THE INTEGRATION OF ICT IN LEARNING

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Abstract
This paper aims to present the Moroccan's experience with the integration of ICT in learning and e-learning as a solution during the pandemic of covid-19. We note that Morocco is one of the non-developed countries; however, it helps students continue studying despite the lack of materials.
In this paper, we will present the Moroccan experience with ITC since 2005 until todays, we will also talk a about e-learning as a solution during the pandemic (especially for high school).

Keywords - ITC, E-Learning, Learning

I. INTRODUCTION

The use of technology has changed the world; particularly in the learning process and it facilitates the access to the information. The pandemic has brought new concepts all over the world including e-learning which was not well- known in Morocco Of course when we talk about ITC. So first we will define what is ITC?

II. WHAT IS ITC

ITC is "the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources"
We can also show the definition which UNESCO gives to ITC: "ICT Competency Standards for Teachers project aims to improve teachers' practice in all areas of their work, combining ICT skills with innovations in pedagogy, curriculum, and school organization, it is also aimed at teachers' use of ITC skills and resources to improve their teaching, to collaborate with colleagues, and perhaps ultimately to become innovation leaders in their institutions (UNESCO…).
Digital tools provide didactic support that enables teachers to resolve complex situations. For example, in biology, short videos of the reproductive systems of plants allow children to understand the different stages from seed to root emergence. Other examples can be found showing the usefulness of 3D visualization in mathematics, geography, etc. Social science education can also benefit from ICT for language learning; repetitive tasks, for example, are made easier by apps.

III. MOROCCAN EXPERIENCE WITH ITC

A) Genie program

The GENIE program was adopted in 2006 by the Universal Telecommunications Service Management Committee and financed by the Universal Telecommunications Service Fund. It has several components. The first is training: teacher training is essential to the success of the program 87per cent(260,000) education leadership and staff have already been trained; four modules developed according to the UNESCO CBTB competency framework, 900 main trainers; 148 ICT training centers across the country; nearly 120,000 people trained in the use of ITC tools.
Another part of the program was concerned with digital resources; a certain number of digital resources were acquired between 2010 and 2013 and provided to schools already equipped.
The National Digital Resources Laboratory has provided digital resources to schools, created several dedicated portals and developed over 300 OERs through a call for proposals held during annual reviews for teachers.
The third part of the program was concerned with the development of educational uses. This component was introduced after the program review in 2009, in order to ensure that users are guided through information, support, monitoring and reporting. A team has been appointed at a centralized level to coordinate activities in terms of standardization, advice and monitoring of the strategy at regional, provincial and local levels. Regional forums are also held regularly, and more than 2011 workshops have been held for educational staff. In order to support the changes facing the educational system in terms of ICT integration, it was necessary to create a national, general and subject-specific educational framework, in order to guide teaching practices by sharing methods and strategies to improve the quality of teaching.
This program which aims the generalization of Information and Communication in schools, it has three objectives:

- Involving teachers in the integration of ICT in schooling
- Improving the quality of teaching/ schooling by the exploitation of ICT
- Teachers have to appropriate those multimedia tools in order to use them efficiently

To achieve these objectives the program was based on two modules: a module for initiation into computer science (Operating system, word processing, spreadsheet and calculation, presentation and Internet) and a module for the educational use of ICT. For the pedagogical integration of ICT in teaching, an agreement between the different parts of the GENIE and INTEL program to use the "Intel Teach to the Future" program, based on the pedagogy of the project, was signed in 2006 and in 2007 in order to enrich the skills and competences of teachers in their teaching practices. Thus, to train them in the use and integration of ICT in their effective teaching practices in order to improve students' learning.

In addition to this official GENIE training, other training has started in several AREFs as part of pilot projects for the experimentation of digital resources (SIVECO, RUBICON, CADWARE,SMART) or as part of an education partnership (ALEF- USAID? Microsft, Koica-South Korea).

The systemic approach of the ALEF-Microsoft education partners, based on the analysis of real needs in the field, made it possible to design the following modules: management of multimedia rooms, TICE as an educational tool and Peer Coaching. The experience began with the training of "Facilitator" teachers who will be tasked with increasing training at school level. Monitoring and evaluation are ensured by regular regroupings at regional level. A mailing list is designed thus enabling the community of practice to collaborate, communicate and share available digital resources and success stories. A portal dedicated to education in general and ICT in particular has been developed, and a distance training platform is put online to provide training for teachers in the field of ICT.

In 2008, studies showed that awareness, communication, accountability, revision and updating of training in terms of logistics, supervision support and content are necessary and essential for the advancement of GENIE program.

Two years after the launch of actions relating to the deployment of the national strategy for the generalization of information and communication technologies in education in Morocco, the Directorate of Genie program. DPG has developed a moratorium on the integration of these educational technologies in the teaching and learning process in order to meet different needs: update the initial strategy to involve the educational component more in the new choices; set up new levers to ensure better use of computer equipment, particularly at the primary level; create a climate conducive to the educational use of ICT tools to deal with the first results of Phase1.

On January, 2009 marked the launch of the new GENIE Program strategy which aimed at promoting, facilitating and enhancing an educational culture that fosters the integration of ICT in teaching and learning.

Remember that the initial strategy provided for deployment over three years and based on three axes: infrastructure, training and digital content.

The first phase of the generalization of ICTs enabled the equipment of 1,878 establishments with 2,058 Multimedia Rooms, of which only 1,543 are functional.

As for the training of teachers, this first phase enabled 30,000 people to benefit from it.

The current roadmap provides for a rational five-year deployment (2009-2013) of the new strategy, based on the review of equipment deployment policy, improvement of training modules and change management.

