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Technological Education and its Influence on Traditional Education

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Abstract

Traditional education faces significant challenges in the face of rapid digital evolution, the objective was to evaluate the impact of new technologies on pedagogical practice and its influence on student learning, a deductive approach was used to identify the difficulties faced by both teachers and students when incorporating technology into their school activities. The research was carried out at the Monserrate Álava de Gonzáles Educational Unit, where a structured questionnaire was applied to eighth-grade students, applying quantitative methodology, using numerical data collection and analysis techniques. The result was the importance of continuous training of teachers in educational technology to improve their ability to effectively integrate technology in the classroom. A deductive approach was used to analyze the level of adaptation capacity of the students in the management of educational technology. Highlighting the need for complementary education programs, as well as providing support to develop technological competencies in teachers and students, which will contribute to guaranteeing the successful integration of technology in the educational environment and improving educational quality in general.

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1 Introduction

Currently, the integration of technology in the educational field has become a highly relevant issue, especially in a context where traditional education faces significant challenges in the face of rapid digital evolution. Despite advances in access to technological tools, many teachers and students still face difficulties in incorporating them effectively into the teaching-learning process. The integration of educational technology in the classroom has had a significant impact on the transformation of traditional education, modifying both teaching-learning methodologies and the roles of teachers and students.

The research was carried out with the purpose of identifying the influence that educational technology has on the teaching-learning process and its effectiveness in improving the academic performance of students. For this, the difficulties that students face when integrating technology were determined. In their school activities; as the perception of students about the use of technological tools in their educational process.

The rationale lies in the need to understand how technology can be an ally in education, instead of being seen only as a facilitator. The population studied was made up of 106 students who corresponded to the upper basic level and the eighth year students were selected as a sample. Through a quantitative approach and with the use of a structured questionnaire from the Google Forms platform, we seek to obtain data that will allow us to identify the areas of improvement and the technological skills that must be developed in the students at the Monserrate Álava de Gonzáles Educational Unit. . The research focused on analyzing how the use of technology has affected the pedagogical practice and academic performance of students in this educational institution.

Largely due to the emergence and expansion of technology in the classroom in recent decades, education has experienced a significant transformation in the classroom, teachers who were previously guided by a traditional model have the opportunity to update and adapt their methodologies of study in new forms of teaching, unlike traditional education that is based on a rote and grading model instead of prioritizing student learning.

Educational Technology does not address the mere technical incorporation of technologies, but rather the study of resources (whether digital or not), their design, incorporation, and evaluation in educational and social contexts, as well as the development of different skills and competencies, among others. Other aspects (Vera, 2023). As Jaramillo Dominguez & Tene Pucha (2022), cited (Carnerio et al., 2022), this educational technology allows the creation of hybrid learning spaces where the teacher has the opportunity to complement routine activities with new and motivational tools, since basic students, being native speakers, digital students feel complimented in their education.

The integration of technology into pedagogical practice has transformed classroom dynamics, offering new opportunities for teaching and learning, as well as exploring best practices for its effective integration in the classroom, here sought to transform traditional education with the support of technology, but without losing the warmth of social interaction, the critical aspect and the rational use of educational contexts. In this way, it is possible to aspire to the search for individual knowledge through autonomous and collaborative learning, in which profound changes are developed that adapt as technology advances (Cedeño Romero & Murillo Moreira, 2019).

Mata de López & Acevedo Blanco (2010), suggests highlighting that the attitude that the teacher assumes towards technology and its use is decisive in the teaching and learning process. Aguilar et al (2023), valued the integration of educational technologies in the Latin American context where they have clear practical implications. For teachers, it implies a need for continuous training, not only in the use of technological tools but also in their pedagogical integration; However, the Ministry of Education of Ecuador has provided teachers with training in the use of technology, even so, there has been resistance on the part of teachers to interact with this technology and therefore makes it difficult for students to acquire a percentage high in learning with the help of Information Technology and Communications (ICT) (Aguiar Guevara & Caiza Castro, 2021).

