THE CHALLENGES OF EDUCATION IN THE 21ST CENTURY IN THE MUNICIPALITY OF BAILUNDO (ANGOLA): A LOOK AT CURRENT DEMANDS USING NICT

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Abstract: The use of technologies in the educational sector is vital in these times. The research analyzes a quantitative-qualitative study that demonstrates the advances and importance of new technologies. The same aims to understand the challenges of education in the 21st century in the city of Bailundo, as well as the use of new information and communication technologies in education (NTIC), analyzing the historical trajectory in education in the aspects of learning and didactics. The possibility of including technologies in the classroom allowed advances and changes in the current requirements of the profile of teachers, managers and students in the 21st century, being a reality that is still little explored in Angola today, for several reasons that will be detailed throughout the article. The inclusion of NTIC in education constitutes a new challenge, and not only impacted on social and educational demands and needs, but also created new opportunities for teachers, improving and modernizing their pedagogical practice and the school. These new practices can contribute by offering students opportunities to access NTIC, thus preventing further social inequalities from being generated. Technologies are here to stay, and it is not a didactic tool, but a new concept that includes resources, learning spaces and interactive tools for the development of the teaching and learning process for this 21st century.

Keywords: Education, Internet, NICT, I teach apprenticeship, didactic.

OS DESAFIOS DA EDUCAÇÃO NO SÉCULO XXI NO MUNICÍPIO DO BAILUNDO (ANGOLA): UM OLHAR PARA AS EXIGÊNCIAS ACTUAIS USANDO AS NTIC

Resumen. O uso de tecnologias no setor educacional é vital nestes tempos. A pesquisa analisa um estudo quanti-qualitativo que demonstra os avanços e a importância das novas tecnologias. Esse estudo tem como objetivo compreender os desafios da educação no século XXI no Município do Bailundo, bem como o uso

das novas tecnologias da informação e comunicação na educação (NTIC), analisando a trajetória histórica na educação nos aspectos da aprendizagem e da didática. A possibilidade de incluir as tecnologias na sala de aula permitiu avanços e mudanças nas atuais exigências do perfil do professor, dos gestores e alunos do século XXI, sendo uma realidade ainda pouco explorada atualmente em Angola, por diversas razões que serão detalhadas ao longo do artigo. A inclusão das NTIC na educação constitui um novo desafio, e não só impactou nas demandas e necessidades sociais e educacionais, como também, criou novas oportunidades, para o docente, melhorando e modernizando sua prática pedagógica e da escola. Essas novas práticas podem contribuir oferecendo aos estudantes oportunidades de acesso às NTIC, evitando, dessa maneira, que sejam geradas mais desigualdades sociais. As tecnologias chegaram para ficar, e não se trata de uma ferramenta didática, mas um novo conceito que inclui recursos, espaços de aprendizagem e ferramentas interativas para o desenvolvimento do processo de ensino e aprendizagem para esse século XXI.

Palavras Chaves: Educação, Internet, NTIC, ensino e aprendizagem, didática.

LOS DESAFÍOS DE LA EDUCACIÓN EN EL SIGLO XXI EN EL MUNICIPIO DE BAILUNDO (ANGOLA): UNA MIRADA A LAS DEMANDAS ACTUALES A PARTIR DE LAS NTIC

Resumen. El uso de las tecnologías en el sector educativo es vital en estos tiempos. La investigación analiza un estudio cuantitativo-cualitativo que demuestra los avances y la importancia de las nuevas tecnologías. El mismo tiene como objetivo comprender los desafíos de la educación en el siglo XXI en la ciudad de Bailundo, así como el uso de las nuevas tecnologías de la información y la comunicación en la educación (NTIC), analizando la trayectoria histórica de la educación en los aspectos de aprendizaje y didáctica. La posibilidad de incluir tecnologías en el aula permitió avances y cambios en las exigencias actuales del perfil de docentes, directivos y estudiantes en el siglo XXI, siendo una realidad aún hoy poco explorada en Angola, por varias razones que serán detalladas a lo largo el artículo. La inclusión de las NTIC en la educación constituye un nuevo desafío, y no solo impactó en las demandas y necesidades sociales y educativas, sino que también generó nuevas oportunidades para los docentes, mejorando y modernizando su práctica pedagógica y la escuela. Estas nuevas prácticas pueden contribuir ofreciendo a los estudiantes oportunidades de acceso a las NTIC, evitando así que se generen más desigualdades sociales. Las tecnologías llegaron para quedarse, y no es una herramienta didáctica, sino un nuevo concepto que incluye recursos, espacios de aprendizaje y herramientas interactivas para el desarrollo del proceso de enseñanza y aprendizaje para este siglo XXI.

Palabras clave: Educación, Internet, NTIC, enseñanza-aprendizaje, didáctico.

