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Use Of Technology In Afro-Descendant Contexts: Improving The Quality Of Education

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Abstract
Educational quality is a topic of interest for many organizations, therefore, there have been different strategies implemented for the promotion of educational quality, being one of these the integration of technology, which has been carried out in schools continuously, however, it was not until 2020, due to the pandemic of COVID-19, that it has taken the necessary relevance, as a strategy for schools to continue with academic activities, without the need to meet in person and comply with health standards. In accordance with the above, Salinas (2020) states that schools and teachers tried to face the challenges of confinement from a position of commitment and responsibility, however, in contexts with mostly Afro-descendant students, greater difficulties have been observed; therefore, it is necessary to reflect on the current processes carried out by the government, in order to move towards the implementation of technology in Afro-descendant educational contexts.
Key words: *Technology, Afro-descendant communities, virtual education.*

INTRODUCTION

Currently, educational quality is a topic of interest for many organizations, because it is one of the sustainable development goals for the Latin American region that are intended to be achieved by 2030, according to the United Nations; since that point, the strategies implemented for the promotion of educational quality have been different. which is defined as a dynamic process that requires the necessary means and subsidies for students who, according to their abilities, obtain the maximum levels of development and significant learning demonstrate the competencies required in the satisfaction of their needs and those of their environment, when exercising citizenship, according to equal opportunities, by accepting decent work and practicing their freedom autonomously, through the essential and closely related dimensions, such as relevance, effectiveness, efficiency, equity and relevance, as stated by UNESCO (2016).

Now, for some years now, the integration of technology has been carried out in educational establishments continuously, however, it was not until 2020, due to the COVID-19 pandemic, that it has taken on the necessary relevance, as a strategy of schools to be able to continue with academic activities, without the need to meet in person and comply with health regulations. However, in the process, various failures were found on the part of schools, teachers, students and all educational actors in general, since, for many of them, the use of ICTs in this context was unknown.

In accordance with the above, Salinas (2020) states that schools and teachers tried to face the challenges of confinement from a position of commitment and responsibility, all this, with an infinity of responses, this includes, from those educational centers that moved keeping their learning proposals firmly immersed in processes around transformation and innovation, to those centers that are a little more traditional, which tried to adapt the traditional face-to-face model to the virtual one, without much success.

The above suggests that although remote learning was a quick solution to the problem presented, it was not very effective, since it cannot be allowed to transfer the same techniques, tools, strategies and the entire face-to-face learning system in general, to the virtual one; because it does not correspond to an online learning system, nor are the three types of presence in virtual education suggested by Garrison and Anderson, mentioned in Salinas (2020), which are: didactic, social, and cognitive.

In the case of Colombia, it continues to be committed to the integration of ICT in education, through its implemented programs such as the National Plan for Science, Technology and Innovation for the ICT Sector 2017-2022 (Colciencias, 2016) or through the establishment of specific public policies such

as Technology for Learning (MinTic, 2020), which promotes digital skills in public schools. through the strengthening of connectivity in educational facilities and pedagogical innovation.

In this sense, the purpose of digital technologies in the educational context consists of the transformation of traditional educational practices, since the incorporation of them that is not considered as innovation in education does not make it possible to achieve results that have a positive impact on educational quality (MinTic, 2020). As Hidalgo et al (2002) express, technology is a basic element of differentiation in organizations, it is understandable that its ability to create or venture with new products depends to a large extent on its good use and management. Organizations, the authors go on to describe, must take into account the behavior of other organizations in order to exploit their innovation possibilities as a new strategic facet.

Currently it is observed that science and technology in the twenty-first century requires people capable of managing and controlling technological culture for a greater benefit, thus demonstrating that students can build their own representations and concepts of science and technology, through the use, manipulation and control of digital learning environments. through the solution of concrete problems in such a way that their learning is meaningful.

In accordance with the above, there is a wide variety of techniques and resources that are used as technological support to promote academic learning and social development of people (Brendan, 2010); however, teaching-learning strategies in the context of virtual education are still necessary. In this sense, Salinas (2020) states that education cannot be dissociated from the fact that educational actors are digital citizens who live in the knowledge society, which is why the first changes for the integration of ICT in education are due to the use of time and spatial arrangement of schools as they are known today.

