9429-x>
- Marriott, N., Ratten, V., Higgins, D., Lean, J., Jones, P., Tharapos, M., & Haddoud, M. Y. (2024). Editorial: Learning from management education researchers. *International Journal of Management in Education*, 22(1). Article 100938 <https://doi.org/10.1016/j.ijme.2024.100938>.
- McLeod, L. D., Swygert, K. A., & Thissen, D. (2001). Factor analysis for items scored in two categories. In D. Thissen, & H. Wainer (Eds.), *Test scoring* (pp. 189–216). Lawrence Erlbaum Associates Publishers.
- Mizelle, E., & Beck, M. S. (2018). Engaging millennials: Best practice for using Pinterest. *Teaching and Learning in Nursing*, 13(1), 58–62. <https://doi.org/10.1016/j.teln.2017.09.006>
- Moghavvemi, S., Sulaiman, A., Jaafar, N. I., & Kasem, N. (2018). Social media as a complementary learning tool for teaching and learning: The case of youtube. *International Journal of Management in Education*, 16(1), 37–42. <https://doi.org/10.1016/j.ijme.2017.12.001>
- Muninger, M.-I., Mahr, D., & Hammedi, W. (2022). Social media use: A review of innovation management practices. *Journal of Business Research*, 143, 140–156. <https://doi.org/10.1016/j.jbusres.2022.01.039>
- Novakovich, J., Miah, S., & Shaw, S. (2017). Designing curriculum to shape professional social media skills and identity in virtual communities of practice. *Computers & Education*, 104, 65–90. <https://doi.org/10.1016/j.compedu.2016.11.002>
- O'Boyle, I. (2014). Mobilising social media in sport management education. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 15, 58–60. <https://doi.org/10.1016/j.jhlste.2014.05.002>.
- Palincsar, A. S. (1998). Social constructivist perspectives on teaching and learning. *Annual Review of Psychology*, 49, 345–375. <https://doi.org/10.1146/annurev.psych.49.1.345>
- Park, E., Song, H.-D., & Hong, A. J. (2022). The use of social networking services for classroom engagement? The effects of Facebook usage and the moderating role of user motivation. *Active Learning in Higher Education*, 23(3), 157–171. <https://doi.org/10.1177/1469787418809227>
- Pate, J. R., & Bosley, A. T. (2020). Understanding the skills and competencies athletic department social media staff seek in sport management graduates. *Sport Management Education Journal*, 14(1), 48–51. <https://doi.org/10.1123/smej.2019-0032>

- Pearce, N., & Learmonth, S. (2013). Learning beyond the classroom: Evaluating the use of Pinterest in learning and teaching in an introductory anthropology class. *Journal of Interactive Media in Education*, 2013(2). <https://doi.org/10.5334/2013-12>. Article 12.
- Pearce, N., & Learmonth, S. (2013). Learning beyond the classroom: evaluating the use of Pinterest in learning and teaching in an introductory anthropology class. *Journal of Interactive Media in Education*, 2. Article 12 <https://doi.org/10.5334/2013-12>.
- Pena, L., Curado, C., & Oliveira, M. (2022). The contribution of LinkedIn use to career outcome expectations. *Journal of Business Research*, 144, 788–796. <https://doi.org/10.1016/j.jbusres.2021.09.047>
- Petruzziello, G., Mariani, M. G., Guglielmi, D., van der Heijden, B. I. J. M., de Jong, J. P., & Chiesa, R. (2023). The role of teaching staff in fostering perceived employability of university students. *Studies in Higher Education*, 48(1), 20–36. <https://doi.org/10.1080/03075079.2022.2105830>
- Piaget, J. (1937). *La construction du réel chez l'enfant*. Delachaux et Niestlé.
- Pinto, M., & Leite, C. (2020). Digital technologies in support of students learning in Higher Education: Literature review. *Digital Education Review*, 37, 343–360. <https://doi.org/10.1344/der.2020.37.343-360>
- Purohit, S., & Dutt, A. (2024). Pedagogical innovations in management education in the 21ST century: A review and research agenda. *International Journal of Management in Education*, 22(2). Article 100976 <https://doi.org/10.1016/j.ijme.2024.100976>.
- Ratten, V. (2023). The post COVID-19 pandemic era: Changes in teaching and learning methods for management educators. *International Journal of Management in Education*, 21(2). Article 100777 <https://doi.org/10.1016/j.ijme.2023.100777>.
- Romero-Jara, E., Solanellas, F., López-Carril, S., Kolyperas, D., & Anagnostopoulos, C. (2024). The more we post, the better? A comparative analysis of fan engagement on social media profiles of football leagues. *International Journal of Sports Marketing & Sponsorship*, 25(3), 578–599. <https://doi.org/10.1108/IJMS-12-2023-0252>
- Saternus, Z., Mihale-Wilson, C., & Hinz, O. (2024). Influencer marketing on Instagram—the optimal disclosure strategy from influencers’ and marketers’ perspectives. *Electronic Markets*, 34(1). Article 60 <https://doi.org/10.1007/s12525-024-00743-x>.
- Schmidt, G. B. (2016). Using Pinterest in the management classroom. *Manag. Teach. Rev.*, 1(2), 79–84. <https://doi.org/10.1177/2379298116634737>.
- Scott, O. K., & Stanway, A. R. (2015). Tweeting the lecture: How social media can increase student engagement in higher education. *Sport Management Education Journal*, 9(2), 91–101. <https://doi.org/10.1123/SMEJ.2014-0038>
- Sharifzadeh, Z., Brison, N. T., & Bennett, G. (2021). Personal branding on Instagram: An examination of Iranian professional athletes. *Sport, Business and Management: International Journal*, 11(5), 556–574. <https://doi.org/10.1108/SBM-01-2021-0007>
- Sutherland, K., & Ho, S. (2017). Undergraduate perceptions of social media proficiency and graduate employability: A pilot study. *Higher Education, Skills and Work-based Learning*, 7(3), 261–274. <https://doi.org/10.1108/HESWBL-02-2017-0018>.
- van den Beemt, A., Thurlings, M., & Willems, M. (2020). Towards an understanding of social media use in the classroom: A literature review. *Technology, Pedagogy and Education*, 29(1), 35–55. <https://doi.org/10.1080/1475939X.2019.1695657>
- Vidal-Vilaplana, A., Gregori-Faus, C., Parra-Camacho, D., & González-Serrano, M. H. (2023). Analysis of sport management subjects in university Sports Sciences degrees in Spain. *International Journal of Management in Education*, 21(2). Article 100771 <https://doi.org/10.1016/j.ijme.2023.100771>.
- Wang, S., Sun, Z., Li, M., Zhang, H., & Metwally, A. H. S. (2024). Leveraging TikTok for active learning in management education: An extended technology acceptance model approach. *International Journal of Management in Education*, 22(3). Article 101009 <https://doi.org/10.1016/j.ijme.2024.101009>.
- Weimar, D., Holthoff, L. C., & Biscaia, R. (2022). When sponsorship causes anger: Understanding negative fan reactions to postings on sports clubs’ online social media channels. *European Sport Management Quarterly*, 22(3), 335–357. <https://doi.org/10.1080/16184742.2020.1786593>
- World Medical Association. (2013). World medical association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191–2194. <https://doi.org/10.1001/jama.2013.281053>
- Zhao, Y., Pinto-Llorente, A. M., & Sánchez-Gómez, M. C. (2021). Digital competence in higher education research: A systematic literature review. *Computers & Education*, 168. Article 104212 <https://doi.org/10.1016/j.compedu.2021.104212>.