Introduction

Since the year 2000, the advancement of Information and Communication Technologies (ICTs) has allowed its expansion in the most diverse segments of society, creating infinite possibilities and probabilities of use. The use of ICTs in education has allowed access to information in a quick and easy way, for the teacher to use it as a methodological tool to support the teaching and learning process, and the student to expand their knowledge by having quick and easy access to information.

As for technologies, today computers and other digital devices immediately come to mind. However, it is important to recognize that man has always used technology in education, according to his socio-historical moment, and we must remember that the organization of oral and written language is considered, according to (Lévy, 1993), "as an intellectual technology since it conditions the existence of various forms of thought," thus, writing and the creation of the printing press allowed the appearance of textbooks. It is certain that strengthening the technological competencies of teachers during their

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training, according to Zetina, (2017), will positively impact their professional development. For (Molenda and Boling, 2008), "educational technology always has a prospective vision in search of new pedagogical tools, instruments, and technologies offered by the field of education."

The use of ICTs, according to Yavorski and Santos e Campos, "has become extremely necessary in the daily life of the vast majority of the planet's citizens" and they are present in all environments, "which leads us to state that the use of ICTs already shapes the facilities of modernity, creating new ways of seeing the world, working, leisure, and study" (Yavorski and Santos e Campos, 2020, p. 90).

According to several authors (Ballesteros, Franco, Carañana 2012; Apud Yavorski, Santos, Campos 2020), "the integration of Information and Communication Technologies and the teaching and learning processes are one of the ancestries that have had the greatest impact in meeting the demands and needs of today's society."

In this aspect, Information and Communication Technologies acquire great importance in the educational context in all its segments: public, private, face-to-face, distance, because it allows the work of teachers and also the understanding of students, favoring the pedagogical work inside and outside the classroom, which contributes to make classes more attractive and stimulating, (Yavorski and Santos, Campos, 2020).

In this context, ICTs are not, therefore, a revolutionary contribution to education but should be considered as tools at the service of learning. They do not have an intrinsic value in education. Their contribution should be associated to the contents studied, to the planning of the subject, and their use should be that of an instrument that facilitates the teaching and learning process, allowing the student to access knowledge through a multiplicity of information sources. Therefore, ICTs assume the role of pedagogical instruments by facilitating access to knowledge through the promotion of learning tools and environments; in this sense, the framework of complexity and transdisciplinarity, technology embraces all the educational paradigms of the 21st century and offers theoretical and methodological options for all educational levels.

The challenge of using Information and Communication Technologies in education, in general, involves knowing the opportunities and ways of using them, the programs, applications, Internet, and its possibilities in the Angolan school, as well as knowing how to value and apply them in the different educational situations that we want to develop as teachers, whether in early childhood, primary, secondary, or even university education.

According to the above, the following questions were raised about the use of ICTs in Bailundo-Angola: What are the current challenges of education in the municipality? In relation to the new demands of the teaching labor market, what are the main difficulties faced by teachers in using ICTs in their teaching practice?

To respond to the research problem, the following objectives were formulated: To understand the challenges of education in the 21st century, as well as the use of information technologies in education, especially the use of the *Internet* in learning and didactics, in pedagogical practices, in order to meet the new demands of the market. Determine what competencies teachers need to work with new technologies.

The relevance is evident in the fact that, in the globalized world characteristic of the 21st century, the competencies of the digital era are being demanded of teachers, students, and principals in the municipality of Bailundo, Angola.

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The municipality has 144 public schools distributed as follows:

Primary Education: (preschool to 6th grade) (134); Secondary Education 1st cycle (7th to 9th grade) (08); Vocational Secondary Education, 2nd cycle: (10th to 13th grade), General Secondary Education, 2nd cycle (10th to 12th grade). Private schools, 1st cycle schools (2), 2nd cycle (2). Higher education: Polo Universitário do Bailundo, belonging to the Instituto Superior Politécnico Caála (01). In the country, educational policies are regulated by Law No. 32_20 of August 12, which amends Law No. 17_16 of October 7, Basic Law of the Education and Teaching System, in accordance with the Constitution of the Republic of Angola of 2010. Education around the world is currently undergoing reformulations and adaptations to keep up with industrial and technological evolution, and its insertion in the educational field has driven changes in methodologies, teachers, and student profiles. Among the changes that have taken place in recent times, it is worth highlighting the break with the paradigm according to which teachers abandon traditional models of teaching methodology in which the student was a passive being, and teachers were the sole possessors of knowledge.

The appearance of active methodologies increases the construction of knowledge, providing the student the opportunity to abandon the passive aspect of listener for the participative one, opening new fields of ways of teaching and learning in which the student becomes responsible for the construction of knowledge and its acquisition, as well as learning to investigate. These methods aim to develop students' autonomy, participation in the construction of knowledge, the capacity for analysis and synthesis, and learning in an integral way. Thus, access to information is much easier since it is possible to access information in a matter of seconds from their devices, such as computers, tablets, smartphones, etc. From this perspective, it is up to the teacher to teach them to recognize what is really relevant for their educational growth, to differentiate what they need to know in order to transform that baggage into knowledge for life, filtering and leaving aside *fake news.*

For Yayorshi, Santos, Campos (2021), "ICTs help teachers in their daily lesson planning, research, and content development." According to the authors, teachers must be aware and prepared to work within these new possibilities of education, and schools are responsible for enabling this renewal process by aligning the school with the current reality, so professionals, from school management to teachers, need to be open to training work, learning, and acquiring new functions in the action of teaching (Yayorshi, Santos, Campos 2020).

