

COMMUNICATION STRATEGIES FOR THE USE OF THE ICT IN TEACHING AT SECONDARY SCHOOLS AND VET

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Abstract

In schools, the existence of good communication and the use of ICT is undoubtedly a factor of great weight for the integration of innovative teaching policies. A good communication ensures the dissemination of educational innovation processes adopted by the teachers and the coordination between centers.

In this context, from an applied perspective, it is interesting to analyze the communication processes and their influence on the use of the ICT in teaching at secondary schools and vocational training centers in the Region of Murcia, Spain.

This paper studies the influence of communication strategies on the success of the teaching innovation with ICT.

The methodology is based on a survey design, using a questionnaire that has been designed for this research. The population is a representative sample of teaching staff in these schools.

The analysed data in this study show that there is not a predefined group of professionals with some common personal characteristics who are more prone to use the ICT in the teaching.

In addition, the results suggest that the use of the ICT in teaching is positively influenced when the direction of the centers is involved in defining the communication strategies favoring teaching innovations with ICT.

Keywords: Communication, ICT, Education, Educational Policies, Professional Development.

1 INTRODUCTION

Communication and ICT are relevant in innovation processes in organizations, since they are vital in everyday relationships, and, similarly, in schools where people interact daily and it is intended to ensure a good future for the organization. New technologies are not only creating new forms of communication, but they are also changing the way the old channels of communication are used.

In schools, the existence of good communication and the use of ICT is undoubtedly a factor of great weight for the integration of teaching innovative programs with ICT. A good communication ensures the dissemination of educational innovation processes adopted by the teachers and the coordination between centers. It's relevant to improve teaching practice. Today, communication is being recognized as a key variable for those who lead organizations. Communication is an ally to achieve strategic objectives in changing situations. Communication and the ICT play a key role in the processes of educational innovation ([1]).

The integration of ICT in education has many consequences in the current educational system. ICT determine the basic training that people need, the way of teaching and learning, used infrastructure and the means for this purpose, organizational structure of the centers and culture ([2]). In this sense, any innovation process with ICT is useless without other changes in the conceptions, attitudes and teachers routines with respect to the use of ICT ([3]).

It is unquestionable that the media are very important in the learning process. They activate the ability to understand and redefine the way in what people communicate. They introduce changes in education. The incorporation of innovative materials, ICT, courses and communication activities, and the use of the media to extract information, are very important ([1]).

The secondary schools and vocational training centers are organized through a model based on the participation and collaboration of its components, coordinating the actions of different people in order to achieve the proposed educational objectives.

ICT are tools that facilitate to the educational community the implementation of odd jobs such as administration and the development of teaching materials. Integrating ICT enables the improvement of teaching and learning processes. Thus, ICT are valuable resources that support teaching activities, promoting the motivation of students in the classroom ([1] and ([4]).

For this reason, education professionals have many reasons to take advantage of new opportunities provided by ICT to promote a new educational paradigm more personalized and focused on the activity of students making educational innovation projects. Therefore, the optimal operation of schools is closely related to communication processes and the influence of ICT in educational innovation processes taking place in this organization ([1]).

In this context, from an applied perspective, it is interesting to analyze the communication processes and their influence on the use of the ICT in teaching at secondary schools and vocational training centers in the Region of Murcia, Spain.

This paper studies the influence of communication strategies on the success of the teaching innovation with ICT.

2 COMMUNICATION STRATEGIES

The communication management involves defining a set of actions and procedures through which communication between members is provided, and integration between personal and institutional achievements is promoted. At the same time, internal conflicts in organizations are reduced by strengthening the cohesion of the members, contributing to the creation of spaces for information, participation and opinion.

2.1 Communication plan

The result of the management should be realized in the communication plan that consists of a set of strategies that enable communication to meet the communication needs posed by individuals and groups that make up an organization through the appropriate means.

The communication plan establishes the relationship between the objectives and strategies of the organization, and it will be useful when all the elements involved in the image of the educational system are taken into account, as Regouby [5] conceives it as a "strategy of global communication".

The communication plan is limited by the principles governing the communications policy of the center, gathered in the school's educational project, and by the needs of both the institution and the members who make up the educational community. Therefore, to achieve continuous improvement in the communication processes that take place in secondary schools and vocational education and training centers, the involvement and support of all the members in the organization should be taken into account in order to succeed.

2.2 Communication processes

Communication processes, from a systemic perspective, enable the organization to maintain the coordination among its different parts and, thus, achieve its essential characteristic: that of being a system ([6]).

Since every organization wants its workers to be motivated, informed and actively involved in the organizational objectives, a communication plan is needed to promote the integration, motivation and personal development.

Improvement of the functioning of the centers is the key concern of the board of directors and all their members because the educational community participates actively in the school.

According to Teixidó [7], for many years, the improvement of the institutions has been seen from a bureaucratic perspective, understanding that it is based on parameters such as increasing the number of teachers, increasing the groups of students, the introduction of new methodologies, the provision of more and better resources, the incorporation of new management positions, the limitation of functions, the establishment of working procedures, setting coordination mechanisms, the adequacy of the

organization But the real improvement is achieved not only expressing which is intended to change but implementing it, working every day and, therefore, it should be seen as a process that extends over time until it reaches a point that is consolidated, i.e., that it becomes part of the identity of the center.

