PalArch's Journal of Archaeology of Egypt / Egyptology

USE OF ICT AND ITS IMPACT ON THE EDUCATIONAL PRACTICES OF TEACHERS

Nory Andreina Sornoza Pico[1], Marcos Alejandro Yánez Rodríguez[2]

[1,2]Pontificia Universidad Católica del Ecuador, Portoviejo, Manabí, Ecuador.

Nory Andreina Sornoza Pico , Marcos Alejandro Yánez Rodríguez , Use Of Ict And Its Impact On The Educational Practices Of Teachers , Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(8), 4129-4138. ISSN 1567-214x.

Keywords: Educational technology, teaching practice, meaningful learning, academic performance, teacher training, learning process, educational community.

Abstract

Currently, the way in which teaching professionals and students work in the teaching-learning process has significantly changed. The different events that educators go through are the appearance of new support instruments and appropriate means through digital resources and their impact on school life. The objective of the research was to analyze the use of Information and Communication Technologies and their impact on the educational practices of teachers. To establish a method aimed at reducing monotony, it is necessary to establish a new form of discipline that allows reflection and acquisition of the most recent knowledge in combination with the teacher's guidance. The incorporation of technological tools allows changing traditional training methods by integrating new methodologies. Traditional preparation includes teachers as evaluation entities and learners as evaluated persons. The type of research used was the documentary with a qualitative-quantitative approach, it is concluded that the use of technology advances greatly, it is outstanding to enlighten the teachers and be able to provide relevant data to promote the benefits of using them in instruction.

Introduction

In the current context, the teacher has had to change the methodology to reach the student, incorporating new ways of learning, in addition, developing skills in them, changing their thinking, where innovation is present.

The application of technologies and their impact on the teaching process is fundamental, they are within the reach of students and teachers, it is useful in use, and it promotes the

understanding of less used areas that have increased in the last two years (Flores & Cortés, 2016).

Information and Communication Technologies (ICT), in the last ten years, have completely transformed creation, becoming the main plane of the new economy. The triumph trials within an institution are largely due to the ability to accommodate technological innovation and, in turn, to know how to use technology for the public good (Momino&Sigalés, 2017).

ICTs are approved tools, they are necessary to share and conceive new knowledge of new knowledge in social life, such as education, private, commerce, among others (Rivera &Suconota, 2018).

In the educational field, ICTs are useful in the teaching-learning process where mutual benefits occur, both for teachers and students, manifesting the results in the social field, this is a fundamental instrument accepted for the development of education in the current times of pandemic.

The technology opens changes in the transmission and acquisition of knowledge in Colombia, this virtual teaching modality is based on the functionality and effectiveness of these tools, making their use for the various potentialities that can be implemented at all educational levels, this contributes significantly in education because it allows the consolidation of capacities and skills in the student as well as in the teacher (Márquez, 2017).

In Chile, technology in the school environment continues to adapt to the changes that denote the insertion of these tools in the teaching-learning processes, opening the educational context to obtain a greater number of students to continue giving them training support and provide them with technical resources -pedagogical, which will help them build their own knowledge (Jaramillo & Chávez, 2015).

The global health emergency caused by Covid-19, has generated that all countries are affected by this disease, committing the educational systems at the Latin American level, especially Ecuador, to transfer a pedagogical model that was established with the presence towards one that had to be adapted in a virtual way, where teaching and learning progress digitally, changing the routine for a stage that is innovative, creative and proactive (Mora, Mora, Reyes, &Huilcapi, 2020).

Before the pandemic, educators only used ICT to write reports and complete assignments and learners nothing more than to delve into leisure, which confirms that for several individuals this tool was used only in the use of computers, ignoring the innumerable low-cost high-caliber devices that were available (Costa, 2020).

The use of these tools has caused great changes within the knowledge communities. In terms of form and content, its influence is great and has multiplied, so that the meaning of knowledge has penetrated throughout society, reporting an impact in different environments, one of the places where technology is most powerful are schools as part of everyday life (Balart & Cortés, 2018)

The educational context with the use of technologies has become an important issue, and its meaning goes far beyond the scope of the technical tools that constitute the pedagogical environment, they battle in the construction of pedagogy and the consolidation of learning (Vega, 2016).