Given the multiplication of information sources, ICTs can help promote new methodologies, tools, and learning environments in Angola. Their use in education constitutes a new challenge as well as new opportunities. Schools can contribute by offering their students equal access opportunities, thus avoiding further social inequality in the country's education system and digital illiteracy.

In this sense, ICTs for education should be seen as tools at the service of learning. In all this context of transformations, the role of the teacher, therefore, assumes an intermediate character - which at no time means less important or dispensable. However, in the Bailundo region, the implementation of computer laboratories in schools depends to a large extent on the design of a municipal project for the implementation of laboratories, pedagogical and methodological planning, investment in the purchase of computers for schools, and training courses for teachers.

Faced with challenges of a social, economic, political, scientific, technological, and even innovative nature, the world and Angola, in particular, require educational

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institutions to adopt transformations that allow the use of differentiated methodological strategies that promote changes in teaching practices with a view to meaningful learning. The teacher must consider the teaching of curricular subjects and also the competencies to be developed demanded by today's society, which go through the Teacher Training Courses (Teaching), attend training courses in pedagogical and specific areas and the use of technology in education and includes aspects such as the skills necessary for their performance within the current requirements as well as creativity, empathy and communication, flexibility, collaborative spirit, leadership, among others. It is in this sense, that thinking about a model of continuous teacher training allows to provide quick and effective answers to the challenges faced by teachers, with students living in increasingly challenging and computerized environments. According to (Moran, 1994),

> (...) technologies, within an innovative pedagogical project, facilitate the teaching-learning process: they raise awareness of new subjects, provide new information, reduce routine, connect us with the world, with other schools, increase interaction (electronic networks), allow personalization (adaptation to the work pace of each student), and communicate easily with the student because they bring to the classroom the languages and means of communication of everyday life.

Information and communication technologies in the educational context

The demand and technological incorporation in all social and economic-industrial spheres has transfigured our societies completely changing the way subjects think, work, and live (Ghavifekr; Rosdy, 2015). Thus, as part of these transformations, the school and other educational institutions must prepare students for this new reality: the "information society," considering the incorporation of ICTs in their curriculum (Ghavifekr; Rosdy, 2015).

Generation - Z: is composed of students who have grown up in contact with new technologies, in this sense, Sabaityte and Davidavičius (2017) point out that, given this, there is a clear distinction between Generation Z and their predecessors, while the former act in network and are used to having total control over the flow of information, whether by mouse, remote control, or cell phone. Thus, Generation Z individuals are being sculpted by their dependence on technology. Thus, children are discovering and learning from a young age that there are numerous sources of knowledge whose truths may be disparate.

For (Tapscott1999, p.3), previous generations read the manual to install something. Generation Z is already out driving and has forums and information on the "O/Z" network, which comes from the expression "Zappear" and means to do something quickly and with enthusiasm. Individuals of the post-email generation, who communicate via (SMS), share their intimate life on social networks, stand out for the high level of digital literacy for not establishing divisions between the real and the virtual, living constantly online/offline (Linne, 2014). This is a connected Generation Z, active in social networks, users of MP4, Smartphones, photoshop, etc. They demand speed in connections and information as they need to be part of the event in real time because their world and their time are the present. This generation demands to be heard and to have their opinion respected, to be part of the processes, and to be connected (Linne, 2014).

The new profile of the teacher and the management of new educational practices

Today it is a challenge for parents and teachers to educate children and young people due to the digital environment that is in all social sectors, from home to life in society, including school. Not always the use of ICTs is positive, in this sense, Passero,

