MLS - EDUCATIONAL RESEARCH (MLSER)
http://mlsjournals.com/Educational-Research-Journal
ISSN: 2603-5820

(2025) MLS-Educational Research, 9(2), 280-295. doi.org/10.29314/mlser.v9i2.3458.

USE OF TECHNOLOGICAL MEANS AND CONSTRUCTIVIST APPROACH
USE OF TECHNOLOGICAL MEDIA AND CONSTRUCTIVIST APPROACH

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Manuscript information:

Received/Received: 20/03/2025
Revised/Reviewed: 25/05/2025
Accepted: 11/06/2025

Key words:
technology,
constructivism,
teaching,
strategies,
education.

ABSTRACT

Digital connectivity is transforming life, and education cannot remain aloof from this phenomenon. In this context, the importance of the role of schools and teachers is highlighted, as they have a significant impact on early childhood. This study identified the relationship between the technological media used by initial-level teachers from five educational institutions in Paraguay and the constructivist teaching-learning approach, analyzing the methodological tools used to involve students in a responsible technological process. The study employed a descriptive, correlational, and non-experimental design, using a questionnaire and a semi-structured interview. The results revealed that the use of technological media expands access to educational content at a low cost, motivating and enabling more meaningful and effective learning. From a constructivist perspective, this study provides a deeper understanding of the positive impact technology can have on child development. The findings highlighted the development of effective and relevant strategies in initial education, emphasizing proactivity, flexibility, curiosity, and initiative as key teacher skills. Additionally, the need to strengthen spaces for peer exchange, help-seeking, and collaborative learning was emphasized, enabling teachers to gain greater confidence and security in the responsible use of technological media.

Keywords:
tecnología,
constructivismo,
docencia,
estrategias,
educación.

RESUMEN

La conectividad digital está transformando la vida y la educación no puede permanecer ajena a esto. En este contexto se señala la importancia del rol de la escuela y los docentes, ya que ambos ejercen gran impacto en la primera infancia. El presente estudio explora la relación existente entre los medios tecnológicos utilizados por docentes de Nivel Inicial de cinco instituciones educativas de Paraguay y el enfoque de enseñanza-aprendizaje constructivista, analizando qué herramientas metodológicas utilizan para involucrar a sus estudiantes en un proceso tecnológico responsable. La presente investigación se desarrolló bajo un diseño no experimental, enfoque mixto cualitativo-cuantitativo, con predominancia cualitativa. El tipo de estudio seleccionado fue descriptivo, correlacional. Para ello se empleó un cuestionario y una entrevista semi-estructurada diseñados para la investigación, ambos fueron aplicados a la población seleccionada mediante muestreo no probabilístico de tipo incidental.

Desde el enfoque constructivista, este estudio invita a comprender con mayor profundidad y compromiso el impacto que puede tener el uso de medios tecnológicos en el desarrollo de los niños. Los resultados revelaron cómo las escuelas desarrollan estrategias eficaces y pertinentes en la Educación Inicial, destacando la proactividad, la flexibilidad, la curiosidad y la iniciativa como habilidades claves de sus docentes. Además, se resaltó la necesidad de fortalecer espacios entre colegas para intercambiar experiencias, pedir ayuda y aprender juntos. De este modo los docentes ganan mayor confianza y seguridad para el uso responsable de los medios tecnológicos.

Introduction

Early Childhood Education faces one of the most important challenges: discovering how to integrate technology to enhance learning. Teachers must be aware of the risks associated with technological media and act as capable and competent professionals. It is essential that they optimize the digital literacy process in the classroom and minimize harmful effects. Currently, the use of technological media is crucial for the development of many 21st century skills. Early Childhood Education is a relevant factor in social development because the functions that the school is entrusted with are substantial; therefore, it must be prepared to offer adequate training and preparation for future citizens.