The transformation experienced by these technologies could translate into an educational support that can optimize the attribute of student teaching and completely change the way in which information is obtained, processed and interpreted (De la Hoz, Martínez, Combita ,& Hernández, 2019).

Within the responsibilities of each educational institution, today's students use these tools to promote knowledge; This development stems from original concepts, including calculators, televisions, and tape recorders. So, progress has been made, ICTs have become formative heritage, they have continued the task of seeking to renew illustration in them, combining technology with education.

It is through teaching practice that the teaching process can be completed, using virtuality means breaking with the use of traditional media, paper, blackboards, pens and other materials to train and update methods according to current needs, giving way to teaching in relation to the requests of the present (Castellanos, Guzmán, & Ruiz, 2016).

ICTs have appeared outside the educational context and were later recognized in it, considering teaching as a necessary aspect of human life, combining these tools with a new knowledge environment so that students become protagonists of their own learning. applying the constructivist theory. In this instructional classification, time and flexibility play a relevant role (Grande, García, Corell, &Abella, 2020).

Virtualization has been baptized as a change, where new technologies are integrated with new teaching paradigms. Culture is part of technology, and electronic reading and writing skills are increasingly high, which is considered an indispensable skill for learners.

ICTs and their contributions develop rapidly and change the field of knowledge, in this sense, it is understandable that pedagogy as an order faces different challenges and requires a more detailed investigation (Bruner, 2018).

From the versatile perspective of a context that requires the incorporation of ICT, teaching work shows the need to transform knowledge subjects so that they are capable of being desired by students and generate the necessary skills for society and their frequent use in different aspects of them (Area, Hernández, & Sosa, 2016).

Successful integration of ICT in teaching depends on the teacher's ability to build a learning environment; "jumping" and "breaking" traditional programs on the basis of contribution and teamwork, however, the use and participation of technologies in training has not yet been understood as a tool that alone can generate learning significant, frequent errors in schools reduce these tools that allow access and transmission of information, this error continues to cover traditional education (Bartolomé & Gallego, 2019).

The teacher must structure his own role, organize the students' methods of acquiring cognitive skills and try to use them in various situations. When face-to-face education returns, classrooms will require acquired virtual spaces that complement knowledge through the use of sufficient technological means, among students and teachers (Salinas, De Benito, Pérez, &Gisbert, 2018).

Students participate as new educational agents, since they were born in a technological society and have become the main element of communication and social interaction (Casillas, Ramírez, & Ortega, 2016).

At present, the different events, circumstances and predispositions of learning have brought with them unknown symptoms to the training summary, which sets challenges for future experts, establishments and officials committed to teaching (Area Moreira, 2011).

The use of technologies in education has become a basic mechanism in educational environments, especially in the present, this type of tools and media create trust in the educational community, optimizing a new teaching process (Espinosa, Díaz, &Aveiga, 2016).

The analysis of different options in education enhances the importance of technology and the perspectives of continuous development, which will promote social and collaborative learning, there are aspects that can establish links between the transformative, adaptive teaching of today's society (Vinueza&Simbaña, 2017). From the perspectives of some authors, it is difficult to think of any educational innovation that is not related to technological development (Aguiar, Velázquez, & Aguiar, 2019).

To achieve a more equitable contemplation of the hierarchy of technologies within instruction, there are different contexts, where educational establishments will be forced to use these tools, where the estimation of infrastructure, materials, teaching methods, assessment and teacher preparation are some of the plans that were considered by the authors (De Arco, Barrios, & Parra, 2017).

Innovation is not in ICT, it is through the actions carried out by teachers and students, due to the information events, reciprocity and treatment of the reference that they provide, the key must be found to understand and evaluate the scope of their boom (Aparicio, 2019).

