Digital Competences in The Soft Skills of Primary Level Teachers

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Abstracts: The research, as a result of the thesis degree, was developed in order to present a proposal that allows strengthening the digital skills in the soft skills of teachers at the primary level of the Pacaipampa district of Piura-Peru. It is based on the theories of cognitivism, constructivism and connectivism, so that teachers learn new strategies and techniques, and how to apply them in the teaching and learning processes of the students of the educational institutions of the aforementioned district, in an active, motivating and autonomous during their academic phase. The applied methodology is of a basic type, propositional descriptive level, with a quantitative approach, with the total population of 100 teachers participating in the survey, applying two questionnaires with their respective validation. The Excel tool was used to tabulate the results, in which was detected that in digital skills, the category with the highest percentage in 4 of the 5 dimensions is sometimes, while in soft skills "almost always" predominates in 3 of the 5 dimensions. This indicates that both skills should be reinforced in teachers in an articulated way with innovative strategies. The final product was the preparation and presentation of a proposal for activities and implementation phases that strengthen training in the skills of the two variables, thereby facilitating the updating of teaching while optimizing teaching-learning processes, facing the challenges of the digital society and fully train students with the skills demanded in the 21st century.

Keywords: Digital Skills, Soft Skills, Primary Level Teachers.

1. INTRODUCTION

The accelerated advance of digital technologies, in recent decades, has generated an unprecedented transformation today, generating impacts in practically all areas, including, of course, the educational field (Cabero Almenara et al., 2019). The effective unification of ICT in schools represents a great challenge, which goes beyond having equipment and connectivity, and mainly involves training and the inclusion of digital skills in teachers, so that they obtain the maximum use of these instruments in the teaching and learning processes (Prendes et al., 2018).

The Sustainable Development Goals (SDG) supported by the UN (2015) also emphasize the relevance of developing digital skills in teachers. Some related specific objectives are: SDG 4: Quality education. Goal 4.4 aspires to increase the population with technical and professional skills to access decent jobs. This requires training competent teachers in the use of ICT. In SDG 5: Gender equality. Target 5.B seeks to promote the use of technology to empower women and girls. Teachers must be models of digital competence. SDG 9: Industry, innovation and infrastructure. Target 9.C aims to increase access to ICTs and provide universal and affordable access to the Internet. Teachers must master ICT to take advantage of them. SDG 17: Partnerships to achieve the goals. Goal 17.8 seeks to improve the use of information and communication technologies, where teachers together with institutions must create alliances to implement these technologies in their classrooms and use them critically for the common good.

Today's society demands exhaustive training in students, which is necessary to provide them with solid academic knowledge as well as digital skills and socio-emotional skills to function in the 21st century (UNESCO, 2016). In this task, the role of teachers is fundamental. However, the initial and continuous training of teachers is not always able to adequately develop the skills required to respond to this challenge (Robalino, 2005). Although there are valuable contributions in both areas separately (digital competences and soft teaching skills), there are fewer studies that analyze their interrelationship, particularly in the context of primary education. An exception is the research by Gutiérrez (2020) with a sample of secondary school teachers, which found positive correlations between the level of digital skills and communication and emotional management skills of teachers. This evidences the need for more studies that explore the link between both types of skills in classroom teachers, considering the different educational levels.

During the COVID-19 pandemic, it was found that education in Peru was forced to adopt remote modalities, which represented great challenges for the education system, according to a report by the Ombudsman (2020). Remote teaching not only implied the instrumental use of digital platforms, but also required that teachers were able to interact and connect with students despite technological limitations. In this context, it became evident that there was a high gap in the domain of technological tools. In addition, teachers need to develop skills for collaborative networking and socio-emotional skills such as assertive communication, motivation, responsibility and managing emotions. Various authors point out that these soft skills are key for teachers to be able to adapt to the current demands of education and respond to the needs of their students (Novella et al., 2019). The educational crisis during the pandemic highlighted the importance of fully training teachers, both in technology and in soft skills, as they are considered today.

