Knowledge management and digital skills in times of Covid 19

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Abstract

The objective of the research was to determine the relationship between knowledge management and digital competencies of teachers at the Francisco García Calderón Educational Institution in the district of Chivay - Caylloma, 2021. The study was developed through a pure methodology, correlational level, with a non-experimental design; the population consisted of 45 teachers of the Francisco García Calderón Educational Institution of the district of Chivay - Caylloma in Arequipa, to find the sample the non-probabilistic method was used - by convenience, the sample was formed by the census population. The technique used was the survey and the instrument were the questionnaire. The results have shown that the level of knowledge management of 52% of teachers is efficient, the level of digital competencies of 51% of teachers is high; these results. Therefore, it is concluded that there is a relationship between knowledge management and digital competencies of teachers.

Keywords: knowledge management, digital competencies, ICT, multimedia tools.
Introduction

For Echeverri et al. (2018), knowledge management has currently become an indispensable resource for organizations. This constitutes the set of activities, beginning and the strategies used to establish knowledge. This approach is of a structured and organized type that allows the organization to be fast, innovative and effective. Regarding its practice, it is related to the group of techniques, strategies and application of knowledge, these are considered four fundamental practices: Knowledge creation practices, constant learning practices, knowledge and feedback systems, and administration of the individual skills of workers (Angulo, 2017).

Likewise, the development of digital skills, especially in the educational context, requires the proper incorporation of ICTs in learning spaces and that teachers are trained according to these skills. The development of skills and abilities in this field is essential for the creation of a digital culture. Connectivity and equipment will reach all learning spaces, but it will be a bit intertwined if there is evidence of a generalized level of digital skills and that there is no reference standard, and that in addition to this there is no plan consistent with a plan of evaluable indicators that contribute to strengthening the professional areas that were not addressed during the initial teacher training (Tejada and Pozo, 2018).

In short, knowledge management fosters social and technological environments that favor educational activities, promotes the creation of content and the dissemination of information that teachers have in their domains (Gonzáles and Durán, 2021). Therefore, in an educational institution that is based on knowledge, it will imply the search starting from a traditional and general approach, but reaching a technological approach that manages to combine the technological information systems with the capacities that each teacher has. Therefore, this research starts from the study of knowledge management and its relationship with the digital skills of teachers (Gonzáles and Chávez, 2021).

The use of information technologies becomes a tool that every teacher must know and must manage efficiently to transmit knowledge to students; According to this, it is necessary that knowledge management is aligned with the efficient use of technological tools, allowing the teacher to possess certain digital skills (Valero, et al., 2017). The situation due to the pandemic is unprecedented; remote education has become the only way teachers can reach students; however, it is necessary for teachers to play an efficient role by correctly managing knowledge to achieve student learning (Calderón, 2019). To do this, they must have certain digital skills in an effort to meet educational objectives and safeguard student development (García, et al., 2016).

According to the United Nations Development Program (2017), they emphasize the relevance of efficient knowledge management for the innovative development of education and as a mechanism to generate value in teaching-learning processes. In a study conducted by Correa-Díaz, et al. (2019) on knowledge management to solve educational problems concluded that thanks to knowledge management curricula and academic structures can be improved. In
short, through proper management, educational problems such as remote work and the use of technologies can be addressed, as well as improving student services, teaching styles, among others. On the other hand, Grande et al. (2019) in his study on technology and knowledge management concluded that "in the information society, what is important is no longer mastering certain knowledge, but what to know, how to access knowledge at the time it is required. In this environment, social networks and virtual communities play a vital role" (p. 38).

Knowledge management fosters social and technological environments that favor educational activities, promotes the creation of content and the dissemination of information that the teacher has in their domains (Calvo, 2018). Therefore, in an educational institution that is based on knowledge, it will imply the search starting from a traditional and general approach, but reaching a technological approach that manages to combine technological information systems with the capacities that each teacher has (Gorina and Alonso, 2016).

In the present investigation, a social contribution is presented because the situation due to the pandemic is unprecedented; remote education has become the only way teachers can reach students; however, it is necessary for teachers to play an efficient role by correctly managing knowledge to achieve student learning. To do this, they must have certain digital skills in an effort to meet educational objectives and safeguard student development. For this reason, the objective is to determine the relationship between knowledge management and digital skills of teachers of the Francisco García Calderón Educational Institution of the Chivay-Caylloma district, 2021.

