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Photo:



- The sub-theme, time, room and the title of the session :
 - **Room:** Orange / Time 11.55 – 12.50
 - **Title of the session:** Assessing institutions and contexts for ODL

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(Steering an Education System Inclined to the Use of ICT and OER in Togo)

Abstract:

Technology tools and Open Educational Resources (OERs) impact on education systems all over the world. It is experimented upon and used differently in individual countries. In Togo, OER,

Information and Communication Technologies (ICTs) and Open Distance eLearning (ODEL) are introduced into education informally. ICT and/or OER integrating into educational system is a kind of curricular reform and it can be risky without amending the curriculum. One way of innovating education and training is to enhance teaching and learning through ICT and OERs. Though this stands as solution for quality education for all, sometimes, their implementation can shift into threats for the teaching and learning process instead of leveraging it. Many countries around the world have already experienced the dreadful introduction of ICT in classroom. In most of the cases, the wrong usage of technologies and the lack of its mastery may kill the pedagogy. Nevertheless, technology still steps forward with new gadgets and applications as one of the solutions for learner-centered pedagogy (TESSA-MOOC, 2017). As long as technologies are continually being adapted for education sakes, this article scrutinizes difficulties that teachers, teacher educators may face with ICT and OER using in general and particularly in Togo. It provides some approaches for a safe ICT and OERs use into teaching and learning process.

Key words: ICT, OER, Learner-centered pedagogy, curriculum, training, quality education.

Introduction

Education as key of sustainable development, is the the most researched sector worldwide. This confers the sector a kind of dynamism according to the goals it has to achieve across ages and spaces. It is highly sensitive so that its dysfunction impacts deeply on all a nation. Population's needs are continually and diversely increasing. As far as education remains the solution provider, decision makers in education try to take actions accordingly. This brings about a kind of an endless research of education quality. From pedagogy of contents to the pedagogy by objectives and nowadays, the pedagogy of competency-based and then mainly ICT, OER and OdeL. These three latter innovations namely ICT, OER and OdeL supposedly complementary, can be espoused or rejected by teachers in the very ordinary ways they respond to an innovation. According to Odden (1991) citing (Pressman and Wildvasky, 1973; Derthick, 1976), researches show that not only most educators show resistance toward innovations but also and very often, they do not know how to handle them. In the light of this fact, as technology is not running against education, however, a thorough study might be required beforehand to apprehend the targeted tools' added values to the curriculum and the whole system. In addition, this cannot be done without collaborating with teachers and teachers' educators while making decision accordingly. In permanent pursuance of quality education and its affordability for all, the use of technologies stands as solution. Understandably, lack of or insufficient teaching materials (UNESCO, 2016-b) are some severe fences militating against quality education. Emphasizing the necessity of having the teaching and learning materials to support 2030's education agenda, UNESCO highlights:

Education institutions and programmes should be adequately and equitably resourced, with safe, environment-friendly and easily accessible facilities; sufficient numbers of teachers and educators of quality using learner-centred active and collaborative pedagogical approaches; and books, other learning materials, open educational resources and technology that are

nondiscriminatory, learning conducive, learner friendly, context specific, cost effective and available to all learners – children, youth and adults (UNESCO, 2016).

In Togo, pupils cannot afford their personal books. The 2014 PASEC Report highlighted the impact of lack of teaching materials on pupils' skills in communication and in mathematics (PASEC, 2014)¹. OERs can be used to reduce this lack of teaching materials. In 2012 in Togo, in grade 2, there were three students for every reading textbook, as well as eight students for every mathematics textbook (UNESCO, 2016). Considering the world global development, the gap in Africa, especially in Togo, is significant. However, the experience with ICT and OER all over the world in education is very encouraging and to be followed. Having been aware of education concerns, Togo is making valuable efforts for its education system to be improved on, embracing ICTs, OERs and ODeL innovations through the project China Fund In Trust (CFIT)². However, for a sustainable education supported by technology, many challenges are to be faced, including the revision of curricula, electrification of schools,³ etc. This article supports the necessity to formalize technology use in education through a curricular reform.

