The use of mobile learning on the students of DUT GBABB at ENS Tetouan, Morocco

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Abstract—In this article, we will study the uses of mobile devices in Moroccan higher education and their impact on learning processes. We propose a solution based on mobile learning is particularly in the practical work of biology field of the DUT GBABB ((Diplômes Universitaires de Technologie Génie Biologique: Analyses Biologiques et Biochimiques) of the Ecole Normale Supérieure (ENS) of Tétouan. We propose this method because of problem of the unavailability of the materials in the students who want to follow practical work in their formations.
By using videos and mobile applications on mobile devices (Smartphones, Tablets ...), which shows a model the organs of the human body and a description of each of them.
The data analyzed are based on a questionnaire research to analyze whether mobile technologies shape student attitudes and contribute to the learning process.
The analysis of the results obtained showed us that the use of mobile devices in practical work allows students to fill the lack of materials and improve the quality of biology teaching material of the DUT GBABB.

Index Terms— Mobile Learning, Mobile Technology, Higher Education

1 INTRODUCTION

Today, the use of mobile technology in everyday life and in the various domains of the world is increased, it facilitates the activities and summarizes the distances between them, and allowed it to do several tasks everywhere and any time. Faced with this evolution, learning is about providing a solution that uses mobile devices to learn, anywhere and anytime.

Mobile learning changes the nature of learning. Students use the devices in or out of the classroom to learn at every situation, in the airport, in bed or in other places of their choice, to which they can get a wireless connection from their phone. Learning has become "just in time". Mobile learning (M-learning) has become an area of research and also an application of great importance due to the evolution of computers and wireless networks. With the emergence of information and communication technologies (ICTs), a new approach to training, or more specifically a new way of learning, has emerged. [1]

This work is part of a study of the possibility of integrating mobile learning in higher education is particularly in the practical work of the biology field in order to overcome the problems related to the complexity of the realization Of the TP and to find solutions of lack of the materials for the realization of the manipulations, also problems. This solution is based on the integration of mobile technologies into their students' pedagogical practices.

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2 THEORETICAL FRAMEWORK

Experimental activities in the teaching of biology are considered essential by both program designers and teachers. In most countries, curricula introduce scientific activities with two main objectives [2]: an objective of scientific education and learning of the main concepts that make it possible to understand the modern world as an enlightened citizen and a goal of preparation to the professional world.

The aims of experimental activities in teaching appear to be multiple: to motivate students, to develop manipulative skills, to promote learning of knowledge, methods, scientific attitudes, to learn to work in a group, to work autonomously [3].

Practical work in biology is essentially based on experiments that are conceived as a means of proof, understanding and validation of the theoretical part, it addresses the physiological side of the human body and the most vital functions performed, it will depend on Delivery of these topics and the research research methods proposed by the professor and carried out by the learners to acquire the general scientific and experimental method in particular.

In Morocco, less than 50% of the scheduled experiments are carried out, but this lack of experimental activities is due,

according to the same study, to the lack of scientific equipment in the laboratories [4]. This lack of experimental activities is the main cause of the introduction of false representations in the learners [5].

In this situation the integration of mobile technologies is an alternative for students to repeat the experiments carried out by the teacher or to observe the unrealized experiments due to the lack of equipment in the schools, higher education. Mobile technologies provide students with the opportunity to observe and interact with real-life experiences, to conduct virtual experiments, to control them, to examine new models and to improve their understanding.

We can therefore consider mobile technologies to redo and observe the experiences of manipulations integrate in mobile devices (Smartphones, Tablets ...).

3. METHODOLOGY

The methodology adopted in this research revolves around the usefulness of videos and mobile applications in their teaching practices of students of Biology.

We try to create questionnaires specific to students after installation, see videos and use the application on mobile devices. We distributed these questionnaires and got a response rate of 96%.

The research of our study is intended for students of DUT GBABB (Génie Biologique: Analyses Biologiques et Biochimiques).

4. RÉSULTATS

- Figure 1 shows the percentage of learners with a mobile phone (98%), a laptop (70%) and a tablet (27%).

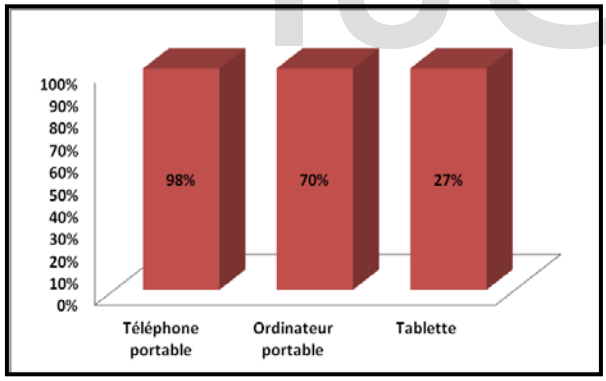

Fig. 1. Types of mobile devices

- We note that 91% of students connect to the internet via their mobile devices, and that 87% who have a 3G and 4G connection.