Although in Ecuador and, especially in Manabí, the process of incorporating ICT, together with the digital skills of secondary school teachers, has been slow, it is no less true that little by little it has begun with this transformation, which should allow in the medium term the total incorporation of digital technologies into the teaching process of the different disciplines, as part of the globalized world in which we live (Morales-Zambrano et al., 2021).

In this work, several quotes from different authors are presented (Obtained from sites such as Scielo, Google Academic, and Redalyc), which demonstrate the role that technologies play in education, the adaptation that these have had in the integration was analyzed. school, which helped to understand the effects of traditional education and its effects on students in the academic field.

2 Materials and Methods

The document presents quantitative approach research that focuses on the collection and analysis of numerical data to evaluate the influence of educational technology on academic performance and the quality of teaching. An inductive method is used to identify new trends and patterns in the relationship between technology and the teaching-learning process. The main technique for data collection is a structured questionnaire, designed to capture students' perceptions of the use of technology in the classroom. This questionnaire includes closed questions and Likert scales to measure attitudes and opinions. In addition, Google Forms is used as a digital tool to administer the questionnaire, which facilitates efficient and accessible data collection. Together, these elements allow us to obtain a clear and quantifiable vision of the impact of educational technology on traditional education.

A quantitative approach was used in the research as indicated by Lopez et al. (2021), this uses data collection to test hypotheses based on numerical measurement and statistical analysis, in order to establish behavioral guidelines for testing theories. (p. 36). Quantitative research maintains its impact and relevance in types of studies that require a sequential, rigorous and demonstrative order, with a wide range of criteria that allow its assessment and contributions to the scientific community. Its importance lies in the application of a divergent position, maintaining objectivity in the phenomena observed and translated into numerical data. (Jiménez, 2020).

Within these roles, that of researcher is one of the most important when it comes to innovating, hence it implies an attitude towards change and the constant search for questions present in our educational environment, in order to improve it. This teacher-researcher does not refer to research in his professional praxis, but in his educational praxis, independent of his base profession, that is, investigating the educational environment where he works. (Rojas, 2021). The deductive method was used because new concepts were introduced to the work. The population studied was made up of 106 students who correspond to the upper basic level and the 8th-year students of the Monserrate Álava de Gonzáles Educational Unit were selected as a sample, to carry out a statistical analysis of how students use technology in their school development.

3 Results and Discussions

New technologies have revolutionized the teaching-learning process, this has influenced traditional education.

The impact of technology on education

Educational technology is a support that offers is at the service of education, this can allow the development of inclusive education, favoring quality education, and eliminating the barriers that prevent access to the educational act and culture, Reyes Chavez & Prado Rodriguez (2020), cited Cabero Almenara & Fernández Batanero (2014). These technologies are made available to teachers and students so that they can be used in one way or another. They represent a new way of developing learning processes and promote radical changes in the way classroom activities are carried out. Its incorporation not only requires training for its use, but also the shedding of relational schemes, knowledge, and preconceptions about how to educate, all of which implies a rapprochement between the subject and the object, which goes far beyond what is in person.

Learning from computers is not the same as learning with computers. When students learn from computers, they essentially function as "tutors." In these cases, ICT supports the objective, content, skills, and values; On the other hand, when learning with computers, they are used as tools that can be applied to a variety of objectives in the learning process (Cueva Gaibor, 2020). Digital technology offers two general types of opportunities. First, it can improve teaching by closing quality gaps, increasing practice opportunities and time available, and personalizing delivery. Second, it can capture students' attention by varying the way content is presented, stimulating interaction and encouraging collaboration (UNESCO, 2023).

In relation to the above, technology applied to education allows for holistic, systemic and interdisciplinary work, contextualized to the learning processes that occur, which allows for diversifying the particular scenarios and actors with real and innovative interventions. To ensure this new situation, it is necessary to avoid installing these artifacts in the classroom or transforming the Web only into a document repository (Cueva Gaibor, 2020). Therefore, technologies are closely related to various forms of communication, which allow students and other units of society to instantly differentiate the exchange of information on the Internet, depending on the use of computers. Likewise, as support

resources that will help promote the multiple ways of teaching for use in daily life and in society (Villagómez et al., 2023).