Methodology:

This study is based on a literature review, researches from documents as well as personal work experience in the role of teacher educator and curriculum specialist who has participated in the implementation of many education policies in Togo. This methodology helps also to analyze the impacts of a current project named China Fund In Trust (CFIT) where the author is one of trainers in ICT and OERs use in basic and high education in Togo. Some data used in this study are from the author experience in seminars and from training sessions.

Policy makers, teachers, teacher educators, teachers' supervisors (inspectors) and learners are targeted in regard with new trends as ICT and OERs throughout this article.

Background: An Overview of ICT and OER in Togo

ICT in Togo

Togo was one of the first West African countries to engage in the use of ICT in the 1990s (Awokou, 2010). Text processing, information collection, information exchange, and computer servicing were the focus of the training curriculum.

Nevertheless, from 1992 to 2007, political instability unfortunately slowed down largely the momentum ICT was gaining. The government could no longer fund its promotion. However, private universities started to take over from where the government had left and carried out important and useful work. Access to ICT tools and the Internet have become a privilege according to their cost. The majority of teachers, educators, and trainers could not afford them

1 Togo is the first country in achieving in West Africa about 68% of education for all (EFA), but realizes lowest scores in reading and mathematics. This means that only EFA is achieved without the expected quality.

2 China Fund in Trust aims to foster ICT and OERs use by teacher educators for the period of 2017 and 2018 in Togo

3 There is no electricity infrastructure in schools in Togo, about 91% of schools are not equipped with electricity.

for education purposes. The department of Information Technology and Calculation (CIC) at the University of Lome started training students in 1988. Nevertheless, teaching and learning materials were difficult to be afford. Since 2009, the situation has evolved and some students can afford their own personal computer. CIC established a fruitful partnership with CISCO⁴, CVA⁵ and the Pan African e-Network⁶.

Togo was a very slow country to introduce technology in its education but now becomes engaged because, the requirements of the increasing development and needs of the society is often solved through ICT worldwide. At this stance, education has some requirements that ICT has to improve: critical thinking, generalist competencies, decision-making, handling of dynamic situations, working as a member of a team, and effective communication (UNESCO, 2002). For many years the AUF-Lomé (Francophone Universities Agency) has been offering a range of training in various domains that are not covered by existing institutions. Elsewhere, many people are making the choice of ODeL according to its flexibility with a job.

This paper provides some strategies to improve ICT use in education in the Togolese context. Actors in education use to participate in conferences worldwide, they finally are convinced that OER and ICT can solve some problems of the system.

The Use of ICT in Classrooms

In its early introduction into education, ICT was perceived as a threat. Although a few teacher educators had some knowledge in this regard, they never allowed teachers to use it in classroom as they could not foresee its implications on the education system. The control of the use of mobile phone by some pupils in classroom is a challenge for teachers as one of consequences of the lack of a curriculum framework that would guide the use of technology tools in classroom. Nevertheless, the Sectorial Plan of Education (PSE) which stands as a curriculum framework, mentions its use in classroom (PSE, 2010). No else document details how to handle It. However, teachers could hear of the added value that ICT brings in education around the world through the surrounding countries and media. Forbidding the use of ICT in classrooms in Togo during the previous years was both right and wrong. On one hand, this was right because educators could only supervise what they mastered. Moreover, in those days they were not enough ready to learn from some skilled teachers. In addition, the fear that ICT would pull down the whole system, prompted supervisors not to encourage ICT use in the classroom. Elsewhere, the risk to neglect handwriting especially in primary school arena, the uncertainty of electricity availability where up to 91% of schools in Togo are not electrified (UNESCO, 2016) drove teacher supervisors to ban the use of computer event in the courses' preparation. Some teachers worried to get engaged, some were just conservators. Furthermore, ICT tools and the adequate training are unaffordable. Despite this controversial situation, among teachers, there were some who would process their courses and use PowerPoint.