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Engster, and Dazzi (2016, p.2) explain that ICTs and its appearance in the educational environment becomes essential to study how to use them in a safe and beneficial way. In this aspect, teachers should assume the role of tutors, enabling students to learn how to work correctly and safely with new information and communication technologies. According to data obtained from the Bailundo Municipal Directorate of Education, on June 25, 2021, of the 1,828 teachers they control at the Municipality level, only 8.2% are computer literate, that is, they make use of the computer and digital phones. Of the 120 school principals in the Municipality, 25% manage to use the computer reasonably for typing various documents, and 8.33% also use it for research (Municipal Directorate of Education, 2021) (see graphs below).
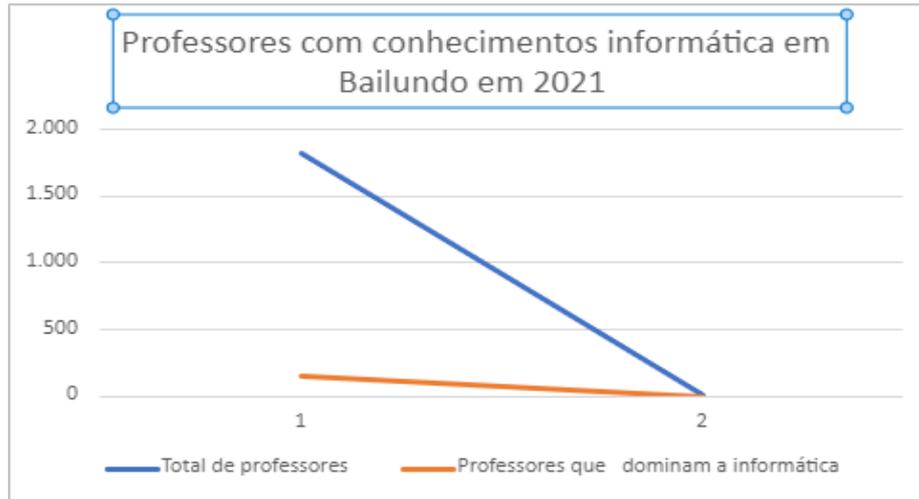

Figure 1. Teachers with *computer skills*
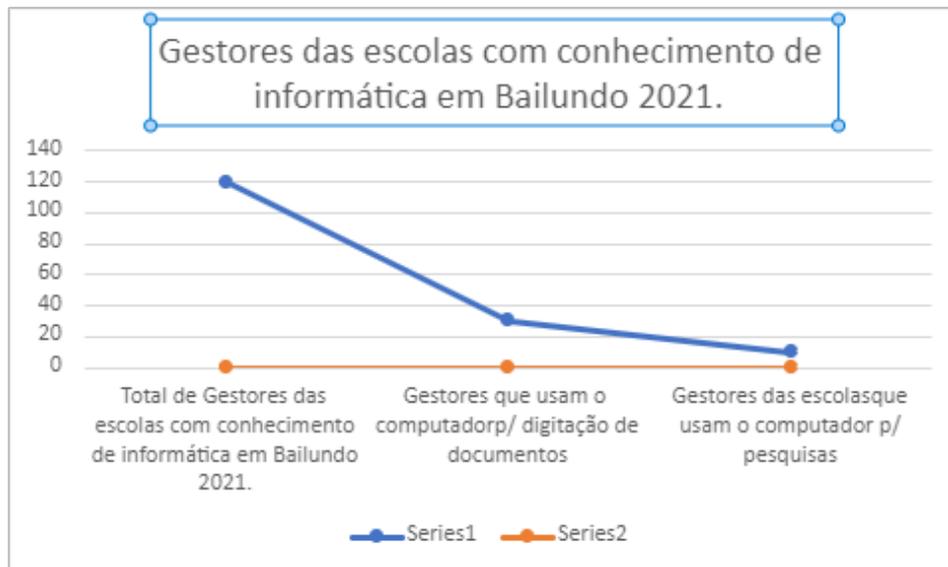*Note:* Source: Bailundo Municipal Directorate of Education, June 2021.

Figure 2: School principals with computer skills

Note: Source: Data provided by the Bailundo Municipal Directorate of Education on June 25, 2021.

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In the context of Education and in relation to technological competencies Reyes and Rodriguez (2019, p.42), highlight the lack of studies on research competencies and use of new digital information and communication technologies in education. For the authors, "Digital information and communication technologies (TDICs) in recent decades have positioned themselves as a factor of transformation in all scenarios of human action". Therefore, the introduction of new pedagogical practices with the use of technologies today must be part of a pedagogical management project. In this sense, training courses in the use of ICTs should be implemented in order to overcome the barriers imposed by the inadequacy of the curriculum, the lack of preparation of the actors of the Angolan national education system. On the one hand, offering continuous training courses for teachers and, on the other hand, implementing computer classrooms in schools by creating an infrastructure with computer labs and digital classrooms in Bailundo schools. In this way, teachers and students can have and impart quality education oriented to the 21st century. An aspect of great concern to government agencies is the large number of teachers and school principals who are reluctant to use ICTs in schools and classrooms because they are not proficient in the use of technologies in education. It should be noted that the Angolan government's main challenge is to overcome these differences, train teachers, and improve the quality of teaching and learning processes throughout the country.

Nowadays, globalization and new technologies are integrated in all branches of society, turning the world into a global village, where information crosses thousands of kilometers in milliseconds. This fact demands the updating of professionals in all fields, including Education. In this sense, the adaptation of education professionals to such demands necessarily requires specific and constant training. Therefore, the continuous training of teachers and school managers is a necessity to solve these problems since the school must evolve to follow the technological progress of the XXI century, implementing the necessary tools for education with the use of digital technologies, such as laboratories or computer classrooms.