The present study aimed to analyze the use of ICT and its impact on the educational practices of teachers in a particular educational unit in Ecuador through an evaluative judgment, in order to achieve a high positive effect.

Materials and methods

This work was based on the type of documentary research based on the search, retrieval, analysis, criticism, and interpretation of secondary data; obtained and recorded by other researchers in reliable documentary sources, be they printed, audiovisual or electronic (Arias, 2012). With a quali-quantitative approach because the informants' experiences are interpreted, and a statistical observation is also made.

The research method that was used is the deductive one to arrive at concrete facts from the general premises.A survey was applied to teachers of a particular educational unit in Ecuador for the 2021-2022 school period. To display the results of the survey, Microsoft Office Excel was used to tabulate the data obtained.

Analysis and discussion of the results

Teaching must be guarded by a series of guidelines that specify a reporting framework to make decisions about the actions to be taken in the process. Therefore, three aspects are identified: (1) inquiry related to the acquisition, sculpting and metamorphosis of new knowledge and information in the digital environment; (2) communication in correspondence with collaboration, teamwork, and technical adaptability; (3) morality and social footprint is associated with the skills necessary to face the ethical challenges posed by globalization and the rise of ICT (Cabero& Valencia, 2019).

To obtain excellent results in the teaching-learning process, one must make use of innovative resources such as technological tools because they improve the efficiency and acquisition of knowledge in the classes. This will allow the student to achieve significant learning based on the combination of the knowledge that the human being possesses and those that he / she is achieving through the strategies that the teacher uses to transmit the information (Meza & Moya, 2020).

The context of the research was a particular educational unit in Ecuador, the sample was taken from 40 teachers who are part of the same institution, with the purpose of acquiring information that is linked to ICT, where each response is based on the experience. Table 1 shows the results related to the teaching-learning process without the use of ICT.

Table 1. Teaching-learning process without the use of ICT

Assessment	Frequency	Percentage (%)
Very little	5	12
Little	18	45
Medium enough	11	27
Sufficient	1	4
A lot	5	12

As can be seen in the table in the teaching-learning process without the use of technology, 45% think it is not very effective and 12% think it is too much. The essence of the teaching process is to support the transfer of information through direct communication or through the use of auxiliary means such as technology.

Technological globalization has made the role of the teacher structured, reflecting a more dynamic and collaborative work (García & Gutiérrez, 2020). Therefore, the highest percentage considers that the teaching-learning process is ineffective without the use of these tools.

Figure 1 shows the graph corresponding to motivation using ICT for learning.

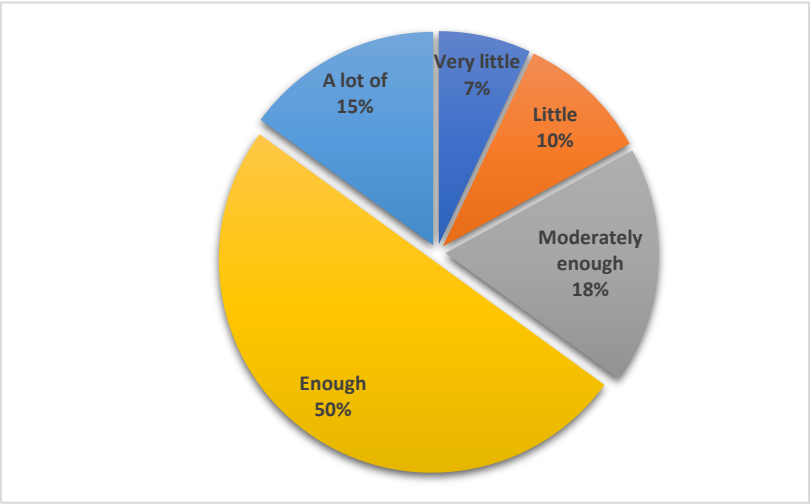

Figure 1. Motivation using ICT for learning.

According to the results on the degree to which learning motivation increases when using ICT, 7% of people say very little and 50% are sufficient. Learning motivation is the student's interest in building their own knowledge. Research results show that the use of technical tools will enhance students' knowledge and interest.