Nowadays as in the early days, the sole use of PowerPoint is not enough to make a class interactive, because as long as the learning is not learner-centered, the use of ICT or OER is not useful. ICT and OER are not naturally a guarantee to quality education. The way they are used

4 CCNA is CISCO Certified Network Associate; For the training and the p preparation du

5 African Virtual Center (CVA) open to teachers who want to share their course online. It is in partnership with four Indian Universities such as Madras, Delhi, Amity International and Birla Institute of Technology and Science (BITS).

6 Espresso Book Machine is a big printer that prints exactly a book bought on internet.

matters. Consequently, as many teacher educators do not use technologies, they are cautious and do not encourage classroom digitization.

On the other hand, it is wrong because forbidding the use of ICT today may limit the learner's capabilities and creativeness. In fact, education enhanced by ICT is not only for the teacher's interest or teacher educators but it is also for learners. Learners tend to be more self-taught and master ICT tools very quickly. They are even able to help teachers in manipulating ICT tools in classroom. This is why teacher educators have to be flexible and follow teachers' practices and learn with them from their practices. Whenever the teaching objectives could involve an ICT tool then where the pedagogical objectives remain the same, the teacher educators must be able to redirect any teacher to better pedagogy even when they do not master the appropriate ICT tool. Research indicates that teachers are sometime threatened by change, and conversely not impressed by change that appears to focus on what the technology can do rather than on learning (Lani & Hegarty, 2004). When a technology is introduced in a classroom for the first time, in most cases, whenever the teacher does not master it, too much focus is then put on the actual technology. The tool must be available in advance to enable the teacher to discover it, play with it, and manipulate it instead of the classroom constituting the only opportunity to interact with the given tool. Unfortunately, it is usually the case and the class is no longer learner-centered but technology centered. When the teacher is trying to master the tool in the classroom, the pedagogy slows down and he/she would have spent more time than usual on the same lesson; therefore, the quality expected disappears. In addition, the annual planning might not be covered at the end of the year. That is why more preparation and acceptable conditions of work is required for such innovations.

The pedagogy must be placed before the technology. This implies prior mastery of the pedagogy before enhancing it through ICT. When a technological tool enters the world of the classroom for the first time, in many countries, it is frequently the case that pedagogy does not feature when technology is considered. This occurred in Togo where the white board was introduced by the project "Sankore" in 2014. This project was quickly dropped due to the insufficiency of the mastery of the tool. This must challenge education stakeholders to re-think the relationship between ICT, teaching skills and required preparations (Watson, 2001). Whenever the technology tool takes over the pedagogy due to the lack of its mastery, it loses automatically its leverage.

Technologies have to be mastered by educators prior to implementation in classroom. Most of the time, educators never have sufficient time to master the tool before facing it in classroom. It is one of negative effects for innovative projects in developing countries. Very often, projects bring about the use of ICT in the education and they must be accomplished in well-defined period. If innovations are well planned by the government, they must not be implemented in hurry. Users must get acquainted thoroughly to all requirements needed to conduct properly the innovation. All these aforementioned situations raise the crucial issue of preparation and training. Teacher educators must keep themselves up to date instead of staying behind the times of innovations.

Technology-Enabled Approaches at University of Lomé

ICT is used variously by teachers and students in Lomé University, but since 2016, a new vision has been set by the project “e-government” which provides Wi-Fi Access Points (AP) all around the university to enable research by students and teachers as well. The leverage of this project is that most students use their mobile phone as a terminal. No significant infrastructure is deployed according to the increasing number of students. Only two public universities for the whole of Togo. The biggest in Lomé at the South was created in 1970, and the second (smaller) in Kara at the North is created in 1999. Very often, during classes, many students were outside the classrooms. They used only to content themselves by hearing the lecturer’s voice. Having adequate rooms for classes was a recurrent challenge from 2000 to 2016 when some important changes occurred. However, the crowded number of students is driving the administration of both universities to seek for alternatives such as Multiple Choice Questions (MCQ) evaluation for automatic marking by a specific scanner and distance learning. Lecturers who experiment with MCQ are satisfied because they could mark over thousand students in two days instead of the over a whole month with hand.