The constructivist approach provides a favorable scenario for teachers to develop quality educational proposals. This approach considers the development of key skills such as autonomy, creativity and critical thinking. In addition, it offers a flexible and enriching methodological framework that adjusts to different educational realities. In this way, each student can direct his or her own learning, which generates a meaningful experience. The figure of the teacher in this approach guides and facilitates the process, in order to promote active and autonomous learning.

The study was descriptive, correlational and non-experimental, with a mixed qualitative-quantitative approach, predominantly qualitative. It takes as its universe and sample the population of early childhood teachers from five private educational institutions in Paraguay, whose educational styles promote the implementation of constructivist teaching-learning methods. A non-probabilistic incidental sampling was used, covering 70% of the sample, so that the data collected would reflect the attitudes of the selected population in a representative manner. For the collection of information, questionnaires and interviews were used, previously validated by a panel of experts. These instruments were applied respecting ethical and reliability principles and the voluntary participation of teachers.

The findings of this research provide valuable information to guide the development of effective methodological strategies to improve educational practice at the early childhood level, considering three fundamental areas: development of adequate digital competencies, strengthening the teacher's confidence in the use of technological media, and creation of spaces for professional exchange and collaboration.

The Company. Knowledge and Learning

In recent years, screens have taken on great importance, becoming protagonists in many scenarios. Since the COVID-19 pandemic, the relationship with technology has undergone a significant change: its potential has been proven, but the strong dependence of human beings on them has also become evident (Consultoría de Investigación Social y Comunicación - GAD3, 2021). However, technological media play an extraordinary role in the educational field, so teachers must develop key skills that allow them to develop appropriate proposals with maturity and reflection (Marzal et al., 2021). Understanding education as an integral process implies conducting an analysis of how technological media can complement the educational process, the goal is to foster the maximum development of Early Level students in a technological and interconnected society, balancing time in front of screens with activities such as play, contact with nature, physical exercise, family bonding and socialization (L'ecuyer, 2017).

The time of use of the different technological media has increased notably, differing only in the purpose of the same. Teachers' interest in incorporating technology into the

classroom has also grown, but many times they are not sure how to do it or do not have the necessary tools.

The main interest of this research focuses on how teachers link technological media to the teaching-learning process, from a constructivist approach, for its innovative character to transform education and generate creative and collaborative spaces in the educational community (GAD3, 2021) (GAD3, 2021).

The school plays a fundamental role in the development of many fundamental skills needed to live together in society (Torres et al, 2017). Children are most often initiated in the use of devices from an early age; but they do so informally and without proper guidance, thus becoming a vulnerable population in a risky and potentially harmful scenario for their development. The school is a key space to incorporate technology, enhance thinking, self-regulation and social awareness. In turn, it considers the development of science, technology and innovation and places it as a fundamental axis of economic growth and social progress (Rubio and Jiménez, 2021).

Technology. Impact on Child Development

Technological media have a stronger impact on the most vulnerable populations such as children (Marzal et al., 2021). This study seeks to raise awareness about the importance of digital literacy as a priority in the educational agenda, in the development of policies and in the elaboration of institutional guidelines (Pérez, 2020). The motivation to carry out this research arises from the need to approach the subject at early ages with a broader perspective. The need for children to develop digital skills is a reality, so this research reflects on how to help professionals, teachers and academics in the creation of meeting spaces to prepare the next generations for a world that is already driven by technology.

The best tool a teacher has is the way he or she looks at his or her students. Technological media are nothing more than an element that motivates and facilitates the teaching process (O'Connor, 2018). In addition, these media favor the development of an education based on constructivism (Ramírez et al., 2020). The relevance of the topic of study points to the approach of aspects related to the understanding of a technological culture that involves innovation processes (Decoud, 2021). It is not enough to deliver technological means to students or to optimize a laboratory, but it is necessary to generate a training plan in line with the challenges posed (Miranda, 2018) that introduces 21st century pedagogical approaches in schools and takes care of training teachers who do not have adequate preparation (Acuña et al., 2022).

