



The need for digital education and DICT in the teaching-learning process during/after the Covid-19 pandemic

Josedalva Farias dos Santos

Degree in Pedagogy from UNEB-BA, specialist in: Rural Education/UCAMPROMINAS-MG; Institutional and Clinical Psychopedagogy and Early Childhood Education/FAVENI-SP; Methodology of Higher Education-FACUMINAS/SP and academic of the Specialization in Digital Education at UNEB-Bahia.

Geângela Michely Oliveira Costa

She has a degree in Geography from UNEB-BA, a specialist in Educational Management from UFBA-BA and a student of the Specialization in Digital Education from UNEB-Bahia.

Joelina Cavalcante Magalhães

Degree in Pedagogy from UNEB-BA and is a student of the Specialization in Digital Education at UNEB-Bahia.

Divina Maria Farias Santos Lima

Degree in: Pedagogy from UNEB-Bahia and Arts and Specialization in Music Education and Arts Teaching from Cândido Mendes University/MG.

Jeanne Cristina Farias Santos Lima

Degree in Pedagogy from UNEB-BA; Specialist in Clinical, Institutional Psychopedagogy and Early Childhood Education, from the University Center FAVENI/SP.

José Milton dos Santos Batista

Academic of the Degree in Physical Education at UNEB/BA.

Wilson Rodrigues Rocha

Scholar of the Bachelor's Degree in Business Administration at UNEB/BA. Degree in Pedagogy from UNEB-BA;

ABSTRACT

This article aims to analyze the challenges faced by education in the teaching-learning process with the enhancement of Digital Education and DICT considering the context/post-pandemic of COVID-19 from 2020 onwards. Regarding the methodological approach, the research results from a bibliographic study, dialoguing with CASTELLS, DI FELICE, KENSKI, KNUPPEL, MOREIRA, among others. It is notorious that the COVID-19 pandemic has caused an unprecedented scenario of social isolation, impacting thousands of students and families in the emotional, social, and educational aspects. This emergency situation disseminated several educational strategies, in a context of digital education, encouraging the use of DICT to relate practices, flexible and creative pedagogical processes. In this pandemic and post-pandemic context, education has sought new teaching strategies to ensure learning and offer a quality teaching-learning process. The experience of the pandemic shows us the urgency of efficient and effective educational policies to contemplate the use of DICT and Digital Education in teaching-learning, in the training of educators and to think of education as a networked digital ecosystem, in a collaborative, connective, comprehensive and integral way.

Keyword: Teaching-Learning, COVID-19, Digital Education, TDICs.



1 INTRODUCTION

It is undeniable that technology was fundamental to the continuity of teaching during the social distancing that took place from 2020 onwards around the world. The importance of digital education and Digital Information and Communication Technologies (DICT) in the teaching-learning process during/after the global health crisis caused by the Covid-19 Pandemic is perceived. Although the pandemic has accelerated the process, this was already a trend in global education. More than ever, it is possible to visualize the impacts of the use of technology in education. After all, without technological tools, it would not be possible to continue the school year during the pandemic.

Inspere (2022), citing UNESCO, says that:

"Brazil and its neighboring countries kept schools closed for 40 weeks. The average in other regions of the world was 22 weeks — almost half the time. The blow to education was not greater only because technology made it possible for hundreds of students to continue to have remote or hybrid classes." INSPER (2022).

As stated in the text above, this was only possible due to the help of Digital Information and Communication Technologies (TDICs) and Digital Education. The pedagogical experiences lived in the educational field with the dissemination of the Pandemic – COVID 19, provided the survey of several concerns and expansion of the various modalities related to the teaching-learning process. How to teach during/after the Covid-19 pandemic, making use of DICT and Digital Education? And is the learning of the students, of the years in evidence, being efficient?

Due to the worldwide spread of the new Coronavirus, Brazilian education has been greatly impacted. Face-to-face classes were suspended, schools closed and/or partially functioning, educators anxious to adapt teaching strategies, adoption of new methodologies and use of digital platforms for the development of learning. As a result, families, managers, educators, and students had to work hard to make teaching and learning happen.