As the infrastructures do not match the increasing number of students, some devoted lecturers have started putting their courses on Moodle for the coming years. Furthermore, the increasing number of students still impact on the available resources. The library also remains the same though some new books were made available in 2016. Thanks also to internet, which helps most students to gather the great part of their research. The availability of free Wi-Fi for students all over the campus of Lomé from December 2016 marks a decisive turning point in the march toward the recognition of the benefits of ICT for education.

To resolve definitely the lack of books at the university, the library is preparing to host a Book Machine Espresso⁷, which will facilitate access to new and relevant books. When the Book Machine Espresso, is connected to Internet, I will print exactly in very a few minutes the number of books bought in stores online. Of course, a previous agreement with the home of edition or sellers had to be made on the basis of exchange of payment of one dollar or two etc. (very low cost). In the previous years, some students could not register before the deadline set by both universities (Lomé and Kara). This has forced the administration to opt for online registration since 2015. Definitely, ICT is one of the last resorts for problem solving in education.

Training Sessions to Support OER and the Use of ICT in Education Framework

One main action to consider is educators’ training that must not be only for the sake of training. All training in ICT and OER use must have a specific goal, a specific problem to solve in the education system. Therefore, in Togo, few teacher educators, during their training, were introduced a computer. They had some practice at word processing and internet research. They were also briefly introduced to OERs. The most appropriate and useful OER they have identified is the Teacher Education in Sub Saharan Africa (TESSA⁸). It is simple and almost ready to be used. Its key resources are relevant to sound teaching practice. All the five domains such as Literacy, Numeracy, Life skills, Social History and Arts and Sciences are all based on active pedagogy.

⁷ Espresso Book Machine is a big printer that prints exactly a book bought on internet.

⁸ Further discovery on TESSA OER is available on : www.tessafrica.net

These resources are chiefly designed by a consortium of African teacher educators to help train primary teachers. It is up to each of them to integrate ICT tools to increase learner-centered pedagogy because TESSA resources are already based on active pedagogy. Training sessions have to be organized for teacher educators. Both face-to-face sessions and distance accompaniment are necessary to enhance teacher educators' practices based on ICT and OER. The mastery of these will definitely encourage distance learning, because the number of students-teachers is increasing. This distance learning can also constitute a solution to the crowded universities of Lomé and Kara⁹.

OER for Student-Teachers, Teacher Supervisors' Viewpoints and Missions

Student-teachers are globally initiated to the use of ICT during their training. Some of them are skilled enough before being engaged as students-teacher. Finally, at the end of their training, most of them are eager to use ICT in classroom. This makes their elder colleagues feel bad, because they think they are inferior to them. They become reticent to approach newly trained teachers. Elsewhere, most teacher supervisors also are against the use of ICT because student-teachers pay too much attention to the tool instead of the pedagogy. In addition, no legal framework is elaborated for the use of ICT in classroom.