Early Education plays a decisive role for children, but today's society requires rethinking the school model towards one that generates collaborative work spaces connected to the social and cultural environment, incorporating technological means as part of the teaching-learning process (Juntos por la Educación, 2023). It emphasizes the need to maximize efforts in teacher training, research, and the establishment of collaborative work networks to foster a safe and responsible digital educational experience (Quiroga et al., 2019).

Initial education is a crucial stage in which basic learning is developed (Vega, 2022). It is essential not only to lay the foundations for healthy development, but also to promote a more just and equitable society (Together for Education, 2023).

Constructivist Proposal

Constructivism is a theory about knowledge, according to which the human mind functions as a filter of the different information that reaches the individual, in order to favor meaning construction processes (Reyero, 2019). His ideas are strengthened by the

need of human beings to maintain more active relationships with their constantly changing environment. Knowledge is under permanent construction and finds meaning in interactions with society (Rubio and Jiménez, 2021).

The constructivist school has all the necessary elements to position itself as a protagonist of social transformation. However, pedagogical change does not come only from the mere application of technologies (Tamayo et. al., 2023) but through the use of varied strategies that combine virtual and non-virtual tools. These strategies make it possible to take advantage of the physical and technological resources available, in order to enhance the development of skills that serve as a basis for future learning (Vega, 2022).

Constructivist theory focuses on the construction of knowledge through activities based on rich experiences in context (Reyero, 2019), technological means can be very useful if integrated with appropriate methodologies. The use of technological media should not replace important developmental processes such as movement, nature exploration, outdoor activity, family interaction, natural curiosity, and interaction with other children (GAD3, 2022), but should provide support for developing independence, taking an active role, analyzing information, problem solving, and communicating effectively (Reyero, 2019).

The Teacher as a Key Element

The use of technological media and the information available alone do not guide; As mentioned above, the work of the teacher is important, since he or she has a fundamental role in accompanying children in the development of their skills according to the demands of the 21st century (Decoud, 2021; Carneiro et al., 2019). Moreover, teachers face the great challenge of reinventing themselves and renewing their ways of teaching, opening up to a rather unknown world (Wehrle, 2020). Teachers accompany the potential of the next generations by offering meaningful pedagogical proposals, in which students can advance in the development of their digital competencies, but also in the consolidation of personal and social skills (Díaz et al., 2021).

Technology must be balanced with other interesting proposals, such as outdoor play, communication with peers and movement (Casablancas et al., 2021). Teachers must be up-to-date to be able to use appropriate strategies (Barrera et al., 2020), but many do not have the necessary competencies or do not feel prepared to design and implement technology-rich learning environments (Barrera et al., 2020) (GAD3, 2021). Preschool children have been exposed to screens since birth and will be exposed to them throughout early childhood as something inevitable; therefore, their use should be guided and accompanied by the adult (Padilla, 2020). Families, for their part, are at a bit of a loss as their children advance by leaps and bounds (Díaz et al., 2021). Children need empathetic adults who are capable of strengthening their self-esteem (Ramírez et al., 2020).

The objective of this research is to determine the degree of relationship between the variables constructivist teaching-learning method and the use of technological media in early childhood teachers of five educational institutions in Paraguay.

In order to pose the problem, we seek to answer the research question: Is there a relationship between the variables constructivist teaching-learning method and the use of technological media in early childhood teachers of five educational institutions in Paraguay?

Method

Research Design

The present research was developed under a non-experimental design, mixed approach, with qualitative predominance seeking to obtain a deep understanding of the subject of study guided by the theory of constructivism constructivism. The methodology used was based on the collection and analysis of data through the application of questionnaires and interviews. This approach was chosen in order to explore in detail the experiences and perspectives of the participants.

Type of research: descriptive - correlational - non-experimental

Research Hypothesis

H_1: The existing correlation of the level of relationship between the constructivist teaching-learning method and the teacher's use of technological means is positive.

H_0: The existing correlation of the level of relationship between the constructivist teaching-learning method and the teacher's use of technological means is not significant.