Traditional education

Traditional education is a model that is carried out in person in the classrooms and where the main figure is the teacher, who has the responsibility of teaching and transmitting his knowledge to the students based on the skills and tools at his disposal; The other figure is that of the student, who plays a passive role, being only a recipient of information. The educational process has been affected by the traditional, the rote and the intellectual routine, possibly, because an active and participatory education is not encouraged in students, but rather a repetitive one, that is, the student is encouraged to obtain knowledge. blindly, which is detrimental to the process that should be one hundred percent changing, to achieve a high academic level (Galván-Cardoso & Siado-Ramos, 2021). The traditional educational model turns children into more passive people. Teachers are the ones who provide the data and knowledge, and the students, on the other hand, are the recipients. In this way, the creative capacity of children is reduced since the teacher provides them with everything they need (Galván-Cardoso & Siado-Ramos, 2021). Like Ortega et al. (2022).
Traditional education has different characteristics shown in Figure 1.

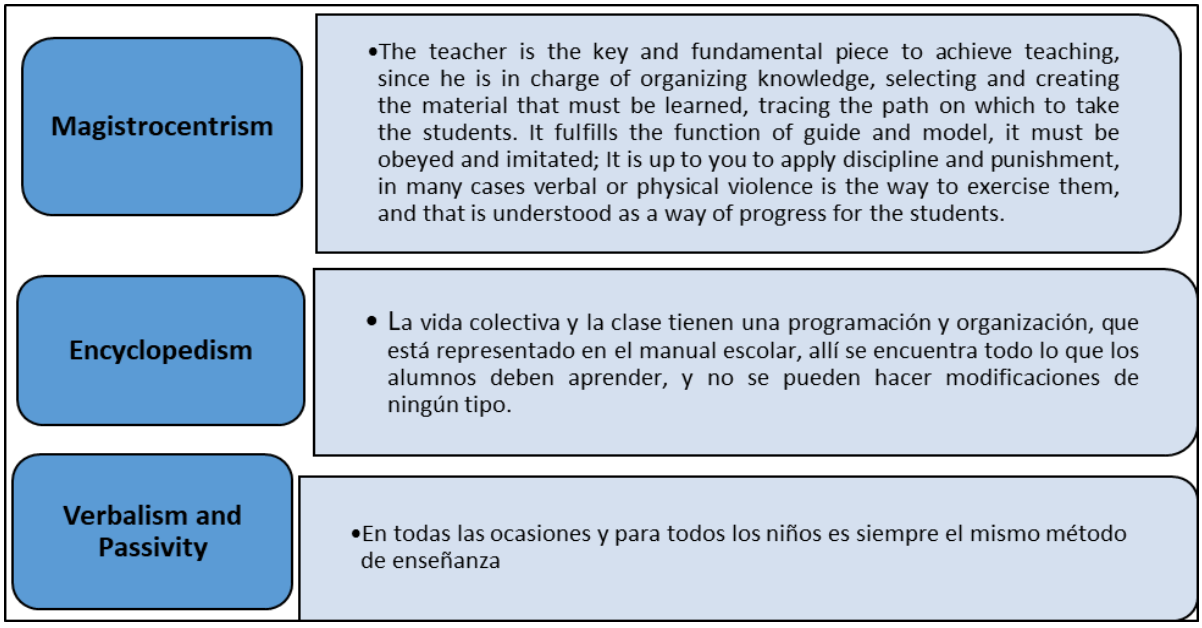

Figure 1. Characteristics of traditional education

The results shown are the data obtained from the questionnaire administered to students in the eighth year of basic education at the Monserrate Álava de Gonzáles Educational Unit to understand the influence that technology has had on traditional education. Never before have technologies had such a presence and significance in classrooms as today. This technology has been implemented gradually, but today it is a common tool in teaching. They have come to innovate and enrich education systems and teaching-learning processes by bringing various mechanisms that are part of the educational evolution in modern society (Espinal, 2018).

