ORIGINAL

Levels of technological competence in the use of social networks among teachers in Santa Marta

Niveles en la competencia tecnológica del uso de las redes sociales en docentes de Santa Marta

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ABSTRACT

Social media have had a great reception in the educational context, allowing students to interact with each other in real time, both synchronously and asynchronously. Deficiencies in social media management competencies have repercussions on educators needing to be more knowledgeable about technology and, consequently, on students with deficits in this area. The factors influencing this type of phenomenon may be related to the lack of programs and training by institutions or teachers. The goal was to analyze teachers' technological competence levels during the pandemic concerning the use of social media in grade ten. An inductive empirical, non-experimental piece of research was proposed, with a cross-sectional design, in Santa Marta City, Colombia, El Parque District Educational Institution, focusing on grade ten. The sample was made up of 15 teachers. A data collection instrument was used, composed of 15 closed Likert-type questions. These questions correspond to the exploratory, integrative, and innovative levels underlying the pentagon of competencies on the grounds for technological competencies established by the Ministry of National Education of Colombia. Once the interpretation was carried out, it can be seen that the hypothesis was refuted and the instrument achieved its purpose; it was evidenced that teachers do have an adequate level of competencies; regarding the use of mechanisms such as social media, training should be given to take advantage of the implicit potential of these tools, which makes it possible to recommend the implementation not only to share information but also to assess and monitor, as well as constant updating by the teaching staff so as not to fall behind the technological progress that may take place in the future.

Keywords: Social Networks; Education; Information Technologies; Innovation; Availability to Change; Pandemic.

RESUMEN

Las redes sociales son elementos que han tenido una gran acogida en el contexto educativo, proporcionan a los estudiantes la posibilidad de interacción entre sí mismos en tiempo real, de forma sincrónica y asíncrona. Las deficiencias en competencias sobre el manejo de redes sociales repercuten en educadores con poco conocimiento en materia tecnológica y por consiguiente en estudiantes con déficit en esta área. Los factores que inciden en este tipo de fenómenos pueden ir relacionados a la falta de programas y capacitaciones por parte de las instituciones o de manera independiente por los docentes. El objetivo fue analizar los niveles en la competencia tecnológica de los docentes durante la pandemia con respecto al uso de las redes sociales del grado décimo. Se planteó una investigación empírica inductiva, no experimental, con un diseño transversal; en la ciudad de Santa Marta Colombia Institución Educativa Distrital El Parque focalizando el grado décimo.

La muestra estuvo conformada por 15 docentes. Se utilizó un instrumento de recolección de datos, compuesto por 15 preguntas cerradas tipo Likert. Que responden a los niveles exploratorio, integrador e innovador que subyace en el pentágono de competencias en el causal de las competencias tecnológicas establecidas por el Ministerio de Educación Nacional de Colombia. Una vez realizada la interpretación se aprecia que la hipótesis fue refutada y que el instrumento logró su cometido; se evidenció que los docentes si tienen un nivel adecuado de competencias, en cuanto al uso de mecanismos como las redes sociales se deben realizar capacitaciones, con el objetivo de aprovechar el potencial tácito que hay en estas herramientas, lo que permite recomendar, no solo la implementación con el objetivo de compartir información, también para evaluar y realizar seguimientos, además de una constante actualización por parte del cuerpo docente para no quedar rezagados ante los avances tecnológicos que tengan lugar en el futuro.

Palabras clave: Redes Sociales; Educación; Tecnologías de la Información; Innovación; Disponibilidad al Cambio; Pandemia.

INTRODUCTION

Social media have had a great reception in the educational context, providing students with the possibility of interacting with each other in real-time and synchronous and asynchronous communication.[1]

They give the possibility of creating working groups potentiating the individual and collective competencies of the groups, such as empathy and collaboration. User relations can be very diverse, from business to friendship communication.[1]

In the last decade, social media have been shaped as one of the most implemented communication channels, especially by the young, the main conprimaryrs and generators of content. This perspective is grounded in easy access and in how striking these tools are; to this, we can add the variety of audiovisual contents found in them.[2]

Therefore, these mechanisms are part of a growing pedagogical phenomenon. This demonstrates that teacher training should not be restricted only to the traditional curricular standards since the educational sphere should be analyzed as a constantly changing zone, and there must be continually updating for teachers not fall behind or become outdated.