2.3 Joint Communication Strategy

From this change perspective, the need to develop a joint communication strategy that considers both the change in the content and the process seems essential. But to achieve this change in the centers, it is necessary to create a communication plan involving various levels of the educational communication, starting from the initial diagnosis and principles of institutional communication policy.

With the communication plan, we will reduce the noise level, the interpersonal relationships developed on rumors and assumptions and an atmosphere of uncertainty that blocks any attempt of communication.

The involvement of all the members of the educational community in decision-making and active involvement will be key to reach the planned objectives in communication and a pleasant working environment that generates and implements changes and educational innovations in ICT.

Based on the above and considering the fact that studies on the influence of communication strategies for the success of educational innovation with ICT have barely been conducted, we propose the following hypothesis:

H1: Teachers who work at centers where communication strategies are used to disseminate innovations will have a more positive attitude towards the use of ICT than teachers who work at schools that do not use communication strategies.

3 METHODOLOGY

To test the hypothesis, a study has been conducted using a sample of 51 schools and 367 teachers. With respect to the position occupied by the surveyed teachers within the organization, 36.77% belong to the school management (26.97% as a director, 5.99% as a head teacher and 3.81% as a secretary).

The methodology is based on a survey design, using a questionnaire, which was created for this research, administered to the management and teachers of each school. It was sent on paper and through an online questionnaire emailed to facilitate the accessibility of information to all the sampled schools. Later, it was verified that they had been successfully received.

The scales of measurement of variables were 10-point Likert, where 1 = strongly disagree and 10 = total agreement. The quality of the scales was measured using the Cronbach Alfa and they all showed a high level of reliability, with a coefficient higher than 0.70.

The data collected during the academic year were analyzed using SPSS 17.0 statistical software.

4 RESULTS

Here we offer a summary of the overall results obtained in our study. To analyze the possible statistical dependence between the centers characterized by the use of ICT and the use of communication strategies we have performed a linear regression analysis (Table 1), with the following results:

Table 1. Linear regression analysis.

	Standardized coefficients	T-Test (Sig.)
	(Beta)	(t)
(Constant)	1.389	1.809
Diagonal communication (COM.DIA_FAC.COM)	-0.034	-1.954c
Horizontal communication (COM.VERT_FAC.COM)	-0.392	-0.464
Downward vertical communication (CV.DESC_FAC.COM).	0.026	2.379c
Secondary School (ENS.SEC_CHARACTER.CEN).	-0.182	-0.242
High School (ENS.BAC_CHARACTER.CEN).	-0.234	-0.771
VET (ENS.FP_CHARACTER.CEN).	0.041	2.391c
Position (ENS.FP_CHARACTER.ENT).	-0.132	-0.302
Specialty (ESP_CHARACTER.ENT).	-0.135	-1.167
Type of education (TIP.ENS_CHARACTER.ENT).	-0.243	-0.437
Pupils number (ALU_CHARACTER.CEN).	-0.236	-0.846
Teachers number (PRO_CHARACTER.CEN).	-0.201	-1.065
Coefficients of determination	R. Multiple	0.774
	R². Multiple correlation coefficient	0.556
	Adj. R²	0.480
Standard deviation error (ETE)	ETE	0,457
Durbin-Watson statistic (DW)	DW	2,458
ANOVA	ANOVA (F) =	2.043c
where: Sig.: p< 0.01a; p<0.05b, p<0.1c; from T-Test and Sig.		

The evaluation of this linear regression model indicates the presence of diagonal communication, downward vertical communication and VET variables ($p < 0.1$) as significant factors in educational innovation according to the statistic T-Test.

The study of this hypothesis also provides a positive value (beta coefficients) for some of the factors, indicating that the use of information and communication technology in the center is directly related to the downward vertical communication between its members and with the center providing VET.

This hypothesis has been contrasted with an ANOVA table indicating that the independent variables are linearly related to the variable criteria (F ANOVA with p-value < 0.01). The Durbin Watson (DW) takes the value of 2.458, yielding a value of adjusted R² of 0.480.

5 CONCLUSIONS

The analyzed data in this study show that there is not a predefined group of professionals with some common personal characteristics that are most likely to use ICT in teaching. The use of communication strategies in the center influences the success of educational innovation with ICT. This study confirms the importance of the communication process to encourage the use of ICT in teaching in secondary education and vocational education and training in the Region of Murcia, Spain.

In order to achieve their purposes, the analyzed centers use the resources at their disposal, both human and material, creatively and cause changes in teaching and learning systems.

Furthermore, the results suggest that the use of ICT in education is positively influenced when the management of the center is involved in defining the communication strategies that encourage pedagogical innovation with ICT.

The research study also confirms the importance of school leadership as an agent of communication and innovation so that the changes introduced by these innovations can be materialized in the center.

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