In this research, its objective was to understand the impact that technology has on pedagogical practice in the educational field, highlighting how it has influenced students' methodologies, and the dynamics of the teaching-learning process. According to the concepts used, it was determined that when students do not understand the classes taught by the teacher, they use technological means to understand what they have taught. In surveys carried out, it was found that in a group of 23 students surveyed, it was found that 100% of them use web pages to carry out their tasks instead of turning to their teachers. This result suggests that students find learning through technological means more convenient and effective than in the traditional classroom environment, also evidencing that the 23 students surveyed use the website to improve their academic performance and fulfill their school responsibilities. More efficiently. The students were asked which pages they used most frequently to carry out their tasks. Figure 2 shows the results obtained.

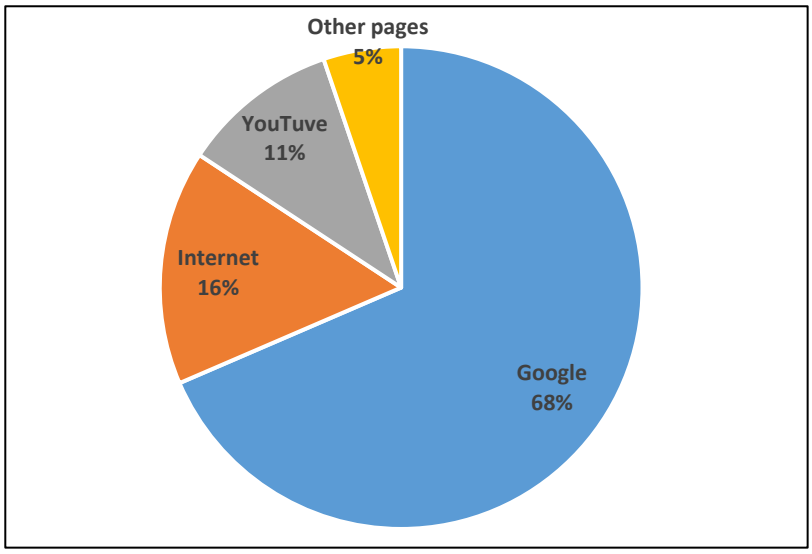

Figure 2. Most frequently used pages

The results of the survey carried out with a total of 23 students showed that the preference in the use of technological tools varies significantly within the sample. Most respondents, specifically 56.5% equivalent to 13 students, stated that they use Google as their main online resource. On the other hand, 13% of the sample, represented by 3 students, expressed their preference for the widespread use of the Internet. Likewise, 8.7% of the participants, that is, 2 students, indicated that they prefer to use YouTube as their favorite technological platform. Finally, 4.3% of those surveyed opted for other technological methods as their main choice. These results indicate that students do not verify the legitimacy of the pages they use for their schoolwork, this finding reveals that there is a deficiency in the students' awareness to distinguish the veracity of the pages they use. They consulted on the use of technologies in school activities and whether these have improved their learning experience compared to the traditional methods taught by teachers. They consulted on the use of technologies in school activities and whether these have improved their learning experience compared to the traditional methods taught by teachers (Hwang & Chen, 2022; Viorica-Torii & Carmen, 2013; Bravo & Gámez, 2021; Alcivar et al., 2020).

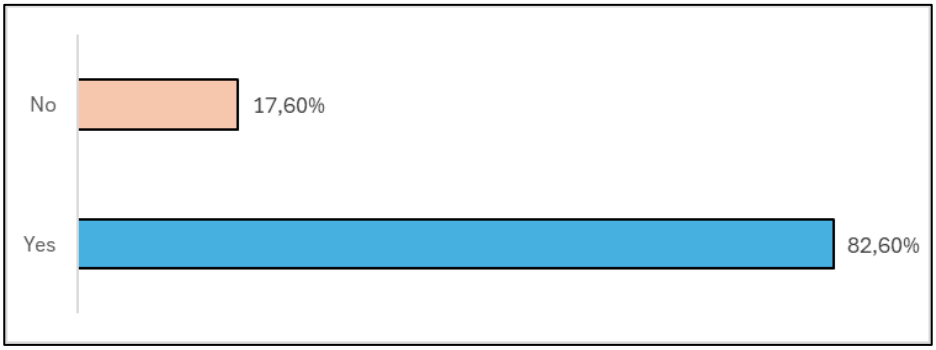

Figure 3. The use of technology in school activities improves the learning experience