This should not normally be a concern if teacher supervisors were trained. They would have to know that ICT tools come just to emphasize the learner-centered pedagogy prescribed. They are not gatekeepers of knowledge and teacher supervisors have to show enough humility when teachers bring them acquainted to the benefits of ICT in classroom. This can create an interesting discussion and interaction between the supervisor and the teacher. Showing of much flexibility on behalf of teacher supervisors and other elder teachers would bring about more facilities to steer ICT innovation in classrooms. When a teacher brings ICT in his classroom, he/she would have made sure that it adds something new to his/her pedagogy. Most teacher supervisors are conservators. They force teachers to handwrite lessons during their preparation every year as they did in the old days. In fact, word processing one's lessons makes all potential updates easier, any time. However, some teachers believe that when a primary teacher gets into the habit of processing his/her courses, his/her skills in handwriting would become poor. Now as far as basic education is concerned, handwriting skills have to be developed thoroughly. This is one of the reasons why curricula have to be revisited in order to set clear instructions (for example, how much time is devoted in school for keyboarding and handwriting) for teachers and teacher educators. It is stated in the PSE (page 9) that the current curricula can be enhanced by ICT, but further information has not been provided for its implementation. This means that the writers of this policy, though they are aware of the positive impact of ICT on education, cannot amend curricula for effective ICT use in classrooms. These amendments require curriculum specialists for adequate ICT integration in the syllabus. This phase never took place and is neglected in the whole basic and secondary education. Related research highlight that "there was a high correlation between handwriting and keyboarding speed and handwriting speed was consistently faster than keyboarding speed across all ages. Researches showed that children's compositional quality was superior in the handwritten scripts as opposed to the keyboarded scripts" (Marr et al., 2001; Connelly et al., 2007). Though some scholars have proven that there is an added value coupling keyboarding and handwriting in basic education, education decisional instances have to

⁹ Lomé is the capital of Togo, and Kara is the second big town.

give their viewpoint that fit the most the government expectations. As far as learners are concerned, ICT has just to increase the level of learner-centered pedagogy, creating more interactivity amongst learners and between learners and the teacher) in the classroom. The purpose of education should not be lost. Learner-centered pedagogy is the one that gets more involved each learner to the learning process.

As the TESSA-MOOC (December 2017), emphasized, an educator has to know if his/her current style of teaching promotes learner-centered education. Students are the focus but they are not in charge, the teacher is in charge, but not necessarily in an authoritarian way. This is why during students-teacher training, they have to be taught how to recognize if their teaching is learner-centered. Ultimately, the teacher decides which activities to do and whether to keep to their plan. However, this does not mean to say they will not change their plan or take on a suggestion from the students if it will support or enhance learning. Some students will need more help than others will. A good learner-centered teacher will strive to make sure that all have the opportunity to learn (Stutchbury, 2017).

Some software like Sankore, ScenariChain, Moodle¹⁰ and so on, enable personalized and interactive learning. Software transform the teaching-learning process into an exchange session between the teacher and the learners. It drives learners, even the shiest to the teaching objectives. It teases the learner to interact with the software and discover himself/herself what must be learnt. However, a good mastery of the tool is required to reproduce exactly classroom interactivity. This can be implemented in face-to-face or distance learning. The learning centered pedagogy then requires learner-centered instructions (Froyd et al, 2010). It helps the learner to operate in a group or alone on the learning materials. Learning centered pedagogy is also related to the transition in the focus of instructions and assessments from teaching to learning (Huba et al. 2000).

Furthermore, resources are needed as OERs. Some of them are ready to be used, but most of the time they have to be adapted. This adaptation embodies also pedagogical scenario creation. Most software (from those cited above) can help to design courses with relevance. Therefore, ICT use in education can be placed at different level of the teaching and learning process.

Today, learners (primary school, secondary school, tertiary education and informal education) are very mobile. The freedom to learn what, when, where and how one wants to learn must be compromised. This freedom is made possible through ICT and OERs. Any learner must have the possibility to learn. This is a direct solution for quality Education For All (EFA). Education policy makers have to seize this opportunity by reinforcing all educators' capacity in ICT and the use of OERs through the CFIT project. CFIT's mission is to enhance quality education for all Togolese by reinforcing all training centers in Togo through ICT and OERs. Notwithstanding, the promise made in the PSE is not embodied in the syllabus. Deeper changes have to be made with regard to curricula in order to carry out the vision of CFIT.

It is therefore important to elaborate a national curriculum framework. A national curriculum framework is a mirror that must guide any curriculum elaboration (including all domains of education and training) in a given country. This document would not only add and allow ICT and

¹⁰ Sankoré, ScenariChain, Moodle are softwares to design courses.

