

The use of ICTs in the Cameroonian school system: A case study of some primary and secondary schools in Yaoundé

Abass Ngoungouo
University of Yaoundé I, Republic of Cameroon

ABSTRACT

This paper presents the results of a study carried out on some primary and secondary schools of Yaoundé, Republic of Cameroon. The said study aimed at analyzing and evaluating the use of ICTs by teachers in the Cameroonian school system. More precisely, it sought to identify the types of ICTs used by teachers, to evaluate the state of equipment of those schools and the state of training of the teachers in the use of ICTs in teaching. Moreover, it sought to bring out the different uses of ICTs in and during teaching, the results of their use, the difficulties encountered by the teachers on the field, and, considering their multiple advantages, (Béché 2012; Lebrun 2002), to propose the measures for their promotion in the Cameroonian school system.

Keywords: *ICTs; teaching; school system; Cameroonian schools; Primary schools; Secondary schools;*

INTRODUCTION

The information and communication technologies (ICTs), as can be observed elsewhere, have touched and influenced the life of people. In fact, they have imposed their presence into the human daily life so much so that the latter cannot function without them. They are present in communication, finance, health sciences, music, cinema, architecture, cuisine, sport and education, to name just a few domains. As mentioned above, this revolution touches the domain of education which is the center of this work. In this precise domain, ICTs play a very important role as they ease the teachers' duty (typing, content multiplication, automatic examinations, marking and corrections, research and others). Furthermore, they contribute to the self-training of learners through the same means mentioned above. Most importantly, they have improved the traditional teaching methods through several Learning Management Systems (LMS) and Massive Open Online Courses (MOOCs), the latter being much adapted to the present day educative reality. This article is divided into three main sections, namely the aims and the methodology of the study, the results of the study, and the recommendations for a better promotion and management of ICTs in the Cameroonian school system.

AIMS AND METHODOLOGY

Aims of the study

The general aim of this study was to present the state of use of ICTs in the Cameroonian school system. This led to the identification of the types of ICTs used for and during teaching, the state of equipment of schools and training of teachers, the impacts of their use in teaching, and the difficulties encountered by the teachers, all these relevant to the formulation of recommendations for the amelioration of the current situation.

Methodology

This study was carried on in October 2015 at ten (10) schools in Yaoundé, the Capital City of the Republic of Cameroon. Four (04) of these schools are primary schools, namely the Government Primary School of the Administrative Center, Yaoundé, the Government Primary School of Biyem-assi, Yaoundé, AMIHDAF Bilingual School of Ngousso, Yaoundé, and Eden Education School Nkolbisson, Yaoundé. The choice of the two public schools can be justified by the fact that the first one is situated in the heart of the city and is always cited as a reference in the public primary education in Cameroon. As for the second one, it is almost the opposed version of the first one, thus, establishes equity in the study. As far as the two private primary schools are concerned, the one functions in the Anglo-Saxon system (Eden Nkolbisson), while the other one functions in the bilingual (English-French) system (AMIHDAF Ngousso).

As far as the secondary schools are concerned, they are private (Eden College of Commerce, Arts, Science and Technology, Nkolbisson), renowned (Collège François Xavier Vogt), public and renowned (Lycée Général Leclerc), less renowned (Government High School Nkol-Eton and Government High School Ngoa-Ekelle), public and bilingual (Government Bilingual High School Mendong and Government Bilingual High School Emana).

In order to obtain reliable data, a questionnaire was elaborated and submitted to twenty-one teachers of various disciplines from those selected schools, as summarized and presented in the table below.

Tables 1: Information on the informants

N°	Schools	Number of informants	Classes/Disciplines taught
1	AMIHDAF, Ngousso	02	Class 6
2	Eden Education, Nkolbisson	02	Class 6
3	GBPS Administrative Center	02	CM ₂ ¹
4	GBPS Biyem-assi	02	CM ₂
5	Lycée Général Leclerc de Yaoundé	03	National Languages and Cultures ; Biology ; Geography
6	GHS Ngoa-Ekelle	03	French ; Geography
7	GBHS Emana	01	English-French ;
8	GBHS Mendong	01	Physics
9	GHSNkol-Eton	01	English-French
10	ECCAST de Nkolbisson	04	French ; Mathematics ; Geography ; Physics

The said questionnaire was made up of many sections among which the personal identification of the informants and their trainings in teaching with ICTs, the type of ICTs used in teaching and their various uses, the results obtained through this exercise, and the difficulties they encounter on the field.