Population and Sample

Area: The research will be carried out in 5 private schools with constructivist teaching-learning methods, located in Paraguay, in different neighborhoods of Asunción. *Universe:* The study population consisted of 113 preschool teachers from five private educational institutions in Paraguay. These teachers are distributed in clusters corresponding to each school as follows: In institution 1 there are 22 teachers who are part of the study. Institution 2 has 25 teachers, while Institution 3 has 23 teachers, Institution 4 has 19 teachers and Institution 5 has a total of 24 teachers.

Sample: Considering that the universe is small (113 teachers), we tried to cover a large part of it, obtaining a sample of 70% of the teaching staff at the Initial Level. The margin of error was considered to be 3%, with a confidence level of 95%, hoping that the sample, composed of 79 teachers, faithfully reflects the attitudes of the selected population and aiming to obtain significant results. The type of sampling used for the selection of the participants of this study is non-probabilistic, accidental or by convenience.

Likewise, the *inclusion criterion* was to be a practicing Early Childhood teacher in one of the selected institutions and to have at least one year of classroom experience in order to participate in the study. The teachers who decided to participate also gave their informed consent, accepting their voluntary participation in the project. *Exclusion criteria* were established as having less than one year of classroom experience, not being an early childhood teacher or not being an active member of the selected educational communities. In addition, we excluded those teachers who, even though they met the inclusion criteria, were not willing to participate or did not give their consent.

The research focused on the study of the relationship between technological media and the constructivist method. The following variables were defined for this purpose:

Dependent Variable: Constructivist method. A teaching and learning method that assumes that knowledge is a mental construction, the result of the cognitive activity of the learner. The constructivist method was measured using a questionnaire in the educational context.

Independent Variable: Technological means. Digital development tools characterized by their interactivity, diversity, digitalization, interconnection and innovation, which facilitate and enrich the teaching and learning process. In this study, its use was examined

through a semi-structured interview designed as an instrument to assess the variable in a general educational context.

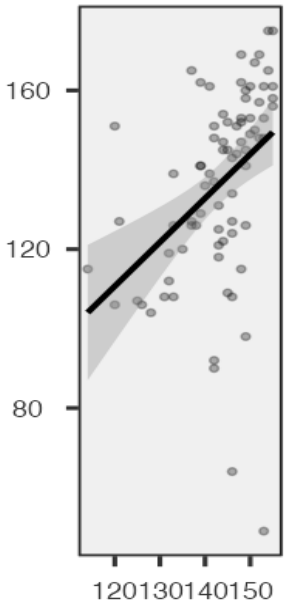
For this research, two instruments have been developed in order to achieve the proposed objectives. The first instrument is the *Technological Media Utilization Questionnaire*. This questionnaire is based on a semi-structured interview designed to gather information on various aspects relevant to the use of technological media and the experience of teachers in educational institutions. Some of the issues addressed include the educational style of the institution, type of professional training, teaching area, years of teaching and the technological means they use they use. The second instrument is the *Questionnaire on Constructivist Teaching-Learning Method, this* questionnaire is a simple and specific self-report to evaluate the approach to teaching practices in the educational context. It consists of items that explore personal, methodological and attitudinal aspects relevant to constructivist teaching practice, allowing teachers to reflect on their pedagogical approach and its application in the classroom.

Results

When analyzing the *general objective*, which consisted of determining the degree of relationship between the variable's constructivist teaching-learning method and the use of technological media in early childhood teachers in five educational institutions in Paraguay, it was found that there is a positive relationship between the two, as can be seen in Figure 1. This relationship suggests that as teachers orient their teaching from the constructivist method, they tend to use more technological means to support learning.

Figure 1

Correlation between teaching-learning methods and the use of technological media.