It is also reflected in studies such as that by Silva et al. (2019), where more than 60% of primary school teachers in Peru show a basic or below basic level in digital skills. Likewise, teachers manifest difficulties with key soft skills such as stress management, conflict resolution and communication with parents (Demarini et al., 2022). Elementary teachers in the district of Pacaipampa in Piura-Peru, as observed, show limitations in adapting to the new digital and pedagogical demands. Many teachers have difficulties working as a team, employing social skills and making optimal use of technological resources in their curricular planning, as has been observed. Furthermore, it is perceived that some teachers have little capacity for self-criticism and reflection on their practice, showing dissatisfaction and little commitment to their schools, aspects that could affect student learning.

Pacaipampa is home to 115 multi-teacher, multi-grade, and single-teacher rural primary schools. The Ministry of Education recently provided tablets to students from 4th to 6th grade and laptops to their teachers. Therefore, it is essential that teachers develop digital skills to strengthen their teaching strategies and the educational processes required by students, as various investigations suggest. Technological skills must be complemented with socio-emotional skills, including assertive communication, leadership, teamwork, problem solving, time management, flexibility and adaptability, cultural awareness, and interpersonal skills, among many others (Robles, 2012).

Understanding the relationship and reciprocal influence between digital skills and teacher's soft skills would allow the improvement of initial and continuous teacher training programs, to comprehensively develop both types of skills, and close existing training gaps. Hence the importance and necessity of this study, focused on primary school teachers, a fundamental level for the early incorporation of digital and socio-emotional skills in students.

The theoretical justification of this study is based on the collection of theoretical and conceptual information on digital skills, which allows the development of a model that reinforces the skills and abilities of teachers. Similarly, it is supported in a practical way with the presentation of a proposal to strengthen digital skills such as those that promote the development of non-technical skills in teachers and serve as a guide for continuous development in the comprehensive training of students. The methodological aspect is justified, in the sense that it allows the application of instruments that obtain data on the perceptions of teachers regarding digital skills and soft skills, so that innovative proposals can be made that seek to strengthen their skills.

According to the DigCompEdu model of the European Institute of Innovation and Technology (2017), teacher digital skills comprise 6 areas: information and data literacy, digital communication and collaboration, digital content creation, digital security, resolution of technical problems, and responsible use of technology. All are necessary for an effective use of ICT in the teaching and learning process. From a pedagogical approach, Area and Guarro (2012) suggest that educators must master three interrelated dimensions: instrumental, cognitive, and socio-emotional. The first involves technical skills, the second ability to represent knowledge through digital languages, and the third social and ethical skills linked to technology. Only the integration of these dimensions allows a transformative use of ICT for educational purposes.

The variable, soft skills, also called socio-emotional or transversal skills, have become a key element in the comprehensive training of individuals. Various authors conceptualize it as those capacities and aptitudes necessary to understand, manage and establish positive interactions with others (UNESCO, 2016). These are intrapersonal

and interpersonal skills that, according to Cinque (2016), allow relating and developing in an adaptable and effective way in different social and work contexts. These include communication skills, leadership, organization, teamwork, problem solving, critical thinking and emotional management, among others. From Weinert's (2001) perspective, soft skills are competencies that make it possible to interact with the environment in a flexible and self-sufficient way. Far from being limited to technical knowledge, they involve motivational, ethical, social and behavioral aspects that are essential for life and work.