In the survey carried out with the 23 students, it is observed that a significant percentage of 82.2%, equivalent to 18 students, has expressed a favorable attitude towards the integration of technology in the educational field. It is important to highlight that, although there is a minority group of 17.4%, made up of 5 students, who are not yet completely familiar with their use, the general trend reflects a positive inclination towards the adoption of technological tools in the educational field. Figure 4 shows the results obtained when consulting the difficulties they have had when using the Internet in their academic activities.

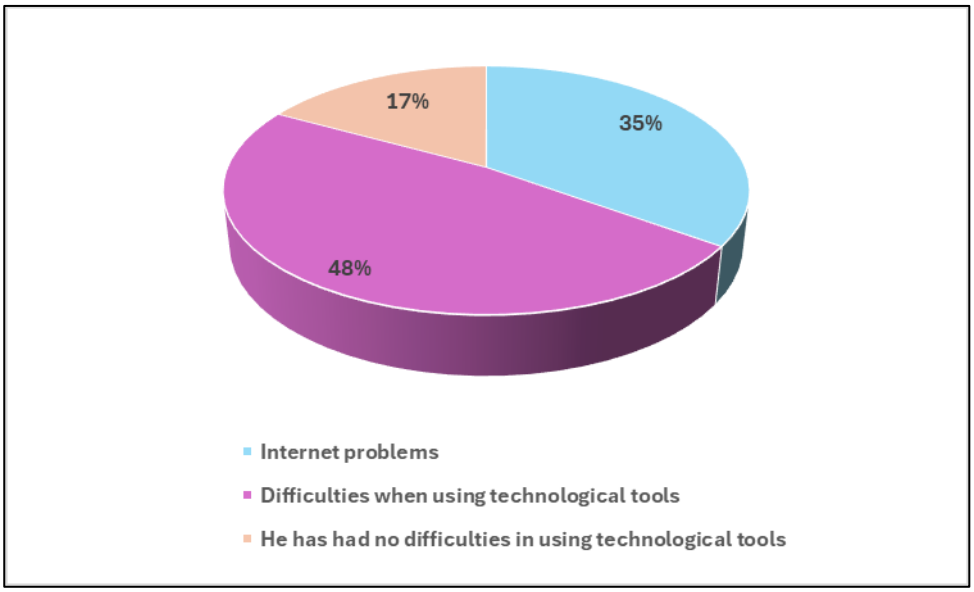

Figure 4. Difficulties they have had when using the Internet in their academic activities

As evidenced in the graph, most of the respondents, which is made up of 48%, which corresponds to 11 students, have problems when using technological tools. Likewise, 35%, that is, 8 students have problems with the internet, in comparison there is a small group of 17% surveyed that is made up of 4 students who have not had problems with the use of technological tools. It is crucial to consider these difficulties when implementing technology in the classroom, as they directly affect the teaching and learning process.

The present study reveals that, although students use technology mainly for its ease of accessing information on the desired subjects, it is also evident that they look for quick solutions to their schoolwork, instead of using it as comprehensive support. However, it is important to highlight that the results emphasize what was mentioned by Gainor and Abraham in previous pages, about "learning with computers," which indicates that students are obtaining academic results through the use of computers, but they are not necessarily learning with them.