Notably, education is a two-way street, where everyone learns and is trained to be citizens of a new culture and its main function is the integral formation of the subjects. In our experience as educators, several concerns arise on a daily basis, for this, this article is based on the following questions-problems: Are Digital Education and TDICs, in fact, occupying more spaces in the school routine? With this new way of teaching and learning provided by the use of TDICs and the advancement of Digital Education, are our students really learning? How has the COVID 19 pandemic brought to the fore the discussion and pedagogical adoption of many terms and concepts related to Digital Education? Are these concepts actually contributing to the teaching-learning process?



The general objective of this work is to analyze the challenges faced by education in the teaching-learning process and the use of Digital Education and DICT, widely inserted, due to the advance of the Covid-19 pandemic

For this it is organized in 03 moments, being: Introduction; Development and Conclusion. In the Introduction, we discuss all the basic concepts related to the theme, which will be part of the academic reflections of the work; the development, concerns educational issues in times of COVID-19, showing how it was affected and the measures taken to ensure teaching and learning, promoting a reflection on the concepts and bases that underlie TDICs and Digital Education and the practices related to remote teaching; The conclusion will deal with the final considerations that involve the theme with recommendations and suggestions for other studies and experiences.

2 DEVELOPMENT

Education is a phenomenon observed in all societies. It occurs in different spaces and dimensions of human life. And it was in this sense that man, according to Citron (1990), organized the sciences, aggregating the different types of knowledge that underlie human learning, defining its use, social place and meaning. (CITRON, 1990). The very human experience of discovering, of observing, of learning, of wanting to know oneself and everything that dwells around oneself, makes it happen. According to Libâneo (1990), it occurs in several places and is associated with "processes of communication and interaction, through which the members of a society assimilate knowledge, skills, techniques, attitudes, and values". (LEBANEAO, 1990).

The COVID 19 pandemic has led to the adoption of online environments in the field of education and the training of educators, who are now aware of their potential, and with that the utopian Digital Education emerged. Regarding this concept, Moreira (2022) clarifies that it is:

"An opportunity for innovation, integration, inclusion, flexibility, openness, personalization of learning paths, but this reality requires a paradigm shift. A change that has been difficult to implement, but that now, with the COVID19 pandemic, has become more pressing." (MOREIRA, 2022).

In fact, digital education is perceived as a process characterized by speed, fluency, connectivity, appropriation of diverse media that triggers educational ecosystems with the objective of enhancing teaching-learning.

It is noted that the advancement of civilization has brought a diversity of technologies that have evolved along with humanity to help it live better. Technologies are important at all times of our lives and their use remains the same at all times in human history, as Kenksi (2021) emphasizes, they are essential for the experience and coexistence of human beings. (KENKSI, 2021, p.8). An important need is



communication, information and interaction with others. Allied to a special type of technology called by Pierre Lévy (1993) "intelligence technologies", their basis is immaterial and uses languages. According to Kenksi (2021), they are part of Information and Communication Technologies (ICT) and lead us to express and interact with others, making use of a diversity of technological resources. (KENKSI, 2021, p.14). Of all the languages present in the world since the beginning of the human era, the most recent is the digital language, which, further reaffirmed by Kenksi (2021), articulates with oral and written languages, using binary codes to transmit information. Presenting itself with multiple formats, being present in the virtual environments of cell phones, tablets, computers. (KENKSI, 2021, p.15). Kenksi (2021) also states that connectivity and interactivity are attributes for data sharing and collaborative production of DICT and our communication and/or interaction was made possible with their use. (KENKSI, 2021, p.16). In this sense, it can be seen that with the use of all these tools, educators can forge virtual bonds, enabling potentiating experiences to awaken in our students a real interest in new learning.

TDICs are present in various social spaces, intensively in electronic devices connected to networks "most of them are used to assist in educational processes (KENKSI, 2008). In this new world context, knowledge advances rapidly, new learning modalities were possible due to its emergence. Its use enables the use of new learning modalities, influencing the search for new information, production of new intra/extracurricular content. The learning modalities that they favor are many and can be classified, organized by KENKSI (2021) as: face-to-face-classroom; in face-to-face labs and E-learning; B- learning; C-learning; M-learning; P-learning; T-learning and U-learning. We live in a digital society and they are already present in our daily lives. The covid-19 pandemic has brought a series of changes to life in society. If, on the one hand, it interrupted the operation of businesses and schools in person, on the other hand, it accelerated the process of digital transformation in practically all segments. In fact, according to news from the Terra website (2020):

"with Google search, Brazil registered a 130% increase in the demand for distance learning specialization courses during the beginning of the quarantine, investment in digital technologies and services is an increasingly urgent demand". (EARTH, 2020).