These skills are essential in teaching performance. According to authors such as Palomera et al. (2008), these are competencies that allow teachers to interact and communicate effectively with students, parents and colleagues, as well as work in a team, make decisions, manage emotions and conflicts, motivate themselves and adapt to new situations in the classroom and the educational community. The development of these skills increases the emotional and social intelligence of teachers, enabling quality teaching and the creation of favorable environments for learning. Soft or transversal skills are crucial in the daily work of teachers and their comprehensive training. The study is based on the contributions of various theories and authors who have addressed the issue of digital skills and soft skills, which are:

Information and digital literacy theories are an important reference to support the development of digital skills in teachers. Authors such as Bawden (2008) and Belshaw (2012) state that information literacy goes beyond finding and accessing information, implies being able to interpret, evaluate and use data, taking ethical and social aspects into account. It includes skills in determining the nature of an information need, locating efficient data, critically evaluating its relevance, incorporating new information into the existing knowledge base, and using the information ethically and legally. On the other hand, Coiro et al. (2014) propose that in the digital world digital literacy is necessary, which allows reading, writing and communicating using the Internet and other electronic media. It requires identifying questions, locating, evaluating, synthesizing, and communicating information using digital technologies strategically.

The first variable is based on the theory of connectivism that offers a valuable foundation to address the integration of digital skills and soft skills of teachers from a perspective updated to the digital age. Well, it states that learning happens through connections and networks in digital environments. Therefore, it implies abilities to search, select, analyze information, and link it in a meaningful way (Siemens, 2004).

From this basis, the variable, digital competences, in this study is conceptualized from the approach of the Council of the European Union (2018), it goes beyond the simple instrumental management of digital technologies and devices. It requires skills to learn, use and participate safely, critically and ethically in digital environments. In other words, it implies developing skills and knowledge to use these technologies efficiently, as well as to become actively involved as a citizen in the context of the growing digital society. This conceptualization emphasizes that digital competence encompasses deeper dimensions of critical thinking, self-care, social responsibility, and participatory engagement when interacting with digital technologies. Soft skills are based on various paradigms or approaches within psychology and education, among which the following can be mentioned:

Humanist paradigm: Postulates the development of human potential, focusing on personal growth, preparing the person to adapt to changes as they evolve. It highlights the importance of emotional intelligence, empathy, interpersonal relationships and self-actualization, which are essential in soft skills (Rogers, 1985). In relation to digital skills, it allows teachers and students to use technology and express themselves creatively to develop their potential.

Cognitive paradigm: Proposes that learning is a dynamic process of knowledge construction. Meta-cognitive skills such as critical reflection and strategic thinking are key soft skills from this perspective (Bruner, 1988). Making it easier for teachers to use digital resources to generate active and meaningful learning in young students.

Sociocultural paradigm: It states that learning is generated in social interaction and the internalization of cultural knowledge. From here, the role of social and communication skills is emphasized, which allow the collective construction of knowledge (Vygotsky, 1978), and which makes it possible to implement collaborative activities

mediated by technology among teachers, promoting the collective construction of knowledge. Multiple intelligences support the existence of different types of intelligence, many of them linked to inter and intrapersonal skills that are a core part of soft skills (Gardner, 1983) and allow teachers to create digital content that integrates the diversity of intelligences of the kids.

Starting from the proposed foundations, soft skills are conceptualized for this study according to Matteson et.al., (2016), it is defined as interpersonal skills, related to interaction with other people that includes skills to manage and lead human groups, they are also linked personality traits, attitudes, values and beliefs of individuals are nourished both by educational training and experience, do not depend on specific technical knowledge and are transferable between different fields and roles, it needs to be complemented with the hard skills provided by each profession. In addition, they require to be developed and perfected in an intentional and systematic way.

2. MATERIALS AND METHODS

This article was carried out with a Non-experimental design, that is, without deliberately manipulating the variables, allowing them to behave naturally as defined by Bloomfield and Fisher (2019). Likewise, it was a descriptive investigation that sought to characterize the phenomenon studied (Danhke, 1989; Hernández et al., 2010) and purposeful because it develops a proposal to reduce the rates of the problem presented. It had a quantitative approach when collecting and analyzing numerical data (Pita & Pértegas, 2002), and a cross section when collecting the data at a specific moment in time, corresponding to the year 2023. This type of non-experimental cross-sectional design with a quantitative approach allowed describing and explore the relationships between variables, digital skills, and soft skills in teachers in a natural context, without intervening or altering their behavior, in a real context.