In this context, students do not make practical use of the term "learning from computers" which specifies a harmonious integration between the student and the technology, allowing them to explore and apply knowledge in a more dynamic way (Sang et al., 2010; Tondeur et al., 2012; Haleem et al., 2022). To achieve effective learning of some concepts, it is essential that teachers incorporate innovative pedagogical strategies that adequately integrate technology in the classroom, encouraging student participation and the practical application of knowledge. The research carried out has made it possible to conclusively verify that technology in education has a significant impact on the effectiveness of the teaching-learning process.

It is deduced from this behavior that 8th-grade students have not adequately integrated digital tools into their educational process. Therefore, it is essential that traditional education adapts to technological evolution and implements strategies that promote the academic development of students with the support of technology, instead of considering it solely as a facilitator for their academic performance.

The results obtained reveal the need for greater training and adaptation by educators to make the most of the potential of technology in the classroom. From the independent variable that addresses educational technology, it can be seen that the ability of teachers to handle technological tools is an important factor in the effectiveness of the incorporation of technology in the teaching-learning process. In relation to the general objective, the research demonstrated that the integration of educational technology in the teaching-learning process has a significant impact on the academic performance of students, however, an effective adaptation of pedagogical methodologies and training is required. Continuous training of teachers to maximize the potential of these technological tools (Kirschner, 2001; Baş et al., 2016; King, 2002; Funkhouser & Mouza, 2013).

4 Conclusion

The result shows that students face various school difficulties, which suggests the need to implement training strategies that allow them to develop adequate technological skills and overcome the obstacles of traditional education. The students value the accessibility of ICT and often use it superficially, looking for quick solutions instead of integrating it as a comprehensive support in their learning. This highlights the importance of encouraging a more reflective and critical use of technology in the educational context. To achieve effective learning of some concepts, it is essential that teachers incorporate innovative pedagogical strategies that adequately integrate technology in the classroom, encouraging student participation and the practical application of knowledge, and it can be verified that technology in Education has a significant impact on the effectiveness of the teaching-learning process.

Conflict of interest statement
The authors declared that they have no competing interests.

Statement of authorship
The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

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References

Aguiar Guevara, GR, & Caiza Castro, AL (2021). Exploring the Use of Educational Technology in Primary Education: Teachers' Perceptions on the Impacts of Mobile Technology Learning and App Use in the Classroom.

Aguilar, M. M. R., Castillo, E. M. J., Cunalata, M. A., Jumbo, F. E. T., & Cordova, J. M. (2023). Integration of Educational Technologies in the Teaching-Learning Process. *Ciencia Latina Multidisciplinary Scientific Journal* , *7* (4), 3454-3471.

Alba Maguiña Pablo, JDD (2024). Strategic management and teaching function in a public educational institution in Los Olivos, 2023.

Alcivar, C. M. M., Quimi, T. L. I., & Barberan, M. F. Z. (2020). The motivation and its importance in the teaching-learning process. *International Research Journal of Management, IT and Social Sciences*, *7*(1), 138-144.

Baş, G., Kubiatko, M., & Sünbül, A. M. (2016). Teachers' perceptions towards ICTs in teaching-learning process: Scale validity and reliability study. *Computers in Human Behavior*, *61*, 176-185. https://doi.org/10.1016/j.chb.2016.03.022

Bravo, R. E. S., & Gámez, M. R. (2021). Information and communication technologies, their impact on the teaching-learning process. *International Research Journal of Management, IT and Social Sciences*, *9*(1), 19-25.

Cabero Almenara, J., & Fernández Batanero, JM (2014). A look at ICT and inclusive education: reflections on the role of ICT in inclusive education. *C & P: Communication and Pedagogy*, *279-280*, *38-42* .

Carneiro, Y. C., dos Santos, J. P. C., Belgamo, A., Ferreira, A. L., & Faleiros, P. B. (2022, October). A hybrid application for prisoner's dilemma game. In *2022 XVII Latin American Conference on Learning Technologies (LACLO)* (pp. 01-08). IEEE.

Cedeño Romero, EL, & Murillo Moreira, JA (2019). Virtual learning environments and their innovative role in the teaching process. *Journal of Humanistic and Social Sciences (ReHuSo)* , *4* (1), 138-148.