In addition to the use of the questionnaire, there was need to use a semi-structured interview especially in the primary schools. In other words, all the primary school teachers (eight) who were given the questionnaire also underwent interview, so that they could better understand the requested information. This method helped orientate the informants' data towards the objectives of the study, for reliable results.

RESULTS OF THE STUDY

The results of this study were classified into five (05) groups in accordance with the pre-established aims. These are namely the types of ICTs used in teaching and their usage typology (Ndibnu-Messina et al 2014), the state of training of teachers and equipment of schools, the results obtain through the use of ICTs in teaching, the difficulties encountered on the field, and recommendations for the promotion of ICTs in the Cameroonian school system.

Types of ICTs and their various uses

The domain of ICTs comprises several tools including calculators, telephones, tablets, computers, printers, dictaphones, cameras, overhead projectors, interactive white boards, data storage tools (CD, flash drivers...), and online learning platforms (LMS and MOOC, etc.).

On the one hand, the results concerning the ICTs used by teachers in those selected schools revealed that the tools used in teaching are calculators and telephones (100% of teachers), computers and data storage tools (85% teachers), projectors (23% of teachers), dictaphones (19% of teachers), LMS and MOOC (09%).

On the other hand, the results on their various uses show that these ICTs are used for lessons preparation (computers, telephones, calculators, internet at large, etc.), for lessons delivery (projectors, computers, calculators), for examination and marking, in labs and for distraction. Lessons preparation involves typing, printing, research (done by 80.95% of teachers) and various calculations (100% of teachers). Lessons delivery on its part involves projection (23% of teachers), calculations during teaching (61% of teachers), and ICTs praxis (90.47% of teachers). As far as examination and marking are concerned, they involve question paper production (61% of teachers), calculations (100% of teachers), report cards filling (61% of teachers), and distraction (4.7% of teachers), i-e some teachers of the primary schools use their phones to play music for their pupils.

Comments

The results above show that calculators, telephones, computers and data storage tools are the most used by the teachers, while projectors, dictaphones and LMS are the least used. As far as the interactive white boards are concerned, they are unavailable and thus, not used by the informants.

As far as the various uses of ICTs are concerned, the teachers of the two public primary schools do not use typing and multiplication tools for lessons preparation. Their lessons are prepared and written by hand. In the same vein, they carry out research neither on the internet nor on other useful programs, i-e they teach only what is found in the teachers' books. As far as lesson delivery is concerned, the 23% representing lessons projections concern only the teaching of scientific disciplines (biology, physics and mathematics). As for calculation during teaching, the teachers of the GPS Biyem-assi do not use calculators, as they avoid familiarizing the students with this method which eventually, according to them, would weaken the students' brains. Furthermore, even the ICTs lessons are theoretical in this school. For examination and paper marking, the informants from the two public schools do not use any adapted tool. Here, questions are written on the boards and the marks filled by hands in the report cards, due to the non-availability of tools. Finally, a teacher of AMIHDAF Ngouosso uses music in her phone for distraction of her pupils.

State of teachers training and school equipment

State of teachers training

ICTs are so varied that each of them should be well studied and mastered for a good use and for positive results on the learners' performance. This study sought to know whether teachers are trained in using ICTs for teaching purposes. The results revealed that only 14.28% of the informants are trained, while 85.75% are not. More precisely, only 3 out of 21 teachers in this study are trained in using ICTs for teaching. The three teachers had received training on internet-based research, online learning platforms, course projections and the use of computers on their own initiatives. Their colleagues who are not trained wish to be trained too.