Pearson's correlation analysis revealed a positive relationship of moderate magnitude, with a correlation coefficient of r =0,410. According to the criteria proposed by Cohen (1988), this value indicates a significant association indicating that the use of the constructivist method and the incorporation of technologies in the classroom can be complementary to favor learning. In this sense, it is observed that teachers, by adapting to the new teaching-learning culture, developed stronger digital skills (Acuña et al., 2022). Furthermore, the above suggests that those who adopt a constructivist approach in their teaching tend to be more willing to integrate technologies into their pedagogical practice (Rubio and Jiménez, 2021).

From this relationship it can also be understood that the use of technological means can be an effective complement for those teachers who currently work from a constructivist method (Espinoza, 2023) (Espinoza, 2023). This finding has significant implications, as it suggests that, in order to ensure the effectiveness of the strategies proposed, teachers must be familiar with constructivism.

Linear regression analysis revealed a very strong relationship between the independent variables and the use of technological media in the classroom. The model yielded a correlation coefficient of $^{R2=}$0.870, which indicates that approximately 87% of the variability in the use of technological media can be explained by the variables included in the model (teaching-learning methods, training center, teaching area, age of students and years of teaching practice).

This result suggests a statistically significant and large relationship, although it is important to note that linear regression shows association, not causation. In other words, it cannot be said that these variables directly cause a greater use of technological media, but they are related in an explanatory way within the model.

The teachers mentioned that the knowledge acquired was acquired through teacher refresher courses, training in specific tools and sharing experiences with colleagues. Some mentioned being self-taught and having developed skills more strongly during the pandemic. In the teaching area, some teachers have different roles and forms of contracting. These variables should also be studied considering job stability,

professional trajectory as this could be related the possibility of acquiring own technological means (Tirocchi, 2019).

Another relevant variable to consider is the professional experience of teachers. The trajectory, as presented in Table 1, plays a fundamental role in the incorporation of technologies in the classroom. Teachers with more seniority tend to have more consolidated knowledge, which, together with their accumulated experience, allows them to integrate various technological resources in a more effective and relevant manner, depending on the pedagogical objectives they are pursuing. This experience has not only been strengthened through practice, but also through continuous training and the exchange of knowledge with peers (Avalos, 2020). In this sense, diversity in the years of professional practice contributes to enriching the pedagogical discussion and collaboration among teachers, favoring innovation in the teaching-learning processes (Fuenzalida, 2020).

Table 1

Frequency of years in the teaching profession

Years in practice in teaching	Frequencies	of Total	accumulated
0 to 5 years	13	16.5%	16.5%
11 to 15 years	20	25.3%	41.8%
16 to 20 years	8	10.1 %	51.9%
6 to 10 years	23	29.1%	81.0%
More than 20 years	15	19.0%	100.0%

Regarding the degree of training, it was observed that 55.7% of the teachers have a bachelor's degree, 21.5% have teacher training, 16.5% have continued their postgraduate studies and 6.3% have attained other degrees as shown in Table 2. In general, most of them have a solid academic background for teaching. This is reflected in their commitment to continuous improvement, as evidenced by the interest of many in continuing to improve their skills through postgraduate studies. In the interviews, teachers highlighted the importance of mastering different technological tools and mentioned their participation in updating and professional development programs aimed at improving their pedagogical practice (Quiroga et. al., 2019).

Table 2
Frequency of professional training degree

Degree of training	Frequencies	% of Total	% Accumulated
Bachelor's Degree	44	55.7%	55.7%
Master's Degree	13	16.5%	72.2%
Another	5	6.3%	78.5%
Faculty	17	21.5%	100.0%

The analysis of the center of studies where teachers obtained their professional training reveals that 79.7% have completed their studies at university. These results suggest that access to quality university training allows teachers to develop adequate competencies to face the challenge of designing more complete and enriching pedagogical proposals. In this context, teachers use various technological tools and platforms to plan their classes, design materials and create virtual learning scenarios.