Cueva Gaibor, DA (2020). Educational technology in times of crisis. *Conrado* , *16* (74), 341-348.

Espinal, R. (2018). Use of technologies in education. *Journal: Atlante. Notebooks of Education and Development*.

Funkhouser, B. J., & Mouza, C. (2013). Drawing on technology: An investigation of preservice teacher beliefs in the context of an introductory educational technology course. *Computers & Education*, *62*, 271-285. https://doi.org/10.1016/j.compedu.2012.11.005

Galván-Cardoso, A.P., & Siado-Ramos, E. (2021). Traditional Education: A student-centered teaching model. *Cienciamatria* , *7* (12), 962-975.

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable operations and computers*, *3*, 275-285. https://doi.org/10.1016/j.susoc.2022.05.004

Hwang, G. J., & Chen, P. Y. (2022). Interweaving gaming and educational technologies: Clustering and forecasting the trends of game-based learning research by bibliometric and visual analysis. *Entertainment Computing*, *40*, 100459. https://doi.org/10.1016/j.entcom.2021.100459

Jaramillo Dominguez, DC, & Tene Pucha, JE (2022). Exploring the use of educational technology in basic education. *Podium* , (41), 91-104.

Jiménez, L. (2020). Impact of quantitative research today. *Convergence Tech* , *4* (1), 59-68.

King, K. P. (2002). Educational technology professional development as transformative learning opportunities. *Computers & Education*, *39*(3), 283-297. https://doi.org/10.1016/S0360-1315(02)00073-8

Kirschner, P. A. (2001). Using integrated electronic environments for collaborative teaching/learning. *Learning and Instruction*, *10*, 1-9. https://doi.org/10.1016/S0959-4752(00)00021-9

Lopez, M., Arriaga, J. G. C., Álvarez, J. P. N., González, R. T., Elizondo-Leal, J. A., Valdez-García, J. E., & Carrión, B. (2021). Virtual reality vs traditional education: Is there any advantage in human neuroanatomy teaching?. *Computers & Electrical Engineering*, *93*, 107282. https://doi.org/10.1016/j.compeleceng.2021.107282

Mata de López, AI, & Acevedo Blanco, AC (2010). The attitude of teachers towards the use of information and communication technologies. *Research and Postgraduate Studies* , *25* (2-3), 022-042.

Morales-Zambrano, FF, Pazmiño-Campuzano, MF, & San Andrés-Laz, EM (2021). Digital competencies of teachers in secondary education in Ecuador. *Knowledge Pole* , *6* (2), 185-203.

Ortega, DAR, Rosales, MJH, Chavarria, VCM, & Moya, JG (2022). Traditional education vs virtual education. *RECIMUNDO* , *6* (4), 689-698.

Reyes Chavez, R., & Prado Rodriguez, AB (2020). Information and Communication Technologies as a tool for inclusive primary education. Education [online]. 2020, vol. 44, n. 2.

Rojas, TN (2021). Paradigmatic posture of the teacher-researcher. *Virtual Classroom* , *2* (4), 195-205.

Sang, G., Valcke, M., Van Braak, J., & Tondeur, J. (2010). Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviors with educational technology. *Computers & education*, *54*(1), 103-112. https://doi.org/10.1016/j.compedu.2009.07.010

Tondeur, J., Van Braak, J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & education*, *59*(1), 134-144. https://doi.org/10.1016/j.compedu.2011.10.009

Vera, MMS (2023). The challenges of Educational Technology. *RiiTE Interuniversity Journal of Research in Educational Technology* , 1-5.

Villagómez Ruiz, CA, Yugcha Véliz, JR, & Zuñiga Delgado, MS (2023). ICTs in the teaching-learning process of basic education students. *Prohominum. Journal of Social and Human Sciences* , *5* (4), 62-72.

Viorica-Torii, C., & Carmen, A. (2013). The impact of educational technology on the learning styles of students. *Procedia-Social and Behavioral Sciences*, *83*, 851-855. https://doi.org/10.1016/j.sbspro.2013.06.160