**Methodology**

The type of research according to its purpose was pure. This type of study is carried out when it is desired to obtain theoretical foundations about a phenomenon or a situation that has been little studied. The level of research for this study was correlational, focusing on correlating or ascertaining two or more study variables, without establishing causality; however, this can be interpreted by the researcher (Arias, et al., 2022).

The population was made up of 45 teachers from the initial level gardens of the Ugel Caylloma in Arequipa. The sample was made up of the census population; that is, 45 teachers from the Francisco García Calderón Educational Institution in the district of Chivay, province of Caylloma.

The technique for both variables is the survey, according to Arias et al. (2022), this technique is used in the educational field by the teacher, with the purpose of making an evaluative judgment of the skills acquired and evidenced by the student during the learning process, based on the description of what was observed.

Regarding the instrument of the knowledge management variable, it was developed by Marcos Obispo Monge in 2017, the instrument can be self-administered and lasts
approximately 10 minutes. The author validated the instrument under validity and reliability criteria, in terms of validity, the author performed it, submitted the instrument to expert judgment, and concluded that the instrument is valid to be applied, and for reliability, he used Cronbach’s Alpha method, remaining as value = .862, which confirms that the instrument can be applied. Coding is using the Likert scale: never, almost never, sometimes, almost always, always; and the qualification is efficient, regular, deficient.

Regarding the instrument of the digital competences variable, it was elaborated by Amelia Sarmiento Mendoza in the year 2020, the instrument can be self-administered and has an approximate duration of 10 minutes. The author validated the instrument under validity and reliability criteria, in terms of validity, the author performed it, submitted the instrument to expert judgment, and concluded that the instrument is valid to be applied, and for reliability, Cronbach’s Alpha method was used, remaining as value = .872, which confirms that the instrument can be applied. Coding is using the Likert scale: never, almost never, sometimes, almost always, always; and the qualification is high level, regular level and low level.

Due to the pandemic situation, the results will be collected virtually following the guidelines established by Arias (2020): the instruments must be previously validated under the parameters of reliability and validity. Choose the digital tool according to the type of instrument. Knowledge of digital tools for the application of the instrument. Have the database, email, cell phone, or other means that allows contact with the study participants. Provide real and reliable information about the study to the participants. Transfer the questions or statements and the response options identically from the physical questionnaire to the virtual instrument. For the registration of data, the google form will be used, in which all the questions and answers of the questionnaire will be processed; After that, the data that will be in the google cloud will be exported to the Excel 2016 software where the data processing will be carried out.

**Results**

**Table 1**  
*Variable Knowledge management*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient</td>
<td>23</td>
<td>52%</td>
</tr>
<tr>
<td>Regular</td>
<td>fifteen</td>
<td>3.4%</td>
</tr>
<tr>
<td>Deficient</td>
<td>6</td>
<td>14%</td>
</tr>
</tbody>
</table>

The table shows the results found in the knowledge management variable, which show that 52% have an efficient level of knowledge management, 34% regular and 14% deficient. Through knowledge management, various transformations can take place in the educational
field, with considerable effects on society, which can be evidenced through significant and lasting learning. Knowledge management is linked to the process of transforming and transmitting information, these processes allow educational institutions to strengthen the actions that are developed in them through the application of standards and models that guarantee the quality of the processes and that allow that they are able to create a significant impact on the social group.

Table 2
Variable digital skills

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>23</td>
<td>51%</td>
</tr>
<tr>
<td>Regular</td>
<td>fifteen</td>
<td>33%</td>
</tr>
<tr>
<td>Short</td>
<td>7</td>
<td>16%</td>
</tr>
</tbody>
</table>

The table shows the results found in the digital skills variable, which show that 51% have a high level of digital skills, 33% regular and 16% low. they are considered a key element with transversal characteristics that every person should develop in order to take advantage of the benefits and advantages that technology offers them. The promotion of the development of technological skills contributes to the active participation and empowerment of people. They are a means used for information management, they require qualities such as cooperation, responsibility, ethics, etc.