The work that the teacher provides in virtuality is fundamental in ensuring that students with internet access work by showing interest in the activities that incorporate the use of these tools because they are more attractive and functional (Martín, 2017).

Table 2 has to do with the insufficient use of technology in teaching.

Table 2. Insufficient use of technology in teaching

Assessment	Frequency	Percentage (%)
Very little	2	5
Little	4	10
Medium enough	8	20
Sufficient	18	45
A lot	8	20

According to the results on the level that will affect the underuse of technology in teaching, 5% think that very little will affect and 45% say that the use of technology is sufficient.

Technology refers to a set of technical knowledge that has been scientifically classified and its lack of use will affect the progress of education, because the purpose of technological tools is to improve the quality of teaching. The results of the research show that the current educational reality is restricted by technological practice, and its insufficient use will affect the teaching process, so it is recommended to continue carrying out technical training that is beneficial for teaching.

ICTs increasingly show the fundamental role they play in the educational system. It is important to make good use of them and understand that these tools symbolize an informational resource that encourages learning (Ochoa & Silva, 2016).

Figure 2 shows the results of the assessment given to the use of ICT in academic progress.

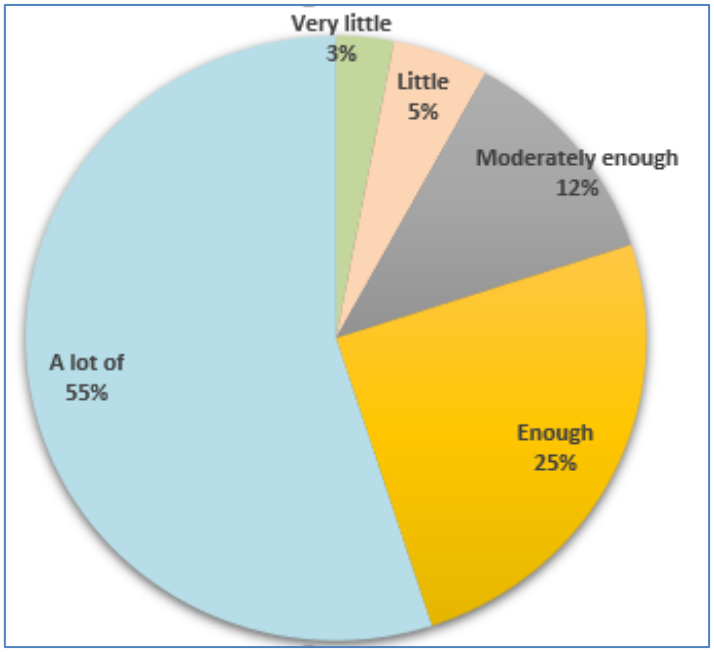

Figure 2. Use of ICT in academic progress

The results show that only 3% do not use ICT, noting that the majority of teachers use these tools to improve academic development, 55%.

ICT in academic progress process, synthesize, restore, and present information in the most diverse ways. According to the results of the survey, its application is essential to improve academic standards, educational tasks carried out with the help of technology achieve educational development according to contemporary needs, leading to correct performance, improving the level of learning. and the quality of teaching, so it is recommended to use it to produce meaningful learning.

It can also be said that the low rate of use of technology in education will moderately affect the level of student learning, so implementing innovative processes in classes will improve the quality of teaching because it has a great impact on young people. Teachers know that the use of technological tools can improve their performance and the quality of education.

Conclusions

The implementation of ICTs progresses rapidly in student learning, but at the same time, they have very little command of them. Teachers consider using technology in classrooms, which improves their skills and opportunities to learn.

Teachers must be trained by incorporating ICT, which are tools that help develop understanding and adaptation skills of knowledge, skills, and dynamics of reality, using them as an aid in the learning process.