84.2% research on educational models that incorporate technological means to enhance early childhood learning. Among the most frequently used technological media are the projector, notebook, computer, as well as tablets and cell phones. As for platforms or applications, they mentioned Padlet, Lumosity, YouTube, Word Wall, Google Classroom, Meet, Drive, Magic School, Ed Puzzle, Prezi, Canva, Genially, Progrentis. Other technological resources also mentioned were loudspeakers, televisions and sound players (Tirochi, 2019). When referring to the type of material, teachers mentioned games, videos, music, web questionnaires, informative documents and slides (Díaz, et al., 2024).

Personal Dimension

Most teachers use technological means in their personal lives (Leliwa and Marpegan, 2020). 81% reported feeling competent in its use and having a high level of confidence (Rubio and Jiménez, 2021). Likewise, 70.9% have their own devices that allow them to incorporate technologies in their pedagogical practices, which provides them with opportunities to experiment, build or adapt their teaching strategies (Mateus, 2023). On the other hand, 68.4% say that these tools facilitate the performance of teaching tasks, optimize planning and teaching processes and improve time management. All of this contributes to increasing professional well-being, familiarity with technology and raising the quality of education (Rubio and Jiménez, 2021).

Work experience has a significant impact on the safety to use technological means (Quiroga et. al., 2019). Therefore, it is essential to strengthen personal skills that allow a more effective use of these tools (Reyero, 2019). In this sense, teachers maintain an attitude of permanent inquiry, which fosters the learning of competencies and the development of research in the educational field (Decoud, 2021). In addition, 75.9% of teachers are constantly looking for tools to further advance their professional practice. Another relevant aspect is flexibility, as 72.2% of respondents state that they are able to adapt content to the interests and needs of students (Juntos por la Educación, 2023).

88.6% of teachers have knowledge of the constructivist approach, which has an impact on educational quality by generating meaningful experiences for students (Acuña et al., 2022) by generating meaningful experiences for students (Acuña et. al., 2022). On the other hand, 83.5% expressed the importance of proactive behavior in different

situations, considering it a characteristic of a positive learning culture (Bernal, 2020). In this type of culture, teachers feel prepared to face challenges, adapt to diverse realities and are open to innovate and renew their pedagogical practices (Decoud, 2011).

Professional Dimension

Most of them have carried out autonomous learning and exchanges among colleagues, in addition to seeking refresher and training courses. Teachers who had received training were more confident and secure in their ability to incorporate technology into their practice (Rubio and Jiménez, 2021). They also demonstrated greater openness and flexibility to adapt, which is related to the constant search for new tools and the capacity for dialogue (Espinoza, 2023). In both cases, 83.5% possess these key skills and use them in different situations in their professional practice.

To implement pedagogical strategies that include the use of technology, educators must be updated and trained to design clear objectives (Barrera et. al., 2020). 51.9% expressed that, in the last five years, they participated in refresher programs on innovative and participatory methodologies, recognizing the importance of keeping their knowledge up to date (Bernal, 2020).

Institutional Communication

Virtual institutional communication is a powerful tool that allows interaction between teachers and families. Most teachers have included in their practices to be in communication with families. The 59.4% accompanies virtual institutional communication scenarios such as groups and/or networks. In addition, 78.5% of them state that they communicate frequently with their families through technological means. On the other hand, 77% provide guidance on the proper use of educational platforms to children and their families to facilitate a more user-friendly interaction. The use of technology means that the information sent can be accessed more quickly, making it possible to take timely action more effectively. This is key for parents to manage accurate information about their children (Ramirez and Aguaded, 2020).

Active learning is a main focus, 96.2% of teachers state that they work on it (Bernal, 2020), and 79.7% use prior knowledge and experiences to lay the foundations of thinking (Reyero, 2019). In this scenario, technological media can offer enriching routes for the development of specific skills from a constructivist approach (Fuenzalida, 2020). In addition, the teachers surveyed put great effort into promoting fluency of ideas, flexibility and creative thinking. In this sense, 77.2% prepare children from a young age to solve everyday problems of their reality, strengthening their confidence and self-esteem (Fernandez, 2018).