According to Lakens (2022), the population refers to all elements with similar attributes which conclusions are desired. In this study, it was 100% of the district's teachers, so it was not necessary to draw a sample (Hernández, 2014). Validated ethical surveys were applied to obtain information. Dooly et al., (2017) affirm that ethics is fundamental in research to protect participants, generate benefits for them, and safeguard their rights. In this way, the students enrolled and who completed the instrument were considered, guaranteeing data validity.

3. ANALYSIS AND DISCUSSION OF RESULTS

The variable, digital competence, seeks to know the level of digital competences that teachers have in their educational practice, to facilitate teaching and learning. It consists of 5 dimensions as can be seen in Figure 1 with their respective results.

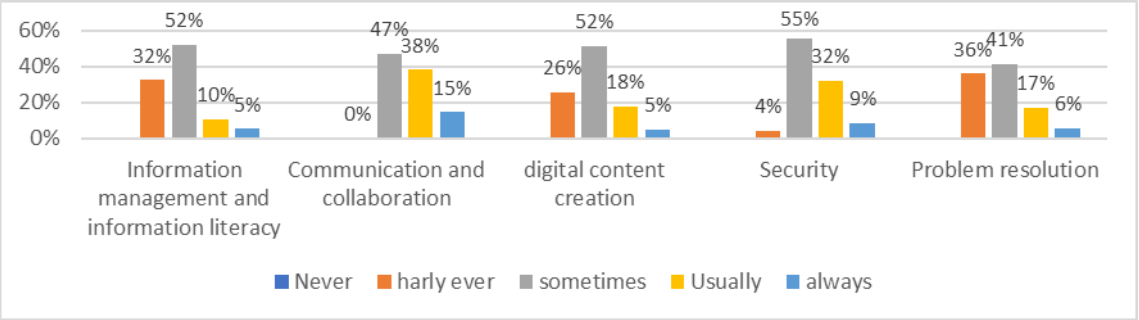

Figure 1. Level of integration of digital skills

The results of the information management and information literacy dimension show that a considerable majority of teachers (52%) only sometimes interact with virtual platforms and tools to search, select and use information for pedagogical purposes. Likewise, a high percentage (32%) almost never uses digital information management strategies. Only a minority do it always (5%) or almost always (10%). Data that express that there is a shortcoming in teachers who do not frequently interact with digital sources of information, nor implement adequate strategies to

take advantage of virtual resources for pedagogical purposes. This reveals a need for practical training to improve this skill, required in the digital age. The data related to the dimension of communication and virtual collaboration indicate that less than half of the teachers (47%) only sometimes promote the creation of digital spaces and interactions for pedagogical purposes. Although a higher percentage (38%) indicates that they almost always use assertive virtual communication, only a minority (15%) implement it consistently. In other words, less than half of teachers frequently implement strategies to promote interaction and collaboration through digital tools, revealing the need to reinforce communication skills and virtual collaborative work in teachers.

Regarding the dimension of digital content creation, the majority of teachers (52%) sometimes promote the production of multimedia educational material by students, while a high percentage (26%) almost never implement this type of strategy. active pedagogies. Only a minority of teachers always apply them (5%) or usually (18%). Percentages that show that there is still poor integration of didactic activities that encourage the creation of digital content by students. It is a priority to reinforce teacher training in this regard, so that they can design learning environments where students enhance their communication and expressive skills, through the production of educational materials in virtual formats.

While in security measures, 55% of teachers express that it sometimes applies, 32% usually, but even 4% never prioritize security when using technology. This implies that there is a weak security culture among teachers to protect sensitive data of students and their peers; This situation can cause risks such as violation of privacy and loss of sensitive information. It is crucial to reinforce teacher training, continuously, in security skills in digital environments, for an ethical and reliable use of technology in education. Regarding the resolution of technological problems, a high percentage of teachers (36%) hardly ever solve the technical problems they face when using digital technologies, and 41% only manage it sometimes, while a minority said they usually succeeded (17%) or always (6%). These results show important deficiencies in the skills to solve technological problems effectively. Situation, which can negatively affect educational processes. It is key to reinforce the training of teachers in strategies to identify, diagnose and solve technical failures in an agile and autonomous way. The second variable analyzed in this study was soft skills in teachers, made up of five dimensions as shown in Figure 2, which allows observing the levels.