References

Aguiar, B., Velázquez, R., & Aguiar, J. (2019). Teaching innovation and use of ICT in Higher Education. Espacios Magazine, 40(2). Obtained from https://www.revistaespacios.com/a19v40n02/19400208.html

Aparicio, O. (2019). Use and appropriation of ICT in education. Inter-American Journal of Research, Education and Pedagogy, 12(1), 253-284. Obtained from https://revistas.usantotomas.edu.co/index.php/riiep/article/view/4906

Area Moreira, M. (2011). The effects of the 1: 1 model on educational change in schools. Evidence and Challenges for Ibero-American Policies. Ibero-American Journal of Education(56), 49-74. Obtained from https://rieoei.org/historico/documentos/rie56a02.pdf

Area, M., Hernández, V., & Sosa, J. (2016). Models of didactic integration of ICT in the classroom. Communicate: Ibero-American Scientific Journal of Communication and Education(47), 79-87. Obtained from https://dialnet.unirioja.es/servlet/articulo?codigo=5400275

Arias, FG (2012). The research project, introduction to scientific methodology. Caracas, Venezuela: Editorial Episteme, CA Retrieved from https://books.google.es/books?id=W5n0BgAAQBAJ&lpg=PA11&ots=kYkIhqvtm6&dq=Arias%2C%20F.%20(2012).%20El%20proyecto%20de%20investigac i % C3% B3n% 2C% 20introduction% C3% B3n% 20a% 20la% 20metodolog% C3% ADa% 20cient% C3% ADfica.% 20 (Venezuela% 3A). & Lr & hl = es &pg = PA11 # v = onepage& q

Balart, C. ,& Cortés, S. (2018). A historical look at the impact of ICT in the knowledge society in the current national context. Contexts: Humanities and Social Sciences Studies(41). Obtained from http://revistas.umce.cl/index.php/contextos/article/view/1386

Bartolomé, A., & Gallego, M. (2019). Technologies in the University: achievements and failures. REDU: Journal of University Teaching, 17(1), 9-13. Obtained from https://dialnet.unirioja.es/servlet/articulo?codigo=6977309

Bruner, JS (2018). Cognitive development and education. Madrid, Spain: Ediciones Morata SL Obtained from https://books.google.es/books?hl=es&lr=&id=nZojEAAAQBAJ&oi=fnd&pg=PT6&dq=desarrollo+de+la+tecnologias+en+la+educacion&ots=fXmbQxRyUA&sig=TzVheW9 -FNnsa7AxFr_IEKRMvs

Cabero, J., & Valencia, R. (2019). ICT for inclusion: a look from Latin America. Open Classroom, 48(2), 139-146. Obtained from https://reunido.uniovi.es/index.php/AA/article/view/13283

Casillas, M., Ramírez, A., & Ortega, J. (2016). Technological affinity of university students. Educational Innovation (Mexico, DF), 16(70), 151-175. Obtained from http://www.scielo.org.mx/scielo.php?pid=S1665-26732016000100151&script=sci_abstract&tlng=pt

Castellanos, M., Guzmán, L., & Ruiz, J. (2016). Inverted Training: breaking paradigms with app's. Repository of the International Network of Researchers in Competitiveness, 10, 1417-1437. Retrieved from https://www.riico.net/index.php/riico/article/view/1382

Costa, R. (2020). Pedagogical challenges: before and in the covid 19 pandemic. Temas Em Educação e Saúde, 16(2), 594-606. Retrieved from https://periodicas.fclar.unesp.br/tes/article/view/14061

De Arco, L., Barrios, H., & Parra, G. (2017). Feasibility analysis of a B-learning education system: case study Universidad de San Buenaventura. Academia y Vitualidad, 10(2), 7-19. Obtainedfrom http://revistas.unimilitar.edu.co/index.php/ravi/article/view/2706

De la Hoz, E., Martínez, O., Combita, H., & Hernández, H. (2019) .Information and Communication Technologies and their Influence on the Transformation of

Higher Education in Colombia to Promote the Global Economy. Information Technology, 30(1), 255-262. Obtained from https://scielo.conicyt.cl/scielo.php?pid=S0718-07642019000100255&script=sci_arttext&tlng=n