This data shows us that this process of digital acceleration was already foreseen, but that it has forced us to walk in greater strides due to the moment we live in. If schools could postpone these initiatives before, this will no longer be possible from now on.

In this way, all the concern, commitment and dedication of all professionals involved in education, in the development of digital ecosystems and digital education, in the increasing insertion of the number of students in these networks of access to information and communication, as well as in advancing more and more in the most diversified methodologies of the use of DICT in the classroom, is justified.



We are all living in a contemporary world that, since the serious health crisis of COVID-19, is linked to a context of ongoing transformations, driven by the advances of Industry 4.0, the perspectives of Society and Education 5.0, all involved in Digital Education. There is a clamor for diversity, the generation of new knowledge in education with the use of digital interfaces. The idea of living in a connected and interconnected world has brought us the so-called "Network Society" (CASTELLS, 2002). This concept, also cited by Di Felice (2013), is conceptualized as:

[...] The network society is characterized as an encompassing society in which the actors, their actions, the power and the institutions find in the networks their dissemination and social redefinition. In other words, the network society is a social system that has actors, institutions that communicate with each other disseminating exclusively human functions, desires, hopes, and goals. (CASTELLS, 2002, apud DI FELICE, 2013, p.50).

This quote leads us to reflect on the future of education, recreating many strategies to think about and re-signify pedagogical praxis, which in line with the reality experienced makes us relate interaction and connectivity in the digital environment.

DICT and Digital Education are providing us with a new type of culture where mobile technologies are present, as the Brazilian population is increasingly connected. According to data from the IBGE (National Institute of Geography and Statistics), released in 2020, the internet is present in 82.7% of Brazilian households, and most of it is concentrated in the country's large urban centers. (IBGE, 2020). Also according to the National Household Sample Survey (PNAD) in 2019, mobile broadband is the most used type of connection and the mobile phone is the main tool used by those connected. (PNAD, 2019). It is present in 82.5% of households with access to the world wide web. They are hybrid, mobile, connectable, convergent and the main characteristic of this tool is portability, and they can be used in different places. We agree with Di Felice (2021) who says:

"In recent decades, with the development of mobile digital technologies, forms of Wi-Fi connection, Internet of Things and geographic information systems, we have witnessed new forms of participation and interaction around the world [...] expressing a new ecological culture." (DI FELICCE, 2021).

Thus, cell phones today are considered as one of the main means to enable continuous learning within the multiplicity of spaces interconnected to connectivity, being able to provide participatory teaching situations, with various communicational exchanges that integrate and humanize teaching-learning. The insertion of digital technologies and the advancement of digital education are showing us at all times how essential they are to the training process, since the Brazilian population is increasingly connected.



3 CONCLUSION

Considering the problem of the Covid-19 pandemic as a driving factor in the process of accelerating the use of DICT and the advancement of digital education in the Brazilian educational scenario, it is necessary to reflect on the challenges faced by educators and students in this period, in the actions to be taken from now on to promote access to learning using web 2.0 tools; networked learning; the potential of digital education and DICTs.

The challenges are many: schools with precarious technological infrastructure, huge percentages of students from low-income areas and rural education without access to the internet and/or electronic devices to follow distance learning classes; teachers without efficient training to deal with technologies, etc. The experience of the pandemic shows us the urgency of efficient and effective educational policies to contemplate the use of DICT and Digital Education in teaching-learning, in the training of educators and to think of education as a networked digital ecosystem in a collaborative way. From now on, they will become part of our reality and must be understood in their multiple potentialities. What was an emergency, from now on should be faced in a more planned, consistent, categorical way with effective investments in all educational sectors.