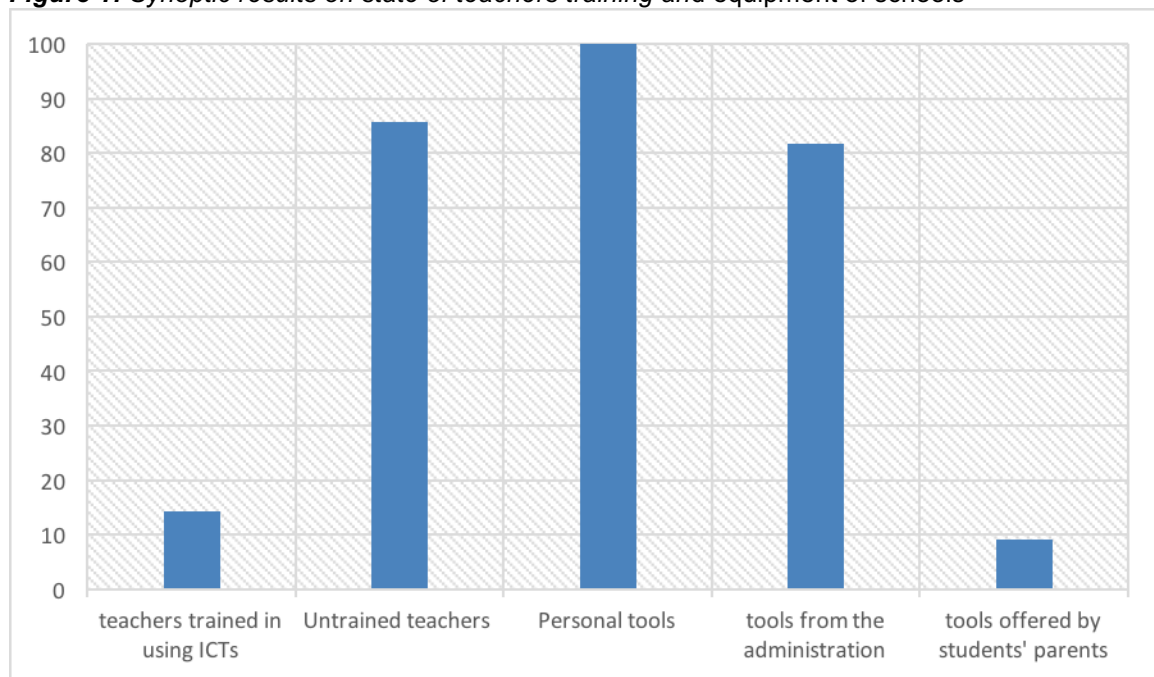
State of equipment of schools

To obtain reliable data from the informants, they were asked about the origin of the tools they use in teaching. Their answers revealed that 100% of them use their personal tools for teaching, except LMS which is provided by the school administration. They also revealed that 81.8% of schools are equipped (precisely with computers and printers) by the administration, while 9.09 are equipped with computers by the parents of the students.

Comments

The results of the study show that very few teachers are trained in using ICTs for teaching purposes, and the training some have received concerns mostly typing. Only 1 teacher of Lycée Général Leclerc is trained on LMS (Moodle and Claroline). The 87.72% of untrained teachers use the tools either by intuition or have been trained on the job.

Figure 1: Synoptic results on state of teachers training and equipment of schools



As far as the state of equipment of school is concerned, teachers use mostly their personal tools (computers, tablets, data storage tools, internet, etc.) for teaching. Out of the GPS Biyem-assi which has been equipped with two (02) computers by the learners' parents, the rest of the schools are equipped with few computers, while others have multimedia rooms (AMIHDAF Ngoouso, Lycée Général Leclerc, Collège Vogt, GHS Nkol-Eton, GHS Ngoa-Ekelle, GHS

Mendong, and GBHS Emana). It has been observed however that private secondary schools are better equipped than public ones. Figure 1 shows a synoptic view of the abovementioned results.

Outcome of the use of ICTs in teaching and difficulties encountered

Outcome of the use of ICTs in teaching

Informants have been asked to say whether the results from the use of ICTs in teaching are satisfactory or not. In fact, studies in this vein (Béché 2012, Djeumeni 2010, Nkelifack et al 2012, Tabi 2000) have shown the importance of this exercise on the students' performance in school. The results revealed that 100% of teachers are satisfied with the students' performance. Moreover, they mentioned that students are really interested in courses taught using ICTs. Students like and even request that their courses be projected, and show significant skills in manipulating computers.

Difficulties encountered

Teachers have raised several issues that make teaching with ICTs difficult, prominent of which are the lack of training, the insufficiency of equipment, and the inadequate working conditions. In fact, as mentioned above, very few teachers are trained in using ICTs for teaching purposes (only 14.28%). This means that those teaching without particular training are well represented, and this would be an important handicap for the students' performance. This is observed on the field with teachers from the GPS Biyem-assi where the two computers offered by the students' parents are unused and stocked in an office, because none of the teachers are trained on their use. Here, even ICTs lessons are theoretical.

As far as the insufficiency of tools is concerned, statistics above show that teachers use mostly their personal tools. The case of the GPS Biyem-assi justifies this claim. At the moment this study was being carried on, only two computers offered by the students' parents were available, to be used by all the students of the school (about 500 students). In private schools, although there are multimedia classrooms, the number of computers is still unsatisfactory.

