

Integration of multimedia in mathematics and their impacts

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ABSTRACT

In the past 20 years there has been a significant increase in information communication technology (ICT) investment in education, so students and teachers now have a much wider access to ICT. In the context of integration of information technology and communication in the Teaching / Learning of Mathematics, we propose a constructivist model of ICT integration in the context of mathematics learning, it aims to ensure acquisition of key concepts in mathematics to students. The reason for the investment is the belief that introducing ICT will improve teacher productivity, student outcomes, and prepare students for a world where technology is an important part of life. Governments have also mandated the importance of ICT in education.

1. Introduction

Recent research has shown that teacher integration of ICT into mathematics classroom has an impact on student outcomes. The availability of technology in classrooms alone does not improve student outcomes. It is the teacher's decisions on how to integrate ICT into the mathematics classroom that will either improve or hinder student outcomes. Given the importance of the teacher in integration of ICT in the classroom, the literature has developed a range of theoretical frameworks to understand ICT integration by mathematics teachers.

Knowing that this integration is not easy and requires research in teaching, our research has the objective to provide elements for the integration of these new technologies in the teaching of mathematics, then how ICT use within the education system can change the nature of learning? Is their use does not alter the concepts and methods? What is their impact on students and teachers?

2. ICT way of Mathematics Teaching

Many people say they just do not like mathematics, often without bothering to explain their aversion. However, we can observe nature of adjectives frequently joined to this subject :

mathematics would among other things, dry, cold, austere ... Even the philosopher and mathematician *Bertrand Russell* attributed that two last adjectives in a sentence often quoted: "*The mathematics possesses not only truth, but supreme beauty, a beauty cold and austere, like that of a sculpture ...*"

Students who have chosen their path based on prejudice or false convictions are many students with low motivation and poor results, the research target category of learners have difficulty of imagining and having a lack of confidence due to multiple factors, such as being talented but having trouble concentrating or factors due to the transmission of knowledge (teaching error) depending to training teachers.

Various factors influence the teaching and learning of mathematics. The results of international surveys indicate that

the learning outcomes are related to student's family background factor and adolescence, especially the secondary collegiate studies coincide with adolescence, but also the quality of education, as well as certain characteristics of the structure and organization of education systems.

A good mathematical education of teachers requires special mathematical knowledge, specific presentations of mathematics they will teach and also conditions knowledge of teaching these lessons. Fight against failure Enhance the learning of mathematics at their leaders of tomorrow is the major objective of this research especially the preeminence of science in Morocco is threatened for various reasons, including poor achievement in science education by students secondary, Using different methods (classroom observations, interviews...), we look at how new balances manage to install. Understood that mathematics are the basis of all professions so reducing the number of low achievers in mathematics leads to an increase in the number of graduates in mathematics disciplines nature, especially the branch of science that holds the largest share of distribution of students per branch. The mathematical form young minds to intellectual rigor, logical reasoning, the argument as to understand numerical data, i.e the process, interpret, present, mastering basic geometric figures. Mathematical difficulties are many and varied especially in geometry such courses requiring more concentration and imagination to a particular ability in space to demonstrate a solution sought.

3. Challenges

Difficulties linked to representation, inability to correctly represent objects in space or in time, treatment of curves encountered in analysis. However, like any learning, these difficulties can be overcome.

Skills necessary for the practice of mathematics are not necessarily related to innate and can be acquired with practice and habit and then we suggest as a means: "The information technology and communication in the mathematics", view that the contribution of ICT is essential today, computers and smart objects are in the process of changing our daily habits, our

ways of working, our relationships and leisure citizen faces figures, geometric graphs is mostly through software and often on a screen. It is essential that young people (for whom the use of a keyboard and a screen consultation are natural) receive a mathematical integrating these tools.

Thereby ICT can ensure the acquisition of key concepts in mathematics among students in secondary college and improve their learning motivation and of course contribute to the success of students deciding their future with total certainty to scientific expertise, the use of multimedia offers teachers the possibility of dynamic images played by the simulation of theoretical concepts difficult to grasp otherwise using dynamic geometry software for example.

4. Conclusion

The use of multimedia in mathematics education falls within the scope of practice innovantes. It is an educational approach that gives the teacher the opportunity to invest in multidisciplinary teams, therefore a source of mutual enrichment.

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A majority of teachers are convinced of the important role played by the use of the tool in the classroom, however, a number of barriers hinder the effective integration of computers in the classroom. Can be mentioned in this context: the degree of control of the computer, computer hardware maintenance, control of appropriate software and factors related to the management of time and content. The sources of these difficulties arising lack of teacher training in this area, insufficient computers for students.

Effective integration of Multimedia in the classroom, thus requires a radical change in design of all actors, even the teaching that the level of contents of the form of activities. The new role of the teacher in the called teaching situation requires new skills that teachers must acquire. It requires a significant personal engagement on his part and that traditional environment. Personal work of any teacher can be facilitated by the collaboration and exchange experiences with colleagues from the teaching team.