Deficiencies in competencies in social media management have repercussions on educators little knowledgeable about technology and, consequently, students with deficits in this area. The factors influencing this type of phenomenon may be related to the lack of programs and training by institutions or independently by teachers; we can also find teachers immersed themselves in "ergonomic" pedagogies, i.e. they get into a monotony or comfort zone that does not make them unattractive among different positive aspects caused by change, lack of readiness to change is a predominant factor in this aspect.[3]

A priori, having been born in a context completely different from that of their teachers, students have much more promiscuous competencies for digital tool management; thus, at a glance, one can notice that the hiatus underlying the digital conceptions of teachers and the notion of students is rather considerable, but holding the fishing rod and knowing how to fish is not enough if we lack clear knowledge about what we seek to attain.[4]

For this reason, the teacher should not only seek to learn to manage the tools but also to have the judgment needed to use them correctly and, this way, to encourage the germination of these skills in their students.[5]

There is a current need to train both practicing and in-the-making teachers in managing and implementing technological resources to add more value to their professional work and adapt it to their needs.[6]

Technological resources allow functions beyond sharing and receiving information; therefore, their use should jump over the fence of conventional matters. Social media have been among human activities for a relatively short time. This is one of the motives that may cause teachers to see them as bilateral channels to receive and share information, indicating a use that is not consistent with the current students´ needs, which are: asynchronous evaluations, assignment of activities, guidance, and tutorships in class and extra-class hours.[7]

WhatsApp and Facebook groups are most typical in the student community due to their easy access and profitability, but their action is restricted only to arranging activities and meetings. It is easy to notice that they only scratch the surface of opportunities deriving from knowing, imagining, designing, and creating by hand with these striking mechanisms that adapt to academic needs. This is why, in this piece of research, we intend to find the degree of development of teachers' technological competence levels; this will make it possible to deduce their use in didactic aspects.

Therefore, the need arises to establish the capacities the teacher must have to use the technological mechanisms established in the Pentagon of ICT competencies in their exploratory, integrative, and innovative levels. This makes it possible to orient and improve how technological resources are incorporated into teaching.

The goal of this article is to analyze the levels of the technical competence of teachers during the pandemic regarding the use of social media in grade ten morning lessons at El Parque District Educational Institution in Santa Marta City, Colombia.

METHODS

This is an inductive empirical, non-experimental research with a cross-sectional design illustrated in the descriptive section.

In the geographical contextualization, it is located in Santa Marta City, Colombia, El Parque District Educational Institution, focused on grade ten.

The sample comprised 15 teachers (5 teaching in Grade ten 1, 5 teaching in Grade ten 2, and 5 teaching in Grade ten 3, respectively).

The mechanism we implemented for data collection was a questionnaire of closed, Likert-type questions structured as fifteen questions divided into three groups of five (Supplementary Material), which correspond to the exploratory, integrating, and innovating levels underlying the pentagon of competencies on the grounds for technological competences established by the Ministry of National Education of Colombia. We carried out the validation of experts and the assessment of the internal consistency via Cronbach´s alpha coefficient, where the result was 0,91, which supplies the instrument with a qualitative weighting of excellent reliability, providing the guarantee of objective research practice.

This piece of research had institutional approvals, and the express consent of the participants in this study was requested.

The results were processed in Excel to analyze this study's variables.

RESULTS AND DISCUSSION

The results of this study were symbiotically linked to the pentagon of competencies in the section of Technological Competences, taking into account the exploratory, integrative, and innovative levels (table1) corresponding to the operational sequence of fifteen (15) questions divided into five (5) per every level.