In this sense, we highlight the need for laws that organize and legislate on the functioning of computer classrooms in schools in Angola as well as the creation of the position of computer teacher for the digital literacy of students, allowing them a current learning space capable of offering possibilities of integral growth and alignment with the demands of today's society. It is important to highlight the need to create the position of technical pedagogical responsible for computer environments in schools and the selection through public competition of this professional, whose specialty is the management and counseling of the educational process that, in addition to working with students, can provide training courses and seminars for teachers of the schools.

Method

This qualitative and quantitative study aims to understand the challenges of 21st century education in the municipality of Bailundo as well as the use of new information and communication technologies, analyzing the historical trajectory in education in the aspects of learning and didactics.

Participants

The study included 10 teachers, 4 principals, and 1 Municipal Director of Education from the Bailundo Public Education system, making a total of 14 participants.

Research instrument

A two-phase ad hoc questionnaire published on the *Googleforms* platform was used*, containing questions on sociodemographic data and on continuing education and the use of ICTs in school spaces and pedagogical practices.

Data analysis

It consisted of the use of descriptive statistics measuring the results of the surveys applied, which according to Rudio (2000) is a methodological phase that aims to obtain information about reality. The data were tabulated and analyzed with Excel software; averages and percentages were used; they are presented in descriptive statistics.

Results

The results were analyzed and presented in tables and graphs. From the point of view of the teachers and principals interviewed, it was found that they consider important the use of information and communication technologies in the pedagogical practice of teachers because it increases interest, participation, and motivation favoring student learning.

In summary, as the problem and the challenges presented in the research, it was possible to realize that the use of ICTs, both in the pedagogical process - teaching and learning process, and in the administrative process - School Organization, generates a positive impact for teachers, school managers, since it allows multiple interactive and collaborative tasks with their students and other collaborators. On the other hand, for teachers, ICTs provide a new way of approach between teachers and students, creating new horizons, new ways of accessing knowledge quickly and efficiently, providing a fast and accurate management of students' doubts, thus contributing to the flow of information and improving the quality of the teaching and learning process. The challenge of this improvement is a great challenge among all those involved in education, some with less time of service and others with more time going together.

Therefore, this research aimed to analyze, based on sociodemographic data, teachers' knowledge of technological tools in the teaching and learning process (see Figure 3).

In relation to the seniority in teaching, it is observed that most of the interviewees have more than 40 years of teaching, a fact that leads us to reflect on what has been the professional training of these teachers and what competencies they need to work with ICTs in teaching.
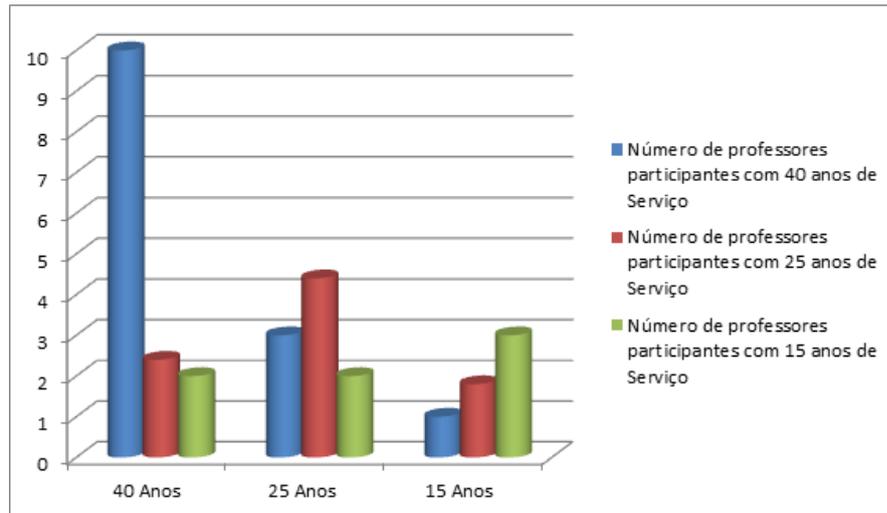
Figure 3. Seniority of teachers and directors of the Municipal Directorate of Education, sociodemographic data.
Note: Source: Own elaboration, 2021

It can still be seen that these teachers are on the way to retirement and are almost always resistant to the new technologies and active methodologies that are demanded today. In this sense, would they be willing to take training courses in computers, methodologies, and the use of information and communication technologies in the classroom, given that Information and Communication Technologies arrived to revolutionize education? This leads us to the results in Table 1.

Table 1 summarizes the main results of the questionnaire applied to the teachers of the Colégio Público Ekuikui II, Instituto Técnico de Saúde do Huambo - Extensão do Bailundo, Liceu Augusto Catchitiopololo Rei Ekuikui IV do Bailundo, belonging to the Municipal Directorate of Education and expressed in %, using a Likert scale.

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Table 1

Knowledge of the teachers interviewed about new digital communication and information technologies.

