ARE THE RURAL SCHOOLS OF THE DEMOCRATIC REPUBLIC OF CONGO READY FOR THE $100 LAPTOP?

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ABSTRACT
The situation of schools in the Democratic Republic of Congo in matters concerning new information and communication technologies remains alarming. Given the primary role of these technologies in teaching and learning, as well as the concern of giving Congolese rural schools access to these tools, considering the problems of lack of electricity, telephones, ventilation, the cost of computer equipment, etc. we propose the following strategies which may facilitate the introduction, access and effective use of such educational tools.

Addressing these problems and through a commitment to the use of ICT in rural schools, the new $100 Laptop, proposed by MIT, appears to be the answer to many of the issues. The cost of the laptop seems to be affordable and it can solve the issue of the lack of ICT equipment and overcome the problem of the lack of electricity, but it is not so straightforward. It is true that these laptops can help to solve the ICT problems being faced in the educational sector. However, even at the seemingly affordable cost of $100, this is still expensive in some local economies. In a country such as Congo, where teachers receive less than $100 for a monthly salary, it becomes improbable that the people or the Department of Education can afford this financial outlay.

Key words*: rural schools, ICT, $100 laptop, strategies*

I. INTRODUCTION

At a time when the situation in certain parts of the world demands an evaluation of the effective use of new technologies, the people of the world are all talking about the $100 laptop. This $100 laptop provides high quality ICT for developing countries however; the Democratic Republic of Congo is still not yet in a situation to be able to reach such goals. In fact, the campaigns of ICT and the training of teachers in matters of new information and communication technologies among Congolese society in general and the rural schools in particular, have never truly begun. This exemplifies certain ignorance and even technophobia teachers and students possess towards these new tools. Some teachers living in large centres have the privilege of surfing the internet, as well as having an email account, both of which can be considered a luxury, given the high cost of access to the internet.

At present, the relationship in the Democratic Republic of Congo between new information and communication technologies and its actual application remains the domain of this particular field's researchers, who are becoming conscious of the possible role new technologies have in the learning of students. On the other hand, we are aware of the negative influence the quick expansion of these means of communications have on the progression of certain courses. This was illustrated when one student declared not knowing of a single class in which students did not check their emails at least once during class hours (William Colgin, 2005).

We shall attempt to analyse the present situation of rural schools in the Democratic Republic of Congo, as well as propose certain suitable solutions to ease the introduction of new information and communication technologies in general and the possibilities of the introduction of the $100 laptop in Congolese rural schools.

With respect to the $100 laptop, we hope also that Congo can cooperate with such international organisations as UNESCO, MIT media Lab, and the World Bank in the way to solve problems of buying those very high tech tools, to develop the new area of new technologies in rural schools. However, Congo should take on the responsibility to organise the construction of school buildings and equip them with desk, stools, doors, windows, etc. In our opinion, once these new technologies in general, and the $100 laptop in particular, are effectively introduced and used, a great number of problems plaguing Congolese education will be resolved.

II. CONGOLESE RURAL EDUCATION CONDITIONS

-Kindergarten

Kindergarten teaching in the Democratic Republic of Congo is characterised as follows: the difficulty of controlling this sector following the rapid development of kindergartens in large rural centres; the fate of the national languages in kindergartens in the face of the preference of parents for French language; the lack of impression and influence given to the national teaching program at kindergarten; the persistence of traditional teaching methods due to the absence of seminaries devoted to training teachers in teaching methods; the perseverance of theoretical teaching due to a lack of didactic materials and the training of teachers in the fabrication of didactic materials using local products; and the non-existence of formal structures for the initial training of teachers, from which stems the perpetual lack of qualifications, the insufficiency of trained inspectors all of which prevents the control of the education sector.

-Elementary and Secondary schools

The elementary and secondary education sectors in the Democratic Republic Congo are characterised as follows: the continued disintegration of infrastructures and insufficient financial support given to the education sector, and a diminishment of the capacity to welcome change. These problems have consequently led to a progressive decrease in the number of students attending schools. The inefficiency of the educational system can be observed through the low retention rate, which is below 35% at the end of primary school and a decrease in the quality of education. Many children do not gain basic skills. At the primary level, 50% of students can neither read nor write. There is an obvious lack of books, didactic materials and pedagogical support. There is also an inability of schools to monitor the teaching qualifications of teachers. There is often no connection between the bachelor qualifications of those teaching and the area they are teaching in at the primary level. Along side this problem remains the non-qualification of teachers, especially in rural areas where the content is not providing job-related training within the curriculum for students. The small numbers of inspectors in the educational sector are often unmotivated and lack working tools, as well as the insufficiency of government finance to this sector.