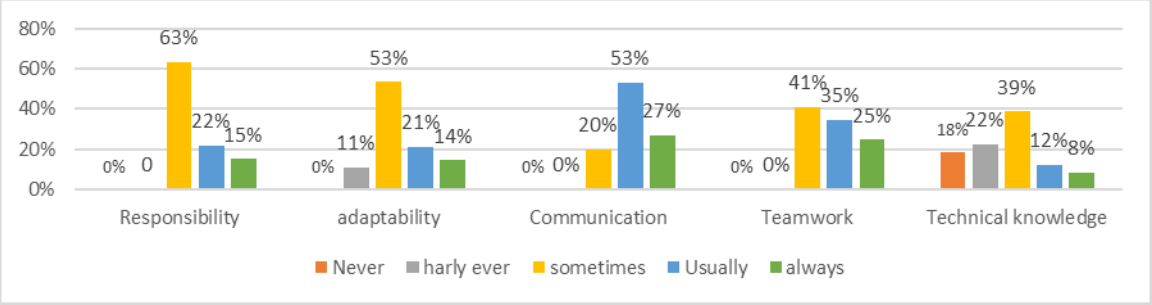

Figure 2. Level of integration of soft skills

The data derived from the responsibility dimension indicates that 63% of teachers occasionally take seriously the management and use of technologies when interacting with their educational work. However, 22% usually adopt the commitment to act with dedication and responsibility when using virtual media and resources in their interactions. In contrast, 15% always show an attitude of responsibility every time they use technology in their work. Percentages, which report the need to improve this fundamental competence in teachers and that they must model and promote in students. It is important that active strategies be designed in training programs that allow for constant and transversal responsibility to be strengthened in all curricular areas.

About adaptability, 53% indicated to encourage sometimes, 21% usually, 14% always and 11% hardly ever. The highest result indicates that half of the teachers need to strengthen this competence, a worrying indicator since adaptability is essential in this digital age, due to the speed of change in society. It is transcendental that teacher updating programs emphasize the development of teachers' own adaptability and this can be done using active

methodologies in training such as: project-based or problem-based learning and in this way they can transmit to students this knowledge, in a flexible and creative way, so that they can propose solutions to the problems or challenges that their environment or society imposes on them.

In relation to the dimension of communication, it is observed that 53% indicated promoting it usually, 27% always, 20% sometimes. Although slightly more than half of the teachers indicated that they regularly encourage this ability, the percentage that said they only do it sometimes is still a proportion to be taken into account. Likewise, the fact that only a little more than a quarter of teachers (27%) promote this competence permanently leaves room for improvement. Since assertive communication is an interpersonal competence essential for academic and professional success. Therefore, it is a priority to close the training gaps that still exist among teachers to promote their development, from an early age. Within the training it is important to include experiential activities that allow them to strengthen this soft skill.

Regarding teamwork, 41% of the teachers stated that they preferred to work as a team with their colleagues only sometimes, while 35% indicated that they did so usually. 25% always ask for help from teachers from other disciplines and accept collaboration from other team members without prejudice when interacting in their teaching practice. These results express that a culture of collaborative work among colleagues has not yet been fully incorporated. It is necessary to implement collaborative work strategies, which can be groups of the same grade or area, such as the formation of interdisciplinary teams for specific projects, among others, which contributes to strengthening this capacity among teachers, since they allow improving results and achieving institutional goals. more efficiently, by drawing on the expertise and complementary skills of the various teachers. Breaking down disciplinary silos and requesting help from other colleagues, without prejudice, will have a positive impact on the comprehensive training of students. Finally, regarding technical knowledge, 39% stated that they apply it sometimes, 22% hardly ever, 18% never and 8% always. This implies limitations in aspects such as verifying virtual classroom contents, using computer programs, designing web pages, selecting useful websites and keeping virtual information updated for students.