Pedagogical Dimension

In the interviews, teachers mentioned that they put great effort and commitment in attending to, answering and channeling students' questions, concerns and curiosity, so that the natural process of inquiry finds its own rhythm, thus favoring meaningful learning. Likewise, avoiding the inappropriate use of technological media is as important as generating meaningful practices to take advantage of their potential. Pedagogical change does not arise simply from the application of technologies, but rather appropriate professional competencies must be developed (Tamayo et. al., 2023). In this sense, 86.1% of teachers included topics related to constructivism in their professional training, participating in training and constant updates (Fontal et. al., 2020). In addition, 92.4% investigate methodological strategies to enhance early childhood learning, while 72.2%

stimulate the development of critical thinking through simple questions. Finally, 98.8% consider the learning context to propose work strategies.

In this scenario, the professional trajectory is also favored, since they have the opportunity to improve their skills to perform in the context (Decuypere et. al. 2021). Thus, 51.9% incorporate technological tools in the lesson plan according to the objectives, 98.8% identify the level of development of each child in the classroom, 89.9% take into account individual differences detected to plan the class. Most of them are competent to make adjustments according to the reality of their students. This is a fundamental point in the planning to attend to diversity, considering development levels, personal and group characteristics for the development of contents, activities and evaluations (Marzal et al., 2021).

Attitudinal Dimension

70.9% express that the discussion on the use of technological media occupies an important place, while 64.6% perceive themselves as teachers who transform their classroom practice by using these tools. These positive perceptions create an opportunity to create a more dynamic and stimulating learning environment for children (Fuenzalida, 2020). Likewise, 68% say they feel satisfied when incorporating educational strategies that include technological media or applications, and 60.8% observe an improvement in the learning process thanks to their use. This satisfaction refers to the positive value they attribute to the experience (Mateus, 2023). Finally, 73.4% consider that technological media encourage reflection and the development of children's thinking as long as they are accompanied by an adult reference (Avalos, 2020; Vega, 2022).

The constructivist approach provides a suitable framework for the incorporation of technological media in the classroom. 74.7% take into account the work time, respecting individual differences promoting the application of what has been learned. In addition, 83.5% stated that it promotes autonomy, while 79.7% expressed that it positively reinforces students' initiative. Most teachers use technology as a stimulus to encourage initiative and participation. The teacher's responsibility, professionalism and supervisory skills are essential for the child to understand, use technological media appropriately and regulate the time of use, thus obtaining benefits, taking care of the impact of excessive use (Mateus, 2023).

Social Dimension

Teachers put a lot of effort into promoting learning spaces where respect and empathy gain strength. 83.5% promote dialogue among students while respecting differences, and 81% promote cooperative learning among children. Technological media are an interesting resource to reinforce cooperative learning in the classroom, since they facilitate communication, promote collaborative work and contribute to the development of social skills (Casablancas et. al., 2021).

The majority of teachers dedicate a large amount of time to the development of their students' collaborative skills, 78.5% promote teamwork and the development of social skills, considering the Initial Level a key school stage for the development of these skills. 96% of teachers state that they encourage interaction with each student's social and cultural environment, valuing technological media as a resource to help connect with their social and cultural environment (Ziegler, 2019). Teachers perceive technological means as effective tools to foster autonomy and motivation. In addition, 79.7% of them promote the responsible use of these technologies, taking into account the legal regulations in force, respecting the rights of children and their families. On the other hand,

73.4% share educational materials and resources in virtual environments or teams. This exchange takes place in both formal and informal spaces (Bernal, 2020).

Discussion and Conclusions

The participating institutions have carried out significant transformations in their pedagogical proposals, which has implied the implementation of various innovation processes, with a special focus on teacher training. This research contributes significantly to the understanding of the integration of technological media in the Early Childhood Education classroom. It also lays a solid foundation for future research by highlighting the importance of the constructivist approach as a fundamental axis for articulating and constructing new educational realities. Technology is an integral part of the daily lives of teachers, who use it to communicate with families, exchange information with colleagues, plan, design classroom activities, prepare materials and share resources.