In the same way, working with the support of ICTs expands educational possibilities, leading to the hierarchy of the most up-to-date content and adjusted to the realities that not only Colombia, but the entire world is experiencing. Despite the fact that educational institutions have been adapting to virtual environments or environments, there is a lot of resistance and ignorance about the use of educational tools and resources in general; in addition to this, teachers still do not have strategies to address the problem, which leads to apathy on the part of students in classroom participation, placing them in a routine, and showing weaknesses in the development of activities in these environments (Mejía, 2004).

In contrast to the above, within education, challenges must be assumed that lead to the development of a more open pedagogy and that the use of technology is taken into account to achieve the "strengthening of the links of collaboration and mutual learning between educational institutions and their contexts and, for Colombia, the construction of a democratic society, equitable, just and peaceful" (Ten-Year Education Plan, 2016 – 2026, p. 18). In the same way, it can be pointed out that educational practices are due to the teaching modalities, the level of training and the geographical location, among others" (Ten-Year Education Plan, 2016 – 2026, p. 47). Despite the above, there are still needs of teachers and institutions in the generation and adjustment of thematic contents, but above all in strategies to achieve student interest.

It is necessary to note that, in Colombia, despite the numerous efforts by the Ministry of National Education to implement strategies to strengthen educational quality, there is still a long way to go to achieve the expected results, since many schools face a difficult reality, because they do not have optimal strategies that help teachers to innovate dynamically. The above is evidenced in the results of the national and international standardized tests, Saber and PISA (ICFES, 2019), which reflect a lower academic performance in students, which indicates that it is important to apply emerging pedagogical strategies so that young people obtain the minimum competencies in mathematics, language, sciences and humanities that enable them to be very productive citizens in a complex national and international scene and Competitive.

In a national territory where cultural diversity exists, as it is in Colombia, undeniable realities must be examined and considered, such as: poverty, inequality, disparities and dynamics of culture and everything that this includes for ethnic groups and rurality, recognizing the unevenness of EI in these

contexts. Therefore, the inequity with which technology is used could harm those who have been trained in rural environments; since, they could be missing out on many strategies or updated content, which cannot be accessed without the proper technology.

In the specific case of educational institutions in rural areas in contexts with mostly Afro-descendant students, according to observations not systematized by the researcher, there could be many difficulties in terms of the use of technology in educational contexts, this can range from the lack of adequate technological skills on the part of teachers, to the desire to perpetuate the use of traditional strategies. since a technological appropriation for them could mean the loss of their cultural identity. Therefore, it is necessary to reflect on the current processes carried out by the government, in order to move towards the implementation of technology in Afro-descendant educational contexts.

Use of Technology in Education

Technology is defined as a grouping of knowledge and techniques that, when applied in a logical and orderly manner, allow the modification of the virtual or material environment of the human being, in order to satisfy their needs, that is, it consists of a combined process of thought-action to be able to generate effective solutions (Rubio and Esparza, 2016). In this sense, technology responds to the will or desire of individuals to achieve the transformation of their environment; it is important to mention that technology has evolved over the years, especially in the post-modern era, until it reaches what we know today as Information and Communication Technologies (ICT).

In this regard, Tello (2011) states that ICTs are "the set of tools, supports and channels for the process of and access to information, which form new models of expression, new forms of access and cultural recreation" (p. 10); the importance of this concept lies in the fact that they are currently used for ICTs in all contexts of daily life, including education, which is usually used when acquiring knowledge, thus forming new and striking ways of accessing the most up-to-date information.

In addition to the above, authors such as Valencia and Moreno (2019) argue that ICTs are resources that have had a great effect on the daily lives of teachers in educational institutions: managing information and sending it from one place to another, involving all areas of society. In other words, education must be involved and evolve in the face of these new modernized circumstances, promoting and providing access to these digital tools and resources to the learner, strengthening the values of honesty, solidarity, trust, sharing of knowledge and meaningful educational experiences.

In this order of ideas, Belloch (2015) indicates that "the use of ICTs does not necessarily lead to the implementation of a certain teaching-learning methodology" (p. 12), that is, ICTs have been progressively integrated into the educational context, gradually renewing those ambiguous methodologies, but without neglecting, The great importance they reflect within this process not only refers to the change of the techniques previously applied, they are based more on the concentration and attention that students can pay to the teacher, since the obtaining of knowledge that is being transmitted by the teaching professional will depend on it.