These results show the need to expand the technical training of teachers on the efficient use of digital technologies applied to education. Mastering virtual tools and platforms is essential to pedagogically integrate these resources into the teaching-learning process. So, it is significant to keep teachers updated on new emerging technologies and their didactic applications, as the digital society demands it. Once the findings of the dimensions, which were part of each of the variables of this research, are presented, Figure 3 shows comparative results in percentage averages, which correspond to digital skills and soft skills.

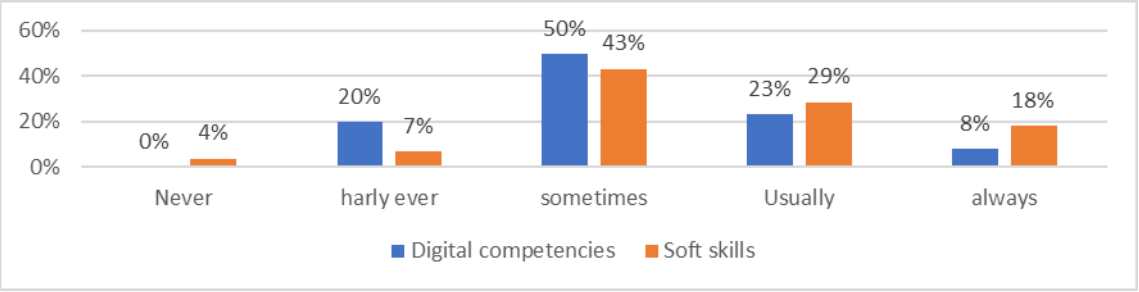

Figure 3. percentages of digital skills and soft skills

The results show that teachers report having more soft skills ("usually") than digital ones ("sometimes"), the latter being more complex to develop. They promote in students' capabilities that they themselves have not fully internalized. There are gaps between what they believe they own and what they promote. Constant teacher training is necessary in both types of competencies to guarantee quality education. In this environment it is necessary to propose integrated strategies to strengthen these two abilities in teachers, in table 1 some activities are proposed.

Table 1 Strategies and activities related to digital skills and soft skills.

Strategies and activities linked to digital skills and soft skills	
Virtual assertive communication workshops:	Role playing through simulations of situations that allow to exercise skills to dialogue, provide feedback and motivate students effectively through digital media.
Teamwork dynamics with collaborative tools:	Use agile methods and tools such as Padlet, Miro or Google Drive, the use of the Canva tool for graphic design, among others, so that teachers experience virtual teamwork in common goals. distributing roles and responsibilities among the members.
Project Management Webinars:	Develop digital educational projects through the use of online project management platforms, distributing roles and tasks to strengthen responsibility and adaptability.
Online courses on information literacy:	Provide teachers with knowledge and strategies for the search, selection, critical evaluation and curation of reliable digital content and the practical application must be carried out as a team.
Gamification and web page creation workshops.	Train teachers in the use of game dynamics and mechanics in digital environments, to enhance motivation, creativity and commitment in students.
Visual Thinking Webinars:	Train in the use of digital resources (infographics, timelines, mental maps) to develop the ability to synthesize and communicate complex ideas graphically and dynamically.
Immersive simulations	Implement virtual reality environments that allow teachers to experience situations that demand management of emotions, decision making and problem solving.
Safety workshop:	**Phishing Drill:** Send fake phishing emails to raise awareness among teachers and teach them to recognize these fraud attempts. **Data leak simulations:** practical activity to identify vulnerabilities and reinforce protocols in case of incidents.

These activities proposed in the table above must be considered within the methodological cycle designed for its implementation as shown in Figure 4.