OER use in classroom but also clarify conditions of its use. It would express the nation's global vision, which is an important overarching statement. It would be elaborated with guidance and inspiration to all users, curriculum designers and all education stakeholders (IBE-UNESCO, 2017). On this global basis, specific curricula could be developed according to levels of teaching and training. The main challenges are to pick out the system shortcomings and work to identify the adequate ICT tool. The use of ICT and OERs must improve on the limits of the educational system.

On this basis, the main training institutions, which have to sustain the use of technology tools and OERs in education are students-teachers training centers where teacher educators have a big role to play. One of the challenges today remains how a nation can deliver quality education to its citizens through ICTs? ICT tools, Internet connection, electricity have to be made available.

Findings :

Technology and pedagogy are two different entities. In a classroom, pedagogy is required but not necessarily technology. Technology cannot stand alone in classroom without been coupled with pedagogy. Today, learners do not necessarily need a classroom. ICT tools can be used to reproduce exact realities and interactivities as in classic classroom. There, the technology is no more alone but, there is a pedagogy behind it with all feedback that learner could have from the teacher. This means that the teacher has to foresee and anticipate all difficulties learner may have and provide with consequent feedback. The association of pedagogy and technology boosts the teaching-learning process. The optimization of this combination requires the mastery of the ICT tool and the pedagogy. Invariably, education could then not be enhanced by ICT without pedagogy. It is then a challenge to combine technology and pedagogy in classrooms and make sure that the ICT adds values. This challenge also applies to the use of OERs where the teacher has to search, select and adapt an appropriate OER. The more an ICT tool is mastered and the more an OER is well adapted, the easier the teaching will become in the classroom.

The experience with TESSA OERs with teacher educators in Togo provides confidence about the opportunity to find and adapt these OERs to primary education purposes. For the use by teachers in classroom, TESSA OERs are well-organized and explicitly linked to the current curriculum.

However, the challenge is for teacher educators to model pedagogy coupled with the change in culture, which required the government and teacher educators to facilitate its implementation. Teacher educators as experts have to empower teachers rather than see them as 'empty vessels' to be filled up. According to the innovative nature of ICT-enabled projects, leaders in education must have a keen understanding of the innovation process, identify the corresponding requirements for successful adoption, and harmonize plans and actions consequently (Tinio, 2007).

Recommendations

As recommendations that stem out of this report, this article points out:

- the importance to national policy makers in education to rethink the curricula in regard to ICT, OERs and distance learning if this are not yet in process. This action should be followed by training session accordingly.
- the devising of strategies by the education supervisors to maintain control of the resources that teachers use. For example, creating teachers' and teacher-supervisors' network for good practice sharing in technology. In addition, encourage a real collaboration in classrooms if necessary with skilled students in technology. Without this collaboration, the use of technology may fail.
- that technology tools must not only be available in schools but also affordable for teachers and anyone involved in education.
- the creation of a service to monitor technological implication in education

Discussion

Problems related to quality education worldwide make technology inescapable today in solving them. However, as technology cannot always robotically run itself; and in the vein of keeping the teaching and learning processes alive, skilled and trained educators continue to be needed. It is a good idea to have education supported by technology nevertheless, the process has to be directed and controlled otherwise, it can become a real threat for the system.

Conclusion

Today, most learners have their mobile phone. It is no use fighting desperately the use of ICT in classroom where it can valuably contribute to the teaching-learning process. In fact, the important thing to do is the mastery of the tools and their availability. Problems related to large classes and qualified teachers can be solved especially in Sub Saharan Africa with ICT and OER. The achievement of this vision is to make education available for anyone regardless of his/her geographic position, economic stance or disability. Therefore, it is crucial to assess continually what works and what does not work in the use of OERs and technologies for education purposes while understanding that the use of a type of technology in education must correspond to a specific problem solving. It is only with this vision that technologies can be efficiently used. When ICT is proposed where no need is identified or expressed, its use becomes irrelevant, cumbersome and useless. The lack of a framework that instructs the use of ICT and OER is perceived as a barrier to the achievement of quality pedagogy and content.

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Biography

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