Other authors such as Jaramillo et al (2009) argue that ICTs are becoming increasingly indispensable instruments in schools, stating that they offer the contingency of interaction that goes from a passive attitude, on the part of the student, to a constant activity, to a search for information and research and continuous rethinking of contents. From this perspective, ICTs are a support of essential tools, which can be used as a means of communication for the current educational process and facilitate the exchange of knowledge.

As for remote work, it can be pointed out that it represents the activities that the student performs through the use of ICTs, this for Schwartzman et al (2021), remote work "are all the activities and tasks that are carried out outside traditional environments (school) and where information and communication technology plays a primary role in the search for knowledge or using virtual educational programs or projects" (p. 12). Remote work is developed so that students have the opportunity to seek information that allows them to understand from their own abilities to obtain learning. It is necessary to point out that remote work is within what is emerging pedagogy, leading to the teacher and student maintaining a constant interrelationship, but making the student autonomous.

Taking into consideration the above, it can be pointed out that for the researcher, emerging pedagogies to prioritize remote work are related to the way that the teacher seeks to ensure that students have their own learning using tools that are striking at their ages, that is, technology. In educational institutions, the use of this pedagogy, in this new normality or the new human reality, demonstrates the capacity and ability to seek essential knowledge, without the teacher being the one who directs the processes in such a way that many are discriminated against or are not allowed to participate in the acquisition of knowledge, that is, The teacher imposes the strategies and tools for the development of the contents, ignoring the different ways of acquiring knowledge.

Technology and virtual education in Afro-descendant contexts

According to the Conception of the Colombian Ministry of National Education (MEN, 2024), when referring to virtual education, it consists of the "development of training programs that have cyberspace as a teaching and learning scenario", that is, it is not necessary for time, space and body to be combined in order to establish a dialogic encounter or a learning experience. since, without a face-to-face meeting between a teacher and a student, an educational relationship continues to exist.

In this sense, authors such as Arango (2024) refer that virtual education has revolutionized the way in which Colombians can access knowledge and develop their skills; all this is due to post-pandemic digitalization, which has reported a growth in virtual education in Colombia in recent years, as a result of the expansion of internet connection. Likewise, the aforementioned author has commented that access to education has been democratized, since people from different regions have greater access to learning opportunities.

However, it is important to mention that Afro-descendant populations in Colombia have low rates at the economic or social level; despite their richness in culture and traditions, they tend to have little cultural recognition or access to decision-making, concentrating mostly on manual occupations or domestic employment (UNHCR, 2012). In addition to the above, there is usually discrimination against these communities, marking cultural manifestations that tend to stigmatize them or focus them on a low position within society. Likewise, socioeconomic indicators show that people belonging to this group, settled in rural areas, have a low quality of life characterized by low productivity, however, many tend to migrate to urban areas in search of improving their quality of life.

In this sense, the Basic and Secondary Enrollment System (SIMAT) reports that, at present, there are around 315,000 students from the black population enrolled, about 91,000 belonging to the Afro-descendant population, 130 to the Raizal and about 90 to the Palenquera community. This is in response to higher coverage rates among the ages of 6-11 years, which progressively decrease with increasing age range (MEN, 2018).