Table 3
Spearman's RHO hypothesis test

<table>
<thead>
<tr>
<th></th>
<th>Worth</th>
<th>df</th>
<th>Asymptotic significance (bilateral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significance level</td>
<td>.538</td>
<td>two</td>
<td>.000</td>
</tr>
<tr>
<td>Spearman correlation</td>
<td>1.026</td>
<td>two</td>
<td>.599</td>
</tr>
<tr>
<td>Linear by Linear Association</td>
<td>.475</td>
<td>1</td>
<td>.491</td>
</tr>
</tbody>
</table>

N of valid cases Four. Five
a. 3 cells (50.0%) have expected a count less than 5. The minimum expected count is .20.

Note: IBM SPSS Statistic 25, obtained from data systematization

The statistical test was carried out for the hypothesis test, through the rejection of the null hypothesis with a margin of error of 5%. The hypothesis was:
Hi: the relationship between knowledge management and digital skills of teachers at the Francisco García Calderón Educational Institution in the district of Chivay - Caylloma, 2021 is significant and direct.

Ho: the relationship between knowledge management and digital skills of teachers at the Francisco García Calderón Educational Institution in the district of Chivay - Caylloma, 2021 is not significant or direct.

According to the values obtained:

- Significance level= .05
- Spearman correlation=.599
- p-value= .000

According to the p-value obtained, the null hypothesis is rejected and the research hypothesis is accepted.

Discussions

Remote teaching establishes a series of demands especially for the teaching group, especially the management of the subject, its development, implementation and use, it requires institutional support groups; with the purpose of quickly using the skills for work and teaching in virtual environments. Moving from traditional to remote teaching requires the quality of the resources and processes shared by the institution. Currently, remote education in times of pandemic is not considered a long-term solution, but rather a momentary approach to an immediate and temporary situation, as is the case of the health emergency due to COVID-19 (Tejada and Pozo, 2018).

Remote education contributes to the flexibility of teaching, promoting learning in any time and environment, however, what is being experienced today is not necessarily an online institutional pattern, but rather a series of improvised actions resulting from the health emergency. Remote education in times of pandemic is considered a temporary transformation of teaching, it is an option in the face of the emergency that is going through the world and that when education passes it will return to its traditional model. The main objective of remote education is temporary access to education, a mixture of online courses, use of mobile devices, use of digital media, face-to-face-virtual advisors, among other alternatives that allow students to keep in touch (González, 2021).

During the beginnings of knowledge management, two schools provided the way to understand this discipline. The first of these knowledge-process schools group, understands knowledge as a process, as stated by Karl Sveiby. This oriental school followed the affirmations of Nonaka and Takeuch, who carried out studies such as tactical knowledge and its creation. This integrates theories of psychology, sociology and pedagogy (Calvo, 2018). The school sees the company as a living organization that is related to the environment, understanding knowledge as a psychological process associated with experience, with the
enabling and socialization of knowledge being the determining functions in its management. Within what is proposed by said school, actions aimed at knowledge management are usually developed from the area in charge of human resources (Gonzáles and Chávez, 2021).

As for digital literacy, this is understood as a cognitive process through which various capacities are obtained for the use of ICTs and the handling of information. This cognitive process is the result of training in the management of technological resources in the information field (Echeverri, et al., 2018). Technological skills are a means used for information management, they require qualities such as cooperation, responsibility, ethics, etc. Technological competencies are made up of a series of components, such as: Technological, communicative, use of information and multimedia literacy (Gorina and Alonso, 2016).

**Conclusion**

Knowledge management allows students to design and put into practice the knowledge acquired through an academic process of data collection; In times of Covid 19, this process is carried out through various technological tools, but they are used through knowledge of their use and certain skills. In this sense, for students today to be able to manage knowledge and put it into practice, they need to have certain digital skills to enter and recognize the information they want to obtain. Therefore, it is concluded that there is a relationship between knowledge management and the digital skills of the teachers of the Francisco García Calderón Educational Institution of the Chivay - Caylloma district, 2021. The university must carry out a program or workshop on the use and knowledge of ICT taking into account two aspects: knowledge of technological tools for content creation and use of tools for preparing academic sessions. This workshop should be offered to all teachers in all professional careers; it must be provided throughout the academic year, at least three times a year.

**References**


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