No.	Variables	Yes	%	No	%	I do not know	%	May be	%	Total
1	Have you heard about the use of NTICs in education?	5	25	10	75					15
2	Have you used active methodologies at least once in your classes?	3	25	10	70			1	5	15
3	During the teacher training course, did you have computer subjects with practical and theoretical classes?	2	10	10	75	3	15			15
4	Have you ever attended a workshop on the use of active methodologies in the classroom using ICTs?	2	20	13	80					15
5	Can the use of ICTs in the classroom and in school organization and management improve the teaching and learning process in the country's educational centers?	13	90	1	5	1	5			15
	Total:	25		44		4		1		75

Note: Source: Own elaboration, 2021

When analyzing the answers of the questionnaire made to the teachers and directors, it can be observed that 90% of the evaluated teachers present a level of dissatisfaction with the lack of continuous training and training seminars with active methodologies and Information and Communication Technologies. Among the participants, it was found that:

25% have ever heard of Information and Communication Technologies; there are three that have heard of ICTs. 20% have used it at least once in the classroom. 10% have had computer subjects in their VET courses, only 20% (2) of the teachers have attended seminars on the use of active methodologies in the classroom using ICTs.

These data point to the need to implement and start continuous education and training courses, from the governmental bases at the national, regional, and municipal

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levels that develop competencies that respond to the demands of the use of Information and Communication Technologies and active methodologies, which will allow training the employees of Bailundo's educational system, which will be reflected in the education quality of the students of all educational levels in the region, from primary, secondary, and higher education institutions.

The reality of the moment, created from the COVID-19 Pandemic, imposed on the world a redefinition of the ways of teaching, causing changes that included technologies as an essential didactic instrument for both the teacher and the student. This fact influenced the inclusion of technological tools used in distance classes to replace face-to-face classes, seeking the benefit of students, making the work of teachers possible. Indirectly, it has contributed to the emergence of the discourse of the use of technologies in the schools of the region, which can result in an improvement of the methods and consequently of the education of the Bailundo citizen. Technology has changed the teaching process all over the planet; however, on the other hand, traditional teaching methods (chalk, blackboard, textbooks, etc.) are no longer so attractive to today's students. According to (Tajra, 2012):

> The first great technological achievement was the book which, for years, has been the flagship of technology in education, and we have not seen that the book is the result of a technique. Why? Because we have already incorporated it in such a way that we don't even realize that it is a technological instrument. [...] technology is only technology when it is born after us. What existed before we were born is part of our lives in such a natural way that we don't even realize it is technology.

Discussion and conclusions

The interpretation of the percentages obtained with the quantitative instrument is related to the manifestations of the teachers in the focus groups, and it is possible to establish partnerships that include the experience of career teacher trainers in the area of Information and Communication Technology, with the perception of being good mentors and being part of the training that will be offered to the human resources of education in Bailundo.
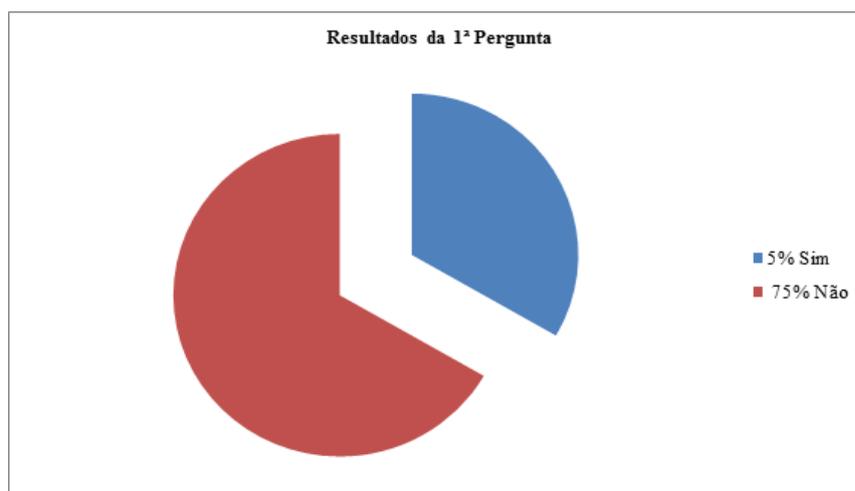
Figure 4. Results obtained in question 1.

Note: Source: Own, 2021

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The results of the first question show that 5% of the respondents have heard of the use of new information and communication technologies in education, and 75% have never heard of them, which denotes a great weakness and resistance in the use of technologies, a great and valuable tool in the digital era in Bailundo schools. The digital era has become one of the main challenges for teachers, who have to follow the rapid changes derived from the development of Information and Communication Technologies, as well as to insert them in their methodological practices.