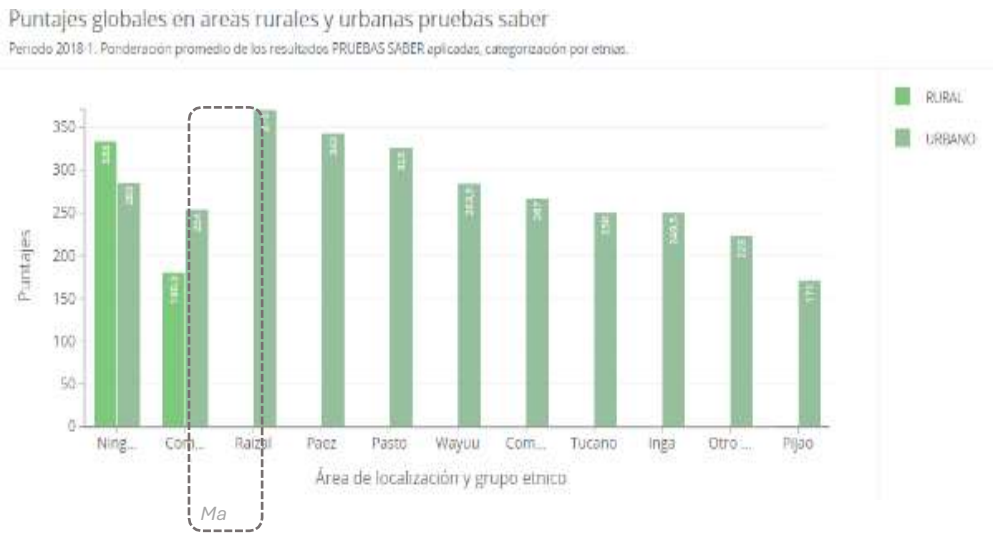
However, the Colombian government considers that technology is not only a good tool for strengthening the quality of education, but also sees it as an instrument of progress for Afro-descendant communities, since the Minister of Information and Communication Technologies, Diego Molano, mentions that it is an excellent instrument to combat discrimination against these ethnic groups. He also commented that technology goes far beyond just having machines that improve communications, but that, currently, they are a tool that generates sources of employment, opportunities, among other things. In turn, he indicated that these communities have greater benefits, in terms of investment in ICT (MINTIC, 2013).

However, it is important to mention that the effort of the Ministry of Information and Communication Technologies (MINTIC) transcends the provision of technological equipment that promotes the use of ICTs, but has also generated spaces for citizen participation to train young people of African descent to use audiovisual productions to tell stories about their culture (MINTIC, 2019). In addition to the above, it is worth mentioning that efforts have been focused by MINTIC on training teachers in the use of ICTs, in which emphasis is placed on educators developing competencies that allow them to pedagogically incorporate technology, thus generating new teaching didactics.

In this sense, although there are no concrete data on the use of technology in Afro-descendant contexts, the results of the SABER Tests obtained in the period 2018-1 categorized by ethnicity are available, indicating Afro-descendant communities.

Figure 1

Average results Saber tests categorized by ethnic groups



Source: (Colombian Institute for the Evaluation of the Quality of Education, 2022). In original Spanish language

Figure 1, which contains categories of location areas (rural and urban) shows that the scores were: 452, 333, 140 and 319.63 for the rural area and in the case of the urban area they were: 475, 325, 103 and 283.7. However, for the situation of the Afro-descendant community, it is observed that its average was 180.5 in rural areas and 254 in urban areas, which precisely reflects the low results in the state tests that this population is presenting. With regard to the rural area, the Afro community is below the average, exactly 139.13 points, which indicates that in addition to the low rates reflected in the evaluation, they fail it.

It is important to mention that the above results may be consequences of multiple factors, however, the Pan American Health Organization has reported that people of African descent in Colombia have unequal conditions with the rest of the population (PAHO, 2021), ranging from the distribution of basic services to access to technology and the internet. Likewise, the Ministry of Science, Technology and Innovation (Radio Nacional, 2023) asserts that there are challenges to overcome in order to make way for the use of technology in these communities, however, a large investment made supports projects that support these contexts.

It is important to note that although the technological deficit in these communities is not directly mentioned, there are some indications that there could be difficulties in terms of access to technology; However, it would be interesting to find out what these factors are that could be preventing or delaying access to and development of technology, therefore, of virtual education or virtual pedagogical strategies in these communities.

Final Thoughts

Despite the fact that in Colombia great efforts have been made to include technology in education, as a tool not only for the promotion of educational quality, but also to adapt to the new demands demanded by today's society, due to the phenomenon of globalization; in many contexts this premise has been successful, since there has been evidence of an increase in education, due to the possibilities offered by virtuality (Arango, 2024); however, this reality unfortunately does not expand to the entire Colombian territory, due to the fact that there are communities with greater vulnerability, as is the case

of the Afro-descendant context, which needs greater support and opportunities for improvement, in terms of the inclusion of technologies in their lives.

Although it is true that there are tools and possibilities for a greater adaptation of technology to these contexts, it has not yet been carried out due to multiple factors, since communities have their specific needs, and these tend to vary, that is, perhaps in some of them teachers have the necessary technological skills for the inclusion of ICT in pedagogical processes. but there are not the necessary resources for it or vice versa; Therefore, it is a priority for the government, in its eagerness to consolidate the use of technology as a strategy to strengthen educational quality, to prioritize its attention in these communities, so that they can meet their objective.

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