It is planned to continue to equip middle and high schools with multimedia rooms and mobile experimentation.

Work on the modules is done in workshops based on the technique of "Peer-coaching", the mechanism of sharing, deepening and regulation. A Training Kit containing fairly extensive documentation and tools is made available to participants during the training, to help them accomplish their training, and their tasks as efficiently as possible.

B) Training program

Initially, this program is planned to train 400 trainers from February 9, 2009 to March 7, 2009, at the rate of 4 groups of 25 trained per week, and whose profile should meet the following criteria: Technical skills: computer knowledge and know-how computer networks, office software, operation of services offered by the Internet network, maintenance, etc.); Educational and administrative skills: knowledge and experience in pedagogy, didactics, methodologies, educational sciences, pedagogical use of ICT…; Training facilitation skills: communication, listening, group facilitation, project management…;

C) Future programs

School curricula in Morocco changed in 2003. With the launch of the GENIE program in 2005, a new strategy aimed at developing content on line with recommendations to use ICT in teachers' practices was adopted. The new programs being developed will take into account these recommendations to use ICT as much as possible (equipment and internet connection). Let us not forget that in Morocco, the 11,000 schools, 40 per cent of which are located in rural areas, have an equipment rate of 87 per cent. However, satellite schools linked to the 7.000 primary schools which do not have access to infrastructure unless children go to the main school or if materials are provided at these schools. This is what motivates us to choose an incentive strategy by making these resources available to as many people as possible. In addition, the program has developed coding using open software called "scratch", which has introduced coding to 600,000 people since 2015 during an event called" Africa Code Week". The goal

was to integrate coding ink2to the primary curriculum during the school year in order to develop students' computer literacy.
Since 2016, 1,200 children have been trained in the use of this new technology in their first year in pilot schools; this phase will be extended to all regions. The curricula of the new educational science degree for new teachers also including training modules in ICT.

D) Difficulties
The problem of the transfer of learning (Transferring one's learning to situations requiring the contribution of more than one discipline), by privileged actors, at the local level and in schools; given that the skills of the teacher in question are of three types: disciplinary (knowledge), didactic (way of teaching, context, teaching technique, etc.); and relational (with students, colleagues and parents, etc.); the training of teachers and inspectors must be disciplinary aimed at all technical, educational and organizational dimensions. This training is based on the realization of concrete projects, in order to improve the teaching quality
Establish a disciplinary module (improve the content of this module) on the integration of ICT in initial teacher training (in teacher centers).
Natural resistance to change has been one of the main challenges, but implementing a strategy to develop pedagogical uses for teachers has helped to solve this problem. In addition, equipment maintenance is another challenge.

IV. E-LEARNING

A) Definition
E-learning "contains the word learning i.e. learning (seen as personal acquisition of knowledge, skills, attitudes, etc.)
It is therefore a tool or rather a means energized by electronics (the "e" of eLearning) used to facilitate or extend tk2eaching and learning. But understanding of the concept is variable. It is just as well to consult a document on the Net, teach at a distance, in addition to or instead of face to face. E-learning is a tool, a means among large panoply which can both facilitate learning and support various forms of teaching.

B) The different forms of E-learning according to Rominowszki

	Autonomous Learning (A) Computer-Based Instruction/ Learning/Training	Collaborative Learning (B) cooperative Learning Computer-Mediated Communication
Learning on line, communication synchronous	Surfing the internet, accessing websites containing useful information for training (knowledge or experience) online (exerciser Web)	Chat rooms with or without video (IRC, whiteboard web TV) Audio/ video conference Audio and video streaming
Learning out line communication synchronous	Object download for a local use LOD (learning object Download)	Asynchronous communication by email, list of discussion or forum via platforms

C) E-learning as a solution face to Corona Virus in Morocco (case of high school)
Before the pandemic, e-learning was not very known neither as a strategy of learning nor of teaching in high school. Teaching and learning were based on face-to –face classrooms only. That does not mean the concept was not known any more in Morocco. When we talk about high school we talk about teenagers which means they are not responsible yet, they cannot ensure their learning on their own. For that matter, teaching and learning in high school-especially in public school- is based on face-to-face strategy if we can considerate that as a strategy.But the pandemic has done a holeand radical change in Moroccans' life in general, and especially in schools.
The Quarantine hasobliged both students and teachers to stay at home, that means no face-to-faceinteraction in the classrooms, so e-learning still be the unique solution. Students cannot come to school and at the same time they cannot stay without learning so the only way to fix this issue was to give courses via internet.
E-learning was an efficient solution to face the spread of the pandemic, because it helps both students and

teachers to stay at home while remaining always staying and following courses.

As it has advantages (no contact, no contamination, no need to move…) e-learning has got also disadvantages, of course we talk about Moroccan experience, high school and public school. We say public school that means we talk about a category suffering from poverty.

The first obstacle: not all students have access to internet,
Not all students have PC or smart phone. Besides the technical problems in the Microsoft teams platform, therefore the only way to handle this issue is to pursue courses via television.

V. CONCLUSION

To sum up, we have tried to show in this paper the Moroccan experience related to the use of high technology particularly presented in GENIE program and e-learning during the pandemic.

REFERENCES

[1] UNESCO (2008). ICT Competency Standards for Teachers.
[2] GENIE (2009). « TICE et développement professionnel ». http://www.genie.gov.ma.
[3] Lebrun, M. (2000). Courants pédagogiques et technologies de l'éducation. Institut de pédagogie universitaire et des multimédias, Université Catholique de Louvain. http://www.ipm.ucl.ac.be/articlesetsupportsIPM/4.Courants.PDF.

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