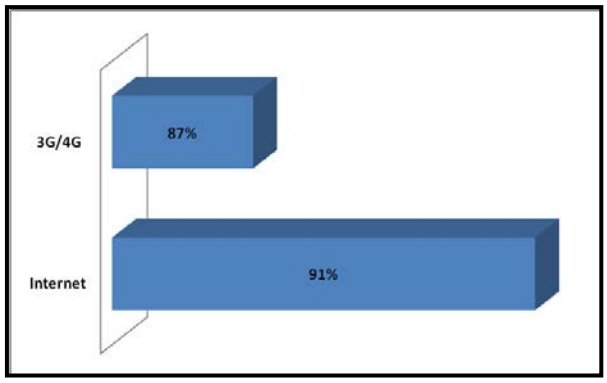

Fig. 2. Students connect via their mobile devices

- Results from Figure 3 show that students use social networking services, Whatsapp (62%), Facebook (48%), prefer to see videos (40%), listen to music (48%), share of the photos (35%) and study and navigate the sites (33%).

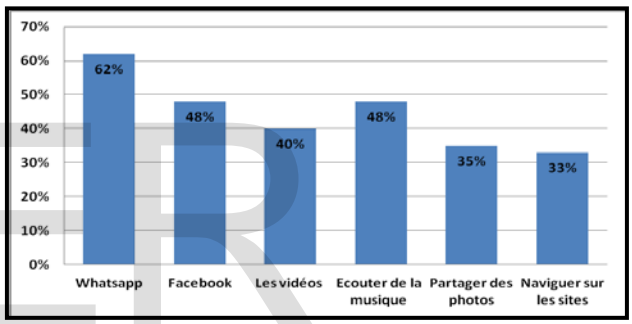

Fig. 3. Uses of mobile devices

The graph above shows that most students use mobile devices to search for educational videos, documents, mobile applications and lastly visit websites

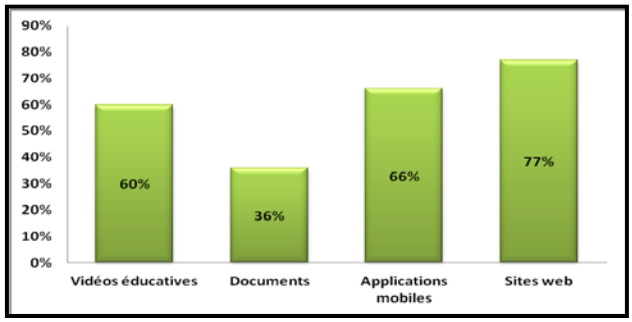

Fig. 4. The Uses of Mobile Devices by Students

- Figure 5 shows that the majority of students preferred to learn their practical work by seeing videos and mobile applications from mobile devices. And also there are a few cases rarely found that this method is not excellent for their TP.

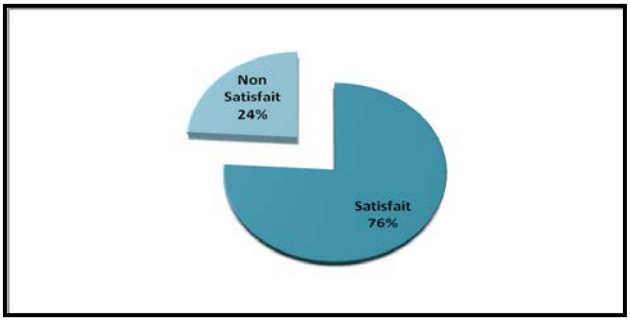

Fig. 5. Degree of satisfaction to learn students their practical work by mobile application

- The results show that most of the responding students either rather or strongly agree with the practical work from the videos and mobile applications on the mobile devices makes it possible to further manipulate their practical work and make the overhaul at home and also ease of travel in the room.

5. ANALYSE DES RÉSULTATS

The results of the research are presented quantitatively and then qualitatively so as to show a real and objective portrait of the types of use of mobile devices by the respondents.

Note that the use of mobile devices in the classroom is for personal use or educational use, so can be grouped into two categories:

- Uses of mobile devices for documentary research and sharing of information and resources
- Uses of mobile devices educational support

The majority of respondents to use most features of mobile devices, analysis of data show that students use social network services, Whatsapp, Facebook ... also prefer to see videos and listen to music, share photos, study and navigate sites ...

The present research seems to show that the use of mobile devices in the field of Biology of the DUT GBABB from the videos and integration of mobile applications as part of the practical work activity is easy. Moreover, the majority of students preferred to learn their practical work from mobile devices, and also there are a few rarely found cases that this method is not excellent for their TP.
By accessing videos and mobile applications, most of the responding students agree or rather agree with the practical work from mobile devices that allows for more manipulation of their work and house and also ease of moving in the room.

6. CONCLUSION

The aim of the present research was to identify mobile phone uses by students of the GBABB DUT, due to the methodology used, these results can not be generalized.

The main results of this study show that the integration of mobile devices in Moroccan higher education offer educational opportunities that we can not normally have with other learning tools. In particular, they allow the teacher and students to carry out their practical work despite the absence of materials anywhere and at any time and to experience new learning situations in different places.
Finally, to achieve a good education system that keeps pace with the rapid development of modern technology and contributes to the efficiency of the education system in Morocco, the efforts of all the actors on the ground (students, professors, Ministry) and would work to integrate mobile technology into education, so that we can achieve development in the field of education.

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