Table 1. Distribution of perceptions in the surveyed persons						
Level		Perceptions				
	No	I am not interested in	Never	Almost never	Almost always	Always
Explorer	1	-	-	-	14,3 %	85,7 %
	2	-	-	-	28,6 %	71,4 %
	3	-	-	-	42,9 %	57,1 %
	4	-	-	14,3 %	14,3 %	71,3 %
	5	-	-	-	28,6 %	71,4 %
Integrator	6	-	-	14,3 %	-	85,7 %
	7	-	14,3 %	14,3 %	42,3 %	28,6 %
	8	-	14,3 %	14,3 %	28,6 %	42,9 %
	9	-	-	-	28,6 %	71,4 %
	10	-	-	-	42,9 %	57,1 %
Innovative	11	14,3 %	57,1 %	28,6 %	-	-
	12	-	-	-	57,1 %	42,9 %
	13	-	14,3 %	-	42,9 %	42,9 %
	14	-	-	28,6 %	42,9 %	28,6 %
	15	-	-	14,3 %	42,9 %	42,9 %

Regarding the exploratory level, which was the first aspect assessed in the questionnaire sent to the teachers of that educational institution, we can see that half the surveyed persons are knowledgeable about the existence of social media and have a notion of how they can be used to strengthen pedagogical practice, which is equal to an implementation going further than a simple communication through these channels since 76 % correspond to the maximal choice of appropriation, the panorama is positive, taking into account that their practical action does not remain on the surface.

Concerning the frequency in which the topics are explained via social media, the surveyed persons affirm that social media are implemented recurrently to explain inherent issues to the school sphere, so they are being put

into practice is palpable in teachers of different areas, setting aside the traditional paradigm of implementation in which only computer science teachers use the implementation technologies in the technology lessons.[8]

When inquiring which these communication channels come into the canon of social media and are used by teachers to share pedagogical content, it was reported that teachers use them recurrently for these purposes, which lets us realize that teachers share information not only via the traditional or best-known mechanisms, they also use the social media that are more popular among the young people.

On the other hand, regarding the teacher´s management and ability to discern knowledge and teach asynchronously by sharing educational material posted on social profiles and the way to access them, 71,4 % state that they always post material in their profiles and indicate the mechanisms to reach it.

In the fifth and last question of the exploratory level, at this point, we sought to find out whether the teacher carried out the abstraction of the positive and negative aspects coming from social media and, according to the teacher´s judgment, recommended or did not recommend their students to implement them for academic purposes. 71,4 % said they always recommend social media to their students to fulfill training actions.

The integrative level allows us to identify the competencies of the teacher to turn everyday tools into congruent training mechanisms, passing from the simple use of communication channels to the possibility of joining the lessons once the current pandemic-caused crisis is over.[8]

At a glance, we can see that sovereignty in this analysis sector was positive in a high percentage of perceptions. This allows us to confirm a palpable susceptibility to integrate new mechanisms into the traditional underlying praxis at the institution.

In this organizational order, in the information collected in question number six (6), in which we intended to measure the ability of the teacher to implement means that are informal but with great potential to receive papers more quickly and accessible to all kinds of public. 85,7 % of the sample was always installed in the space, while the other percentage, 14,3 %, found accommodation in the possibility *hardly ever*. So a breach in knowing how to use these mechanisms is detected.

As regards this dimension, specifically when seeking to determine the ability of the teacher to evaluate and monitor students, taking into account that this is one of the essential activities in education, 28,6 % state they always use them and know how to do it and 42,9 % say almost constantly, which indicates either that some teachers prefer to use mechanisms other than social media or that their implementation is partial and due to specific characteristics of the moment.

Delving deeply into this aspect, we inquired whether the teacher knows the seriousness implied in using social media in addition to privacy and care concerning the contents shared when using them in education. To do so, it is important to know whether the teacher creates social profiles for these purposes or, on the contrary, uses profiles open to the public, such as those the teacher conventionally uses with friends and acquaintances. 42,9 % affirm they always create a new profile on social media for academic purposes.