Finally, as far as the inadequate working conditions are concerned, classes have too many students in almost all of the public schools. In fact, there are some classes with more than 150 students. Thus, there are many difficulties to manage and satisfy all the students given that access to laboratories is barely effective in these situations. Moreover, teaching rooms do not have electricity supply except in few private schools. This situation is not favorable to the use of projectors. In the same vein, there is lack of maintenance of existing tools, some of which do not work or are outdated. Finally, students are not always obedient to their teachers. In fact, there are situations where some of them would refuse to allow others use of the available tools, while some of them would use the tools for their personal reasons. These difficulties have implied some recommendations for a better promotion of the use of ICTs in teaching in the Cameroonian school system.

RECOMMENDATIONS

In order to assure a good use and management of ICTs in the Cameroonian school system, some measures should be taken at many levels.

At the level of the families, children should be familiarized with ICTs at their young age through educative games and computers. This however should respect particular rules to be established by parents in order for the children not to lose their objectives and use the tools for other purposes.

At the level of the schools, all the teaching rooms should be supplied with electricity so that the teachers could use all the existing tools every time and everywhere they are. Furthermore, the number of students in classrooms should be reduced. This could be through the constructions of new classrooms and the recruitment of many other teachers. This would help control the activities carried on by students.

At the national level, teachers should be trained and permanently recycled on teaching with ICTs. Training should include the use of computers, internet, and projectors, among others. In fact, very few teachers are trained, meanwhile the use of ICTs in the teaching exercises goes crescendo. In this line, all the schools should be equipped with teaching tools (computers, projectors, interactive white boards among others), and maintenance of the existing ones should also be assured.

CONCLUSION

From this study, it has been established that the use of ICTs in the Cameroonian school system, at the primary and secondary levels is still at a very low stage. Much effort is being done by the private schools wherein the number of students per classrooms is acceptable, contrary to the public schools wherein students are too many. It has been revealed that low equipment, the lack of training for the teachers and the inadequate working conditions are the main reasons for this situation. The most used tools in the schools are computers, telephones and calculators, while projectors and interactive white boards are the least used. It has also been captured that ICTs are used for lessons preparation (typing, printing, multiplication, research etc.), for lessons delivery, for examination and paper marking. For an effective use of ICTs in teaching in the Cameroonian schools, emphasis should be laid on teacher training and recycling, on the equipment of schools, on the amelioration of teaching conditions and on the putting in place of prizes as recognition to both the outstanding teachers and students, in order to encourage them invest more on this issue. It should be mentioned that this study was carried out in an urban zone, which suggests that the situation may be worse in rural zones. Forthcoming research thereabout would bring out much information thereon.

REFERENCES

- Djeumeni, M. 2010, "Les pratiques pédagogiques des enseignants avec les TIC au Cameroun entre politiques publiques et dispositifs techno-pédagogiques ; compétences des enseignants et compétences des apprenants ; pratiques publiques et pratiques privées. *Education*, Université René Descartes, Paris V.
- Nkenlifack, Nangue, Demsong&Tchokomkoa, 2012. "Approche de modernisation de l'enseignement des langues et cultures nationales du Cameroun à l'aide des TIC". *Revue Canadienne de l'apprentissage de la technologie* 38 (2).
- Béché, 2012. "Le rôle de l'ordinateur dans le travail scolaire des apprenants : opinions des élèves du Lycée Général Leclerc de Yaoundé (Cameroun)". *Clément Dili Pal'i (Ed.) Langues, littérature et éducation. De la politique des savoirs endogènes aux mutations sociales*, L'Harmattan, Paris, pp 222-243.
- Ndibnu-Messina J. & Nouatcha N, 2014. "Usage des TIC, développement, et extension des compétences professionnelles chez les enseignants en formation initiale au Département d'Informatique et de Technologies Educatives de l'ENS de l'Université de Yaoundé I". *Infrantice.net*, 8.

Tabi, J. 2000. "Les politiques linguistiques au Cameroun : essai d'aménagement linguistique".
Karthala, Paris.

Lebrun, M. 2002, "Des technologies pour enseigner et apprendre". *De Boeck*, 2, Paris.

Copyright for articles published in this journal is retained by the authors, with first publication rights granted to the journal. By virtue of their appearance in this open access journal, articles are free to use, with proper attribution, in educational and other non-commercial settings.

Original article at: <http://ijedict.dec.uwi.edu/viewarticle.php?id=2230>

ⁱCM₂ is the abbreviation of *Cours Moyen Deuxième année*, a class in the Francophone school system which is the equivalent of Class 6 in the Anglo-Saxon system ;