For Brandão and Cavalcante (2016), it is not enough for the teacher to appropriate this vast variety of technological resources, but also to understand that educational technology is the innovative way to mediate knowledge, promoting learning situations that stimulate and challenge students, using the synergy of individuals in this technological era in favor of more creative and autonomous attitudes in the teaching and learning process.
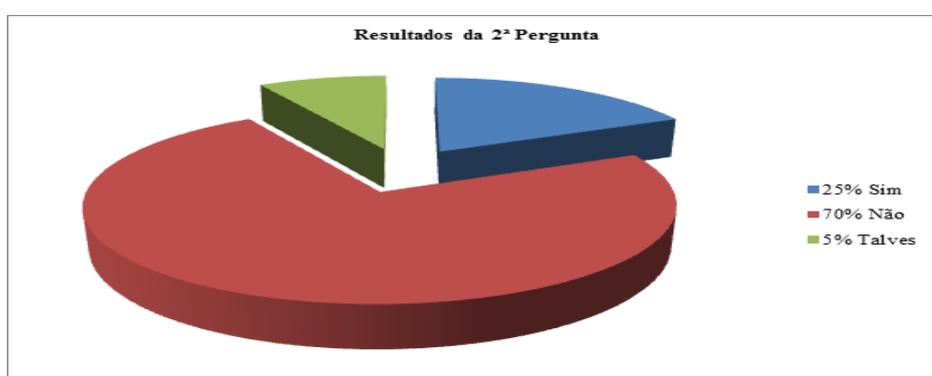

Figure 5. Results obtained in question *2*

Note: Source: Own elaboration, 2021

In the present graph, we have 25% of interviewees who have used active methodologies in their classes, 70% who have never used them, and 5% who say they have used them or not but did not know the name of the methodology, a fact that leads them to know with certainty whether they have used them or not. Figure 6: Representation of the results of question No. 3 of the interview questionnaire.
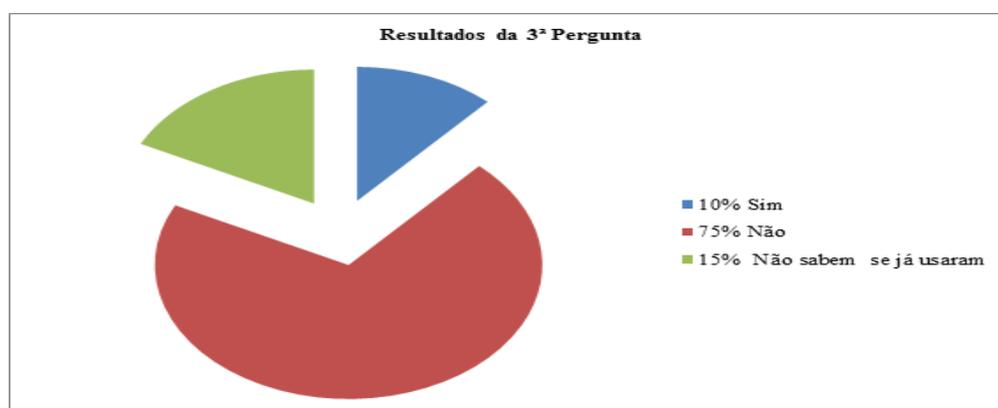

Figure 6: Results obtained in question 3

Note: Source: Own elaboration, 2021

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Figure 6 represents the results obtained in the survey applied to 15 teachers where 10% said yes; during their training they had Computer Science subjects with practical and theoretical classes, 75% did not have the discipline in their curriculum, and 15% did not know if they had it or not due to the time in which they did the training.
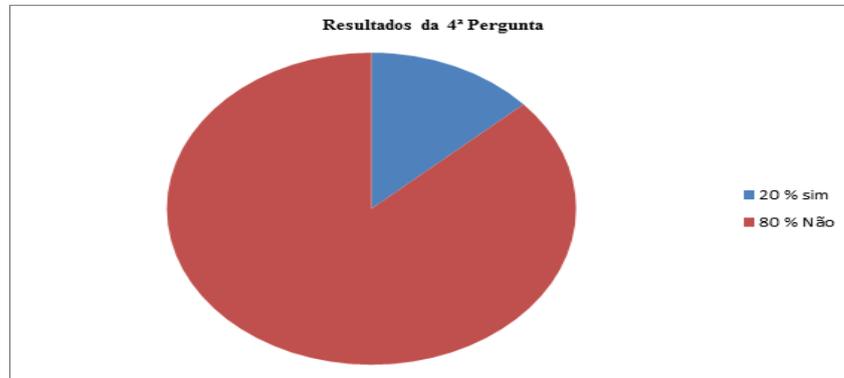