Concerning the need to know how much teachers know about social media regarding their treatment as synchronous and asynchronous communication means, within the framework of the current pandemic, it was found that social media are active tools in the current pedagogical age. Likewise, it is pertinent to specify that their purpose is to identify and know the skills and attitudes of the teaching team to follow up and provide feedback on the activities and contents via social media without these processes losing their seriousness and objectivity.[10]

The innovative level is the third and last in the pentagon of competencies, the space dedicated to technological competencies. In this space, we sought to determine the ability of teachers to visualize a panorama where social media can be conceived as serious mechanisms in educational intervention, both now during the pandemic and when it is over; also the possibility of creating new processes using technology and social media as a foundation, this situation is the responsibility not only of those teachers having interaction with technology included as one of their obligations.[9]

In the sample, the perception of transcendence in the educational arena, hand in hand with technology and social media, shows certain skepticism. First, the perceptions of the teacher about social media as a distractive element, based on the teacher´s expertise, 14,3 % state they are not interested in this kind of issue, 57,1 % declare they have never been interested in whether or not they are elements conflicting with the educational process, and 28,6 % almost always consider this possibility among the possible secondary effects resulting from incorporating these mechanisms into education.

In this order of ideas, we were interested in knowing whether teachers consider it relevant that social media be put into operation for school purposes when the pandemic is over, based on the expertise and experience acquired during this time, which showed that 42,9 % always consider it necessary and 57,1 % almost always deem it relevant. Opinions differ in this scenario, but both notions tend to favor long-term incorporation.

The motivational and emotional aspects lying in social media and making it possible to identify whether teachers, through their ability to discern and innovate, see social media as a possibility to carry out traditional tasks but in different ways and how the teacher conveyed this idea to students so as to motivate them to

implement them with this approach, had positive perceptions in over 80 % of the sample.

When seeking to determine whether, once choosing to use social media for education, the teacher manages to make the pedagogical practice taking place at that moment during technology-mediated lessons relevant, timely, and according to the needs of the group, it was shown that their use in pedagogical practice is in keeping with demand.

Finally, we inquired whether teachers can perform their pedagogical praxis hand in hand with social media but using them formally in the curriculum, thus making them compulsory; 42,9 % always believe they should be included in the curriculum, 42,9 % almost always conceive this idea, and 14,3 % are apathetic toward this idea. So the opinions differ due to factors such as the interaction with these media.

Limitations and future perspectives of this piece of research

Though the main limitation of this piece of research is its sample size, and it can be considered an approach to this issue in a specific context, the teaching community is recommended to keep working with social media to carry out academic activities and to constantly receive training allowing them to cope with the new challenges posed for the future; likewise, we are appealing to bestow a more leading role on these tools and to invite the other teachers to participate in this new educational paradigm so that not only young teachers and computer science teachers make use of the potential of these channels.

It is necessary to point out that, due to the current crisis in the educational sector, all teachers should have a high level of technological competencies because the lessons are no longer taught in classrooms packed with students; on the contrary, the teacher and the student have turned their home into an extension of the educational staff; well now, the content teachers should share with students must be objective and indicate the algorithmic route to reach it, with this the phenomenon of procrastination and lack of concentration are avoided, these details that were scarcely appreciated when putting the instrument into practice will allow better development of the asynchronous sessions.

We invite them to lose their fear and rule out the taboos existing when technology-mediated lessons, especially social media, may be regarded by the young as scenarios to chat and get unstressed. Still, the teacher´s task is to show they can be used differently without losing that component that makes them so striking.

CONCLUSIONS

The teachers who participated in this research show a completely new panorama because, as social media are unusual mechanisms in the educational sector, knowledge, and imagination to use said mechanisms would be precarious or would not provide the conditions needed for a pedagogical practice framed in relevance. A negative perception guides our hypothesis since it was stated that the technological competencies of teachers to use these tools were not the most suitable ones and, if it were attempted to be done, it would be via palliative lessons in which they would appear as solutions without any objectivity.