The teachers interviewed showed positive attitudes toward technology integration, but also identified significant challenges, which they must overcome to achieve sound pedagogical practices. Technology can be a powerful tool to promote students' construction of knowledge, but it is important that teachers design learning experiences that focus on problem solving and critical reflection from an early age.

This involves creating a learning environment that fosters collaboration, assertive communication and the development of key social skills at this stage, such as expressing emotions, interacting with peers, playing and understanding classroom norms. It is also necessary for teachers to accumulate classroom experience from a constructivist approach, with constant updating, in order to consolidate a high degree of professional competence so that innovation processes can be produced.

Planning and formative evaluation are fundamental for the effective inclusion of technological media in the classroom. The inclusion of technology alone does not guarantee improvements in the teaching-learning process. This is because their impact will depend, to a large extent, on their pedagogical use, as well as on the attitudes and beliefs that teachers have regarding their integration. The results of this study have important practical implications, highlighting the need for a thorough sensitization process to ensure that teachers feel comfortable using technological media so that they can then share their experiences with the support of the educational community.

Teachers are key figures in children's development and are also role models for the responsible use of technology, so they need to understand the importance of this role in guiding children's digital well-being. Therefore, it is essential that teachers develop personal tools and work with conviction to offer quality learning experiences. Likewise, it is essential that they can strengthen their personal confidence and security, since these elements are fundamental to face the challenge of integrating technological media in the classroom. In this way, they will be able to overcome the obstacles that currently hinder this process and move towards a more innovative and contextualized pedagogical practice. It is also true that many experiences remain isolated and lose impact, so systematizing experiences should be a priority.

In short, it is critical that teachers, schools and educational communities work together to harness the potential of technology to improve education. This requires a shared vision, strategic planning and effective implementation, including recording progress and improvements including the recording of progress and improvements. In this way, more inclusive, accessible and relevant learning environments can be created

for children, ensuring that education is a powerful tool for personal, social and economic development in society.

It is essential that educational researchers, teachers and technology designers work together to develop a viable approach to facilitate the integration of technology in Early Childhood Education. The results of this study contribute to this purpose by providing valuable information that highlights the need for a collaborative approach and the commitment of the entire educational community to achieve an effective implementation of technological media at this level. Research has shown that the active participation of teachers, principals and families is essential to support student learning and ensure the sustainability of innovative pedagogical practices innovative pedagogical practices.

Research in this area is especially relevant in early childhood, as this is a critical period of educational development when experiences can have a lasting impact on children's futures. The adoption of pedagogical methods that promote active learning, such as collaborative work, is fundamental to achieve meaningful practices. Undoubtedly, the appropriation by the teacher constitutes an essential pillar so that the constructivist approach in education can be adequately developed.

The results of this study were obtained in leading educational institutions in Paraguay, with students and teachers who have privileged socioeconomic environments and access to quality training. However, it is important to recognize that these results may not be generalizable to other contexts. However, these results can serve as a basis to help inform strategies to address local educational challenges, such as the digital divide, inequality in access to education, and the need to develop skills for the 21st century. The limitations of the study may stem from its design; as it is a qualitative study, the information obtained could be subjective and not fully reflect the views of all teachers in the region. It is also true that teachers may feel pressure to present themselves as competent professionals and may exaggerate or minimize their experiences with technology in the classroom to avoid criticism. This may lead to information that is not completely accurate and may distort the results.

In addition, the sample size limits the generalizability of the results, since the findings are from a small group of teachers and this may not necessarily be representative of the Paraguayan teaching population. It is important to note that the implementation of these strategies should take into account the specific needs and characteristics of each educational institution and community, so further research and evaluation is required to determine the effectiveness of these strategies in different contexts. It is also important to clarify that the present study focused on the school environment ~~as seen~~ from the teachers' perspective. To gain a more complete understanding of the use of technological media in the classroom, research from other perspectives is essential.

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