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How to Improve Access to Educational Technology in Rural Areas

Research Article

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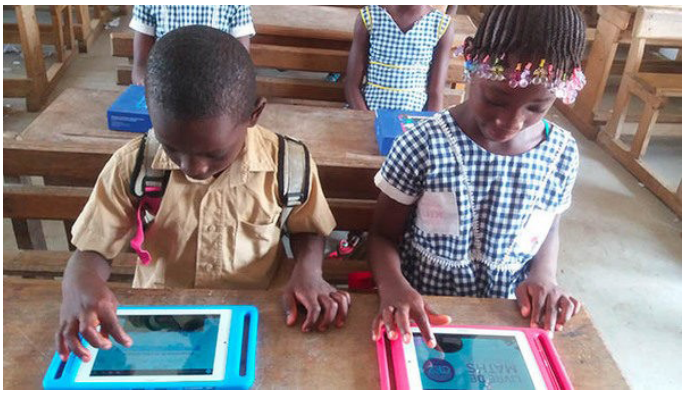
Introduction

The rapid development of Information and Communication Technologies (ICT) has considerably changed education worldwide. Cameroon is no exception, with the growing use of technological tools in the education sector. In this article, we'll look at the different ways in which educational technologies have transformed learning in Cameroon, and how reform in this sector is improving access to technology-based education. It is important to note that less than 75% of Cameroonians [1] own a smartphone and that internet access is limited to 37.8% of people [2], illustrating the need to facilitate access to educational technologies. This policy brief is divided into five sections, illustrating the benefits and challenges of deploying technologies in Cameroon, with relevant recommendations to facilitate the integration of ICT into educational establishment.



Introducing ICT in teaching

In recent years, the Cameroonian government has introduced several initiatives aimed at integrating ICT into the education sector. These include training programs for teachers to enable them to acquire the technical skills needed to effectively integrate ICT into their teaching. In addition, many of the country's schools and universities have been equipped with computers and Internet access, offering students the opportunity to access a wide variety of online educational resources [3].

Setting up digital learning platforms

Digital learning platforms play an essential role in the technological revolution in education in Cameroon [4,5]. They enable students to easily access online courses, upload and share documents or participate in online discussions [6]. These platforms also facilitate communication between teachers and students through instant messaging or videoconferencing tools. They therefore need to be promoted in the educational context.

The benefits of educational technologies for learning in Cameroon

The introduction of ICTs in Cameroon's education sector has many advantages for students and education professionals. These include:

Improved access to education: Thanks to educational technologies, students have easier and faster access to information and teaching resources. In particular, online courses offer greater flexibility to students [7], enabling them to follow distance learning courses while managing their own schedules. This

could improve productivity in the long term, and enable them to develop skills useful in the workplace.

Equal opportunities: With online resources, all students, whatever their social status or geographical location, can have access to the same learning opportunities.

Personalized learning: Digital tools make it possible to tailor teaching to the specific needs of each student. This makes learning more effective and better adapted to learners' individual abilities.

Developing digital skills: Using ICT for learning enables students to acquire and perfect their digital skills, which are essential in today's professional world.

Stimulating student engagement: The integration of interactive multimedia supports makes learning more interesting and stimulating, encouraging learners to be more involved and motivated in their training.

Facilitating collaboration: Educational technologies promote cooperation between students and teachers through simplified communication and easier document sharing, thus fostering a collaborative learning environment.

The challenges of deploying educational technologies in Cameroon

Despite the many advantages of educational technologies for learning, their integration still faces a number of obstacles in Cameroon, including:

- **Lack of adequate infrastructure:** Many Cameroonian schools lack reliable access to electricity and the Internet, which can limit opportunities to fully integrate ICT into teaching [8]. Lack of cooperation between international players hinders the development or integration of ICT in education. According to recent research by Magauche and Ru [9], secondary schools and universities lack access to the Internet and curricula adapted to promote a digital approach to students and teaching. National policy, though ambitious, requires educational technologies in the classroom.
- **Unequal access to educational technologies:** Some students does not have the financial means to equip themselves with the necessary technological tools, such as computers or smartphones [10]. In addition, Internet access may be limited in some rural areas of the country.
- **Teacher training:** To effectively integrate ICT into their teaching, teachers need to be trained in its use, and this still represents a major challenge for the Cameroonian education system [11].
- **Lack of appropriate teaching resources:** Most of the digital content available is in French or English, which can pose problems for students in rural areas who do not have a sufficient command of these languages [12].

Recommendations: ways of improving the integration of educational technologies in Cameroon

In order to maximize the impact of educational technologies on learning in Cameroon, various measures can be considered:

Improve infrastructure and Internet access: Government and private partners need to invest in the development of adequate infrastructure, notably by providing stable access to electricity and improving Internet coverage and quality throughout the country [13]. They must also democratize access to technological equipment. Incentive-based public policies could be put in place to facilitate student and institutional access to affordable technological tools.

Strengthen teacher training: Initial and in-service teacher training programs should systematically integrate the learning of digital skills, so that they master ICT and can use them effectively in their teaching.

Develop adapted and localized pedagogical content: The creation of online resources specifically designed for Cameroonian students, using local languages in particular, would make it possible to overcome language barriers and adapt content to the country's cultural realities.

Strengthen investment and governance for lifelong learning in the digital age: To achieve lifelong learning for all, adequate financial support is needed. Thus, promoting the digitization of lifelong learning requires increased overall investment in lifelong learning in the digital age. The government

should promote affordability and increase overall investment in this regard [14]. Individuals, employers and the wider community should also understand the long-term benefits of lifelong learning, and actively participate in and share the direct costs of lifelong learning. At the same time, more investment is needed in the digital infrastructure of lifelong learning.

Digital for lifelong learning. From the outset of digital transformation, the government should prioritize the use of digital tools and infrastructure to reduce unnecessary integration and improve the quality of training. Digital tools and infrastructures must be improved to reduce unnecessary integration and coordination costs.

Advancing digital education through international cooperation and standards alignment: International cooperation and policy dialogues on digital education can accelerate the development of digital education standards worldwide. Successful examples, such as Germany's support for the sharing of educational resources and the EU's encouragement of closer dialogue between education and training institutions, demonstrate the effectiveness of cooperation in achieving effective and inclusive digital education. In Cameroon, digital education is still in its infancy in primary education, and new digital learning paradigms need to be established. Inter-school cooperation and collective teaching research can be explored through the prism of international practices. The lens of international practices, and new digital technologies such as cloud-based learning, communication and collaboration. Cloud learning, communication and collaboration can be used to collaborate can be used to promote the global digitization of education. Cameroon should engage in various forms of international exchange and cooperation to explore digital education implementation experience and strategies for improving digital education, promoting higher education development.

Developing a digital skills model to foster the growth of digital talent in education digital talent in education Digitization: Several US states and regions have implemented international strategies that offer specialized learning opportunities, high-quality digital educational resources and technical assistance to teachers. Similarly, the Commission of the European Union has created teacher colleges and launched online self-reflection tools to help teachers assess their digital literacy strengths and weaknesses, and offer professional development opportunities for teachers and educators.

Cameroon should prioritize the development of digitally literate human resources by establishing and improving digital literacy assessment frameworks and systems, considering the needs of learners as digital natives, and integrating digital literacy development into education. In addition, it should create a comprehensive system of digital services.

Conclusion

In sum, educational technologies appear to be having a significant impact on learning in Cameroon. However, it is essential to address the various challenges hindering their full integration into the education system in order to maximize their positive effects and pave the way for an innovative and inclusive education for all Cameroonian learners.

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