It can be noticed that more than half the surveyed teachers, regardless of the area of incidence, have the knowledge, attitudes, and skills to turn social media into potential bridges for communication, evaluation, monitoring, and analysis. Hence, the technological competences of teachers go beyond the conventional use of daily-life platforms focused on sharing content among friends. They are framed within the amalgam of qualities constituting a competence in serious implements for education and training.

To the above, we can add that according to the interpreted data. Their belonging is not limited to the need to keep normality as close as possible because of the current crisis. It is deemed convenient to implement them formally in the curriculum once this problem is overcome. So the hypothesis is undone once the collected information is interpreted and the level of competencies of teachers is known. However, despite being positive regarding the measurement, the opinions allow us to notice that some teachers are apathetic toward using them in their lessons to support the phenomenon of distance. Still, this context does not generate that teacher ignore and lack the attitudes to give them continuity if necessary.

Based on the pentagon of competencies in the section on technology and its levels, we could determine that teachers have a level appropriate to the requirements of reality. This scenario was addressed by preparing and conducting a questionnaire.

So we can see that teachers manage social media activity and give continuity to their lessons hand in hand with them. Not only the technology and computer science teacher has the necessary competencies but also the ones teaching other subjects and being of old age know and use social media in conspiracy with excellent technological knowledge.

Then we can imagine that a severe social-media-absorbed educational action is possible; according to the collected data, this action will make the teacher independent of the physical stay. The teacher also passes functions on to the digital environment. This situation favors creating activities that scratch what is conventional and inject creativity and regeneration into traditional pedagogical practices. This will force the

teacher to research and generate new teaching techniques.

It is imperative to point out that, as social media are tools with a not correct educational origin, the paradigm generated around their articulation with the teaching processes may give rise to unfavorable stances and conceptions grounded in the loss of attention, the informality of these platforms and the abundance of content that may result in the student being stray once the teacher assigns activities in these media; we should also state clearly that, being students in the antepenultimate grade, teachers should have control over their procrastinating impulses if their tutor chooses to share work via these media.

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CONFLICTS OF INTEREST
No conflicts of interest.

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SUPPLEMENTARY MATERIAL

QUESTIONNAIRE					
Objective: to analyze the levels of technological competence of teachers during the pandemic with respect to the use of social networks in the tenth grade, morning session of the IED EL PARQUE, in the city of Santa Marta D.T.C.H, Colombia.					
Technological competencies according to MEN	**Rating Scale**				
Item	I am not interested in (0)	Never (1)	Almost never (2)	Almost always (3)	Always (4)
Explorer					
1. For the development of your academic activities, do you use any of the social networks with which you have the greatest affinity?					
2. How often are the topics explained through social networks?					
3. Actively shares educational content with its students through one of the following communication channels, Facebook, WhatsApp, Tik Tok, YouTube¸ Twitter, Instagram or other.					
4. When you are going to post an educational video, do you do it through a social network and indicate the route to reach it?					
5. Recommends students to use social networks for academic purposes in order to maintain communication with them.					
Integrator					
6. How often do you use social networks as a channel to receive your students' work?					
7. Do you use social networks as an evaluation tool?					
8. Develop a social profile for the groups in the area in which you have an impact.					
9. Uses social networks to facilitate synchronous and asynchronous communication with their students.					
10. How often do you use social networks to provide feedback on content and activities to your students?					
Innovation					
11. Do you consider that social networks can be seen as a distracting element if they are incorporated in the pedagogical practice?					
12. Do you think it would be relevant to continue using social networks once the restrictions generated by the Covid-19 pandemic are over?					
13. When students have more affinity with a social network, do technology-mediated classes adapt to these communication channels?					
14. When social networks are implemented in technology-mediated classes, are pedagogical practices generated according to the required level?					
15. Do you consider that social networks should be incorporated into the institution's curriculum?					