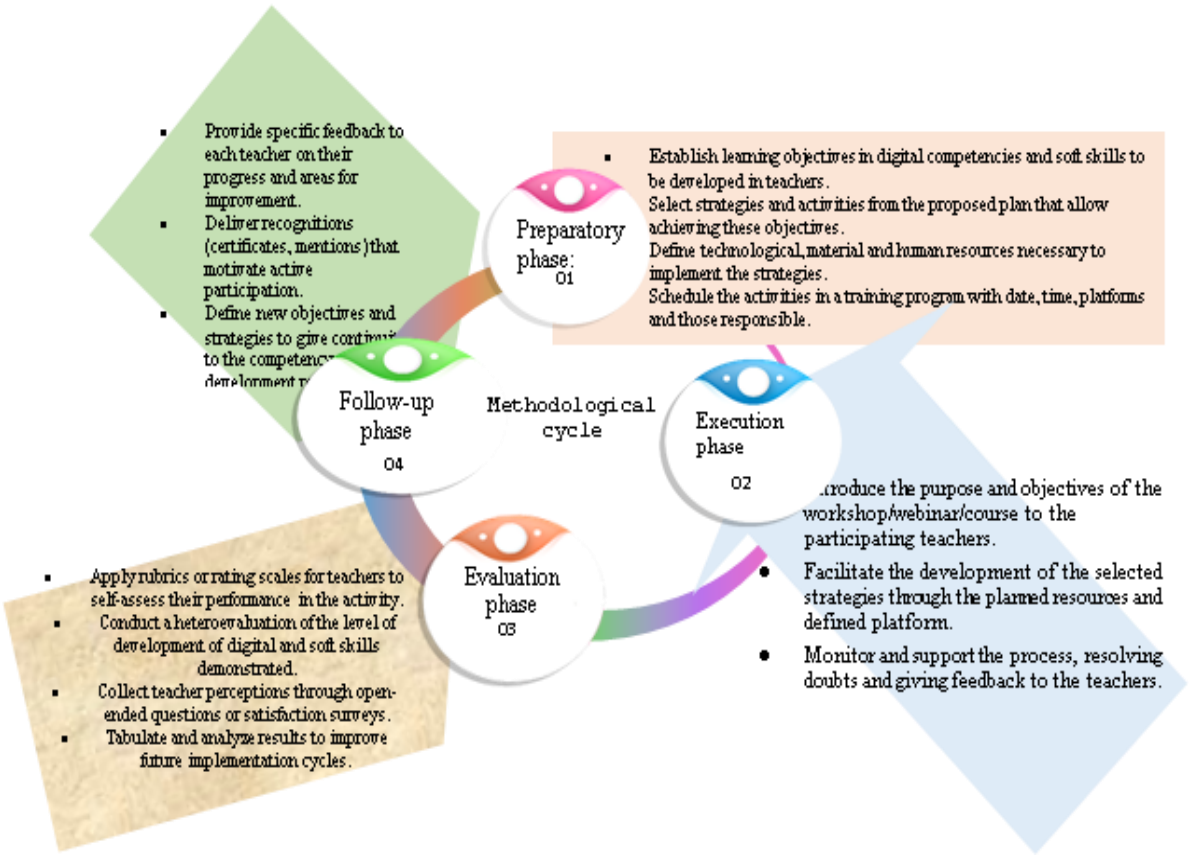

Figure 4 Methodological cycle phases for digital competences in soft skills.

CONCLUSIONS

The main conclusion of this study focuses on the objective of developing a proposal for methodological strategies to strengthen digital skills linked to soft skills in primary school teachers. This arises after detecting training deficiencies, in both types of skills, from the analysis of the results by dimensions and the discussion carried out. The integrated approach to the development of digital skills and soft skills in teachers constitutes a relevant line of research, both theoretical and practical. It represents a challenge to take advantage of all the possibilities offered by digital technologies in articulation with communication and socio-emotional skills. A key recommendation is to create proposal models that aim precisely to deliver methodological strategies in that direction, to close the identified training gaps and enhance teacher performance through the integrated development of digital and soft skills.

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