The section of the spending budget devoted to education is continuously decreasing. It decreased from 16.85% in 1980 to 3.7% in 1989 and then it increased a little to finally reach less than 10% by 1997.

It is worth mentioning that the current budget devoted to elementary and secondary education is almost entirely consumed by the payment of wages (95%). Only 5% of the total amount is left for the operational costs of schools.

The economic realities for the Democratic Republic of Congo have not favoured educational investments, and this has resulted in the further disintegration of many schools as well as the shortage of construction of new schools.

III. CURRENT SITUATION OF INFRASTRUCTURES OF ICT AND EQUIPMENT

The present situation in the domain of infrastructures and connection of ICT in rural schools of the Democratic Republic of Congo is much worse than originally believed. Infrastructures are obsolete or nonexistent, with a low rate of connection. In general, aside from coverage and infrastructures at the level of high media that necessitate reinforcement, the majority of telecommunication infrastructures is held and managed by public enterprises in the Democratic Republic of Congo.

In rural areas, there is lack of favourable conditions for the development of ICT in order to encourage the commitment of the rural educational sector; there is lack of strategies for the use of ICT and lack of training program of teachers and students. There is also ignorance that the ICT domain is also a creator of new jobs and new professions.

There are many barriers to the use of new technologies in rural areas of Congo, such as: scarce infrastructure (telecommunication networks), lack of electricity, lack of telecommunication, and high cost of ICT, outdated systems, use, maintenance, repair and management.

For sure, many teachers working in the rural areas of Congo, still never have chance to touch with their fingers and see a computer. Without exageration, it is unbelievable for many people around developed countries that in Congo, some traditional technologies as Television never has been seen by some people living in the rural areas.

So, from those problems facing the rural schools of Congo, how can we success to intruduce new technologies and the $100 laptop?

IV PROBLEMS

Due to wars and political conflicts, the Democratic Republic of Congo is classified among the poorest countries in the world and certain indicators consider it, among the poorest of the African continent south of the Sahara, with nearly 80% of its population surviving on the limit of human dignity, with under US$ 0.20 per person, per day (Democratic Republic of Congo, 2005).

The physical structures of rural school in Democratic Republic of Congo are made of natural, local materials and hence are not highly durable. The thatched roofing is both quick to deteriorate and also unsafe, it ignites easily with any open flame. Many schools lack doors and windows that close. Many students are forced to learn sitting on the floor because of a lack of chairs and desks. With the proposed $100 laptops being offered by MIT such lack of protection and harsh conditions can lead to quick deterioration of the computers make the running difficult. They are constantly exposed to high levels of dust and consequently may require frequent service and repairs. Hence an obvious recommendation would be that the government of Congo do more to meet the safety standards and protection standards necessary for housing computers. However, facing the dire economic situation of Democratic Republic of Congo, it is impossible to find such financing. Governments just do not have the required money to buy and provide adequate circumstances for the viable use of these laptop computers.

Also, schools built to hold a certain number of students are now largely overpopulated. This situation is justified by a high demand for education and the preference of one school over other schools in certain places. This creates the problem of a high rate of occupancy of classrooms in public schools, especially when compared to private ones. Infrastructures have remained the same for decades despite the higher rate of attendance.

A well as this problem we can also add the lack of electricity, telephones, ventilation, computer equipment, etc. The new $100 Laptop, proposed by MIT, appears to solve many of these issues. The cost of the laptop seems to be affordable and it can solve the issue of the lack of ICT equipment and overcome the problem of the lack of electricity, but it is not so straightforward.
It is true that these laptops can help to solve the ICT problems being faced in the rural educational sector. However, even at the seemingly affordable cost of US$100, this is still expensive in some local economies. In a country such as Democratic Republic of Congo, where teachers receive less than $100 for a monthly salary, it becomes improbable that the people or the Department of Education can afford this financial outlay.