Espinosa, J., Díaz, J., & Aveiga, C. (2016). Perspectives of secondary education with multimedia resources. Journal of Science and Research: Science and Research Magazine, 1, 81-84. Retrieved from https://revistas.utb.edu.ec/index.php/sr/article/view/125

Flores, F., & Cortés, J. (2016). The new social movements, the use of ICT and their social impact. Latin Journal of Social Communication(71), 398-412. Retrieved from https://www.redalyc.org/pdf/819/81943468021.pdf

García, Y., & Gutiérrez, P. (2020). The teaching role in the digital society. Digital Education Review(38). Retrieved from https://revistes.ub.edu/index.php/der/article/view/27102/pdf_1

Grande, M., García, F., Corell, A., & Abella, V. (2020). Virtualization caused by Covid 19: recommendations for evaluation. Ensinar, assess and learn not ensino superior: perspectivasinternacionais, 231-250. Retrieved from https://gredos.usal.es/bitstream/handle/10366/144440/capfinal.pdf?sequence=1

Jaramillo, C., & Chávez, J. (2015). ICT and education in Chile: a systematic review of the literature. TISE: New Ideas in Educational Informatics, 221-231. Obtained from http://repositorio.minedu.gob.pe/handle/20.500.12799/4569

Márquez, J. (2017). Emerging technologies, challenge for Colombian higher education. Ingeniare(23), 35-57. doi: https: //doi.org/10.18041/1909-2458/ingeniare.2.2882

Martín, M. (2017). Pedagogical contributions of ICT to learning styles. Pedagogical trends(30), 91-104. Obtained from https://dialnet.unirioja.es/servlet/articulo?codigo=6164812

Meza, L., & Moya, M. (2020). ICT and neuroeducation as a resource for innovation in the teaching and learning process. ReHuSo: Journal of Humanistic and Social Sciences, 5(2), 85-96. Obtained from https://dialnet.unirioja.es/servlet/articulo?codigo=7408907

Momino, J., &Sigalés, C. (2017). The Impact of ICT on Education: Beyond the Promises. Barcelona: Editorial UOC. Obtained from https://books.google.es/books?hl=es&lr=&id=Hw_uDQAAQBAJ&oi=fnd&pg=PT19&dq=Las+tic+cambian+la+educacion&ots=Rbvx4qPSfd&sig=cNqcOQW_5Y9QHbACMoraX0, MoraX0,

, J.MoraX0, MoraX0, Mora. , Reyes, C., &Huilcapi, M. (2020). Teaching and learning in times of Covid 19. ProSciences: Journal of Production, Sciences and Research, 4(34), 79-86. Obtained from http://www.journalprosciences.com/index.php/ps/article/view/281

Ochoa, I., & Silva, M. (2016). Basic competences in the management of ICT in the performance of university teachers. Journal of educational sciences(47), 338-353. Obtained from https://dialnet.unirioja.es/servlet/articulo?codigo=7477182

Rivera, D., &Suconota, E. (2018). ICT in the management of educational processes. Reason and word: reputation, transparency and new technologies, 22(3), 481-509. Retrieved from https://ww.revistarazonypalabra.org/index.php/ryp/article/view/1278

Salinas, J., De Benito, B., Pérez, A., &Gisbert, M. (2018). Blended learning, beyond the face-to-face class. 21(1), 195-213. Retrieved from https://www.researchgate.net/profile/Jesus_Salinas/publication/321245661_Blen

ded_learning_mas_alla_de_la_clase_presencial/links/5a1d085f458515373189523f/Blended-learning-mas-alla-de-la-clase-presencial.pdf

(2016). From ICT in education to ICT for education. Vector Magazine, 11, 24-29. Obtained from http://vip.ucaldas.edu.co/vector/downloads/Vector11_4.pdf

Vinueza, S., &Simbaña, V. (2017). Impact of ICT in Higher Education in Ecuador. Publishing Magazine(11), 355-368. Retrieved from https://core.ac.uk/download/pdf/236644472.pdf