Figure 7. Results obtained in question *4*

Note: Source: Own elaboration, 2021

Figure 7 represents the results of the 4th question in which 80% of the survey participants stated that they had never participated in any workshop on the use of active methodologies in the classroom using ICTs, and 20% stated that they had already participated in gender workshops.
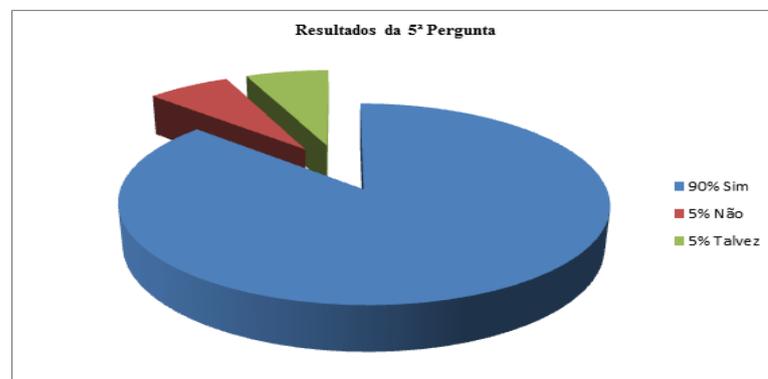

Figure 8. Results obtained in question *5*

Note: Source: Own elaboration, 2021

According to the results obtained in question 6, it can be seen that 90% of the teachers interviewed agree that the use of ICTs in the classroom and in School Organization and Management can improve the teaching and learning process in the country's schools, only 5% said no, and the remaining 5% expressed doubts about the use of ICTs in pedagogical practice.

The research data indicated that there is a percentage of teachers who already make use of new information and communication technologies as a pedagogical tool and to improve teaching strategies, but this occurs in a very restricted and slow way. This

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slowness in the insertion of ICTs in teaching may be a consequence of the precariousness and lack of availability of technological equipment and the *Internet* in most Angolan schools, as well as the lack of experience of teachers in handling computer equipment. In this direction, Chagas, (2010, p.16) explains:

> The teaching profession has always had a direct relationship with books, chalk, blackboard, and paper. In recent years, this has changed a lot. The teacher's universe of resources has expanded - he or she may not abandon the usual material, but today incorporates a direct relationship with technologies [...], bringing new perspectives to teaching.

It was observed that 75% have never heard of ICTs in education, 25% have; 70% have never used active methodologies in their classes, 25% already, 5% never knew because they have doubts; 75% of the teachers and principals during their training never had the discipline of Informatics, 10% have, 15% cannot say if they had or not; 80% of the teachers and principals have never participated in any training on active methodologies using ICTs, 20% have already done so; 90% of the respondents said yes, that the use of ICTs in the classroom and School Organization and Management can improve the teaching and learning process in the country's schools, 5% said no, another 5% said maybe. It should be noted that, based on these results, it is necessary to implement the continuing education project to increase the quality of the teaching and learning process needed in the coming years and to provide schools with computer equipment.

Therefore, when reference is made to quality school management, it refers to all those processes that make it possible for the school to achieve good learning outcomes for its students (Hendricks, 2000).

The results indicate that almost 85% of the population interviewed has no mastery of computers or the use of ICTs and their application in education, 10% have minimal mastery, and 5% are neutral. Thus, it can be concluded that the academic and professional training of school managers and teachers should be a main axis in the solution of these problems since the subordination of the qualitative method to the quantitative method allows relating the results of both investigations to obtain a more effective interpretation and mitigate the problems that afflict education in the municipality of Bailundo.

By analyzing the challenges of education in the 21st century in the Municipality of Bailundo, with focus on the current demands regarding the use of new information and communication technologies in the Education Sector of this region of Angola, in the proposal of continuous training of teachers and school managers using computer resources towards the upcoming challenges, it is concluded that Education cannot follow the institutional rules, curricula, and outdated pedagogical practices that do not correspond to the desires and needs of teachers and students, in the face of the undoubted transformations of today's world.

The teaching profession requires constant updating, knowledge, skills, scientific humility, and competencies that can only be obtained through academic, post-academic, and professional training, provided by professional and continuing education. In this sense, training should be understood as a permanent process of continuous education to provide the necessary support to the actors involved in the teaching and learning processes at all levels, contributing to the improvement in the quality of education and in the preparation of students and, consequently, in the professional valorization.

The results found in this study point to the urgent need to train and empower public school teachers in the region for these new times, hoping to improve pedagogical practice

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and the knowledge necessary to raise the level of learning obtained in the teaching-learning processes of students in schools, in general, with the updating both pedagogical and in the use of digital technologies, empowering their students so they can face the challenges of the digital era through computer classrooms, teachers who know how to work with the programs, active methodologies, ICTs. It is also expected within the school management that is updated and computerized and allows to register and update quickly and efficiently, documentation and legal procedures, as well as the work of monitoring and registration of the files of the students of the institutions, creating a system of monitoring and participation of the internal and external community, as well as the school through virtual environments and constituting the advancement of the educational system.

It should be explained that both the public and charter schools in Bailundo, as well as the teaching staff, carry out, as far as possible, actions to transform education and educational practice, taking advantage of the resources made available by the region's educational institutions, but there is still a long way to go to reach a level of both technological material and continuous teacher training and education that will allow the desired results to be obtained. To this end, it is necessary to invest in materials, technology and training courses as well as in teacher training. Thus, taking into account the results obtained, it is proposed to continue researching the issue and propose solutions.

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