The Democratic Republic of Congo is incapable of solving the issue of low salaries presently and hence if it used the required money to purchase the compulsory multiple $100 laptops then there may be negative social consequences for the population, as money would be drawn away from other areas.

Hence it is necessary to find a way to overcome the problem of rural communities in developing nations accessing this $100 laptop. It is suggested that rural schools and NGOs with a strong educational focus can access the laptops at even further discounted prices. If each rural school could purchase only a small number of laptops then the students and staff would have some exposure to such technology.

V. STRATEGIES

- School Equipment Plan and Community involvement

For the past several decades, the entire Congolese society has actively participated in the different reforms taking place in the education sector. Civil society, parent committees, provincial representatives as well as church representatives have been asked to help.

At present, students' parents have taken responsibility for nearly 80% of the educational domain. The contribution of parents and other partners in the education sector plays a prime role, as such departmental decision No EPS/BCE/001/0202/78 dated 26/09/1978 and No DEPS/CEE/001/0153/83 dated 18/08/1988 show, thus respectively instituting parent committees and administrative councils in schools.

In line with this topic we propose that the heads of schools must establish education plans for the needs and purchase of equipment for such establishments. This task should be in association with rural communities and pedagogical teams, which would allow an actual evaluation of these locations and permit the start of a multi-dimensional equipment program within Congolese rural schools.

However, it is important to note that the social realities in rural areas of the Democratic Republic of Congo create obstacles to the financing of such projects. Rural schools in Congo lack every imaginable tool, from the most basic equipment of chairs and desks.

In such circumstances, special support would be indispensable and the establishment of an active and sincere partnership between various businesses, international organisations, MIT Media lab, international schools, the National Education Bureau and rural schools might help to overcome some of the difficulties. Support in areas such as in the use of new technologies, the lack of electricity and of computerized material, the problem of teacher training, the construction of appropriate classrooms, etc. It is within this train of thought that in 1994 one author said that no one person can escape..., the construction of the Community demands a lot from us all. It demands, for example, that the heads of schools, teachers and students take care of one another, learn together and share together.

- Training of teachers

The persistence of traditional education in the Democratic Republic of Congo due to the absence of professional training leads us to the conclusion that it is necessary to train Congolese teachers about new technologies, so that the infrastructures to be put into place and the contents to be produced can be used.
Use of new technologies does not only necessitate theoretical knowledge, but also practical skills. On this point we will have to fine tune a stance on three levels: training actions, assistance actions and daily motivational actions.

This evidence necessitated analysis in order to better comprehend the failures of school computerization plans in certain parts of the world in the 1980s, despite massive training.
In Democratic Republic of Congo, schools are scattered all around the country, even in regions inaccessible by road, rail or water. For a better campaign and training of teachers concerning new technologies, we believe it is essential to establish pools of training, in such a way that a core of teachers are trained in larger centres and then they return to their respective regions and they themselves become the trainers.

This model is supported by Kleimanm G.M's idea (2004, p.14) that the key that determines our success is not based on the number of computers or of cables installed, but rather on how we define the educational objectives and how we prepare and support teachers...

-Several strategies

The following offers several strategies allowing the successful introduction and use of new technologies in general and $100 laptop in the Democratic Republic of Congo's rural schools:

- make the training of teachers and supporting staff a priority (the development of continued training of teachers),
- equip schools (equipment and connections between schools),
- ensure a coherent and balanced development (educational plans are issued by the heads of schools),
- plans to ensure that schools have access to new technologies in general and $100 laptop,
- develop an active and sincere partnership with local, national and international organisations, MIT, and industrial businesses (a plan to encourage the investment by local communities, agreements with enterprises to facilitate the provision of equipment to establishments),
- support the multimedia-based educational industry and encourage individual production.

VI CONCLUSION

Such article is in the process of turning a new page in the history of new technologies in the Democratic Republic of Congo's rural schools. There certainly remain many obstacles but the participation of all and the sincere collaboration between the education sector, society and the industrial sector seems to be the way to surmount this social and educational problem in this country.

A strong campaign and training of teachers is undoubtedly one of the means to solve technophobia and the problems encountered in the usage of technology. In addition, the Congolese State has the obligation of adopting a law that would keep incorporate the new technologies into schools, consequently including these technologies into the national program and the national budget.

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responsibility to organise the construction of school buildings and equip them with desk, stools, doors, windows, etc.

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