REFERENCES

- CALDART, R. S. Movimento Sem Terra: lições de pedagogia. Currículo sem Fronteiras. 2008. Disponível em: <http://www.curriculosemfronteiras.org/articles.htm>.2008.
- CASTELLS, M.A Era da Informação: economia, sociedade e cultura, Vol. I, A Sociedade em Rede. Lisboa: Fundação Calouste Gulbenkian, 2002.
- DI FELICE, Massimo. REDES SOCIAIS DIGITAIS, EPISTEMOLOGIAS RETICULARES E A CRISE DO ANTROPOMORFISMO SOCIAL. Revista USP,(92),p.6-19,dez./fev.2012.Disponível em: <https://doi.org/10.11606/issn.2316-9036.v0i92p6-19>. Acesso em 20 de março de 2023.
- DI FELICE, M. Ser redes: o formismo digital dos movimentos net- ativistas. MATRIZES, 7(2), 49-71.2013. Disponível em: <https://doi.org/10.11606/issn.1982-8160.v7i2p49-71>. Acesso em 15 de março de 2023.
- IBGE – Instituto Brasileiro de Geografia Estatística. Uso da Internet, televisão e celular no Brasil. Disponível em: <https://educa.ibge.gov.br/jovens/materias-especiais/20787-uso-de-internet-televisao-e-celular-no-brasil.html>. Acesso em: 23/02/2023.
- IBGE – Instituto Brasileiro de Geografia Estatística. Panorama da cidade. Disponível em: <https://cidades.ibge.gov.br/brasil/ba/malhada/panorama>. Acesso em 24/03/2023.
- SANTOS, O futuro começa agora: da pandemia à utopia. São Paulo: Boitempo, 2021.
- GLOBO, Coronavirus. Mapa da pandemia. Disponível em: <https://g1.globo.com/saude/coronavirus>. Acesso em 15 de março de 2023.
- INSPER, Tecnologia na educação: quando inovação e conhecimento se unem. Disponível em: <https://www.insper.edu.br/noticias/tecnologia-educacao/>. Acesso em: 08 de abril de 2023.
- LEVY, Pierre. As Tecnologias da Inteligência. O futuro do pensamento na era da informática. Rio de Janeiro: Editora 34.1993.
- MOREIRA, José Antônio. Educação Digital: Por um paradigma de educação digital (em rede). Salvador: Universidade do estado da Bahia; 2022.42 páginas. E-book do Curso de Pós Graduação em Educação Digital, Salvador, UNEAD.
- OLIVEIRA, Edinaldo Aguiar de. Ensino remoto: o desafio na prática docente frente ao contexto da pandemia. Revista Educação Pública, v. 21, nº 28, 27 de julho de 2021. Disponível em: <https://educacaopublica.cecierj.edu.br/artigos/21/28/ensino-remoto-o-desafio-na-pratica-docente-frente-ao-contexto-da-pandemia>. Acesso em 30 de março de 2023.
- KENSKI, Vani Moreira. Educação e comunicação: interconexões e convergências. Educ. Soc., Campinas, vol. 29, n. 104- Especial p. 647-665, out. 2008.Disponível em:<https://www.scielo.br/j/es/a/nxvgnTWLXhgNjZrydx7sHK/?lang=pt>. Acesso em 23 de março de 2023.
- KENSKI, Vani Moreira. Sociedade Tecnológica: Tecnologia Digital da Informação e da Comunicação (TDIC). Salvador: Universidade do Estado da Bahia; 2021.52 páginas. Ebook do Curso de Especialização em Educação Digital, Salvador, UNEAD.



KNUPPEL, Maria Aparecida Crissi; JUNIOR, Luiz Carlos Knuppel. Sociedade Tecnológica: diálogos, cruzamentos e entrecruzamentos. Salvador: Universidade do Estado da Bahia; 2021. 42 páginas. E-book do Curso de Especialização em Educação Digital, Salvador, UNEAD.

SANTOS, Eliane Nascimento dos; SANTOS, Igor Tairone Ramos dos; CASTRO, Ricardo Alexandre. Tecnologia Educacional em Escolas do Campo: Pressupostos teóricos e atualidades. Itapetinga: Universidade Estadual do Sudoeste da Bahia; 2021.18p.Caderno Temático do Programa Formação de Educadores do Campo-FORMACAMPO,UESB.

TERRA, Procura por cursos online cresce durante período de quarentena. Disponível em:<https://www.terra.com.br/noticias/dino/procura-por-cursos-online-cresce-durante-periodo-de-quarentena>. Acesso em: 28 de dezembro de 2022.