
Adopting Technological Methods in the Algerian Higher Education: Challenges and Recommendations

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Abstract

This work attempts to discuss the challenges that the Algerian educational system encounters while keeping pace with the modern approaches of teaching. It further provides some recommendations to teachers, learners, educators and policy-makers. In order to spotlight the major obstacles in the road of technology-assisted courses, the researcher has used the interview as a tool of investigation with ten teachers from Mostaganem university. In addition, the interview aims at reflecting on teachers' opinions and beliefs through sharing some implications and offering relevant recommendations. The findings have shown that there are two major sources of challenges facing the implementation of technology: the syllabus quality and quantity, and the imbalance of practical and theoretical sides of tutoring. Despite the economic factor, some technological techniques that go through simple stages of preparation, presentation, follow-up and finally evaluation are inexpensive and could not be reflecting the information divide effect.

Keywords: The Algerian higher education, technological methods, challenges, recommendations.

1. Introduction

Any working educational system relies on certain methods that ensure their success and contribute to improving the teaching

and learning process. Any method used to serve education is considered an educational medium. The effectiveness of such methods depends on providing sensory perception, stimulating the learner, and providing concrete realistic experiences. In this respect, the implementation of modern and technological methods in higher education has widely been adopted by the leading educational systems in the world. However, such implementation in the Algerian context is still challenged with several factors.

Classification of societies has globally been measured on the basis of the quality and intensity of scientific production and the use of knowledge as a criterion for the development of society (Al Badri, 2009). The use of knowledge has become a measure of new wealth, as the material and financial concepts have become as criteria for the growth and supremacy of countries. Further, there is a consensus that true wealth lies in the creative ability of individuals and that science and knowledge act as the basic elements for their measurement. From the premise that knowledge has become an important strategic resource that is inexhaustible and not implemented but rather increased by practice and use, which is what made developed countries occupy the center of power and lead in the world, because it already realized that knowledge is the most powerful tool of production, and that scientific progress, civilized advancement and human well-being are based mainly on knowledge and science. (Williams, Jones and Bunting, 2000)

Recently, Badran, Baydoun and Hillman (2019) have reviewed the major challenges facing higher education in different Arab countries including Algeria. Previous research works that targeted the Algerian case are counted. For instance, Benziane (2004) studied the influence of economic reforms in Algeria on the higher education sector. Moreover, Benouar (2013) described the elements of research and practice in the Algerian educational experiences. Other studies linked the challenges to historical or external factors.

Indeed, there are always opportunities for countries like Algeria to follow new visions in its various strategic policies and the accompanying positive effects to support its economy and lead the country to international scientific competitions. On this basis, Algeria is trying to adopt a clear national strategy and adopt scientific solutions in order to support the process of scientific research and development, and to activate the path aiming to create the ingredients for the take-off in the field of science and modern technologies. The sector of higher education in all countries attempts to adapt to the developments taking place in the global arena, enabling it to catch up with scientific and technological progress. (Stein, Ginns and McRobbie, 2002)

This study derives its importance from the critical importance of scientific research and development due to its active role in scientific and societal development and solving problems that people face in all fields of life. Merrill (2004) argues that the need for studies and research is more severe today than ever before, and the world is in a race to the largest possible amount of knowledge, so we find that developed countries attach great importance to scientific research and development because research is considered a main pillar of its economy, development and civilization, thus, achieving the welfare of their people and maintaining their international status.

The challenges and difficulties facing Algeria today lie not only in the urgent need to participate in the knowledge society, but also in how to effectively and efficiently apply information and communication technology (ICT) and control how it is used to narrow the development gap between developed and backward countries. These aspirations can only be achieved through the development of education in general and university education in particular. For that, this paper addresses the challenges facing higher education in Algeria and the efforts made by the state represented in its official institutions in order to give a strong impetus to higher education and keep pace with global developments.

2. Methodology

The researcher targets the Algerian university teachers in order to check their opinions about the effective methods to be implemented for objectives like providing sensory perception, stimulating the learner, and providing concrete realistic experiences. Thus, the study has been qualitatively triggered, and the chosen tool for investigation is the semi-structured interview. Since quality has featured the study, the number of participants is limited to only ten university teachers working in Abdelhamid Ibn Badis University, Mostaganem.

The interview consists of seven (7) open-ended questions. The main questions require explanations and clarifications from teachers about the challenges that the Algerian educational system encounters and whether modern approaches of teaching have been -or are being- implemented in the higher education sector. Interviewees, in addition, are required to provide some recommendations to instructors, learners, educators and policymakers. They are also requested to present further viewpoints on the major obstacles in the road of technology-assisted courses, enhancing English as a language of instruction and scientific publications.

3. Results and Discussions

After interviewing teachers, the researcher collected their answers and analyzed them through, first, classifying the challenges according to their sources and natures; second, highlighting the major and common opinions; third, revising the answers to extract the most relevant suggestions.

The findings indicated that there are several obstacles and challenges, be them serious or unseen. Detailed answers from teachers showed that there are different sources of challenges that face the implementation of technology: syllabi-related,

economic, practical and technological sources. Mainly, the qualities of the syllabi in almost all fields of study are still poor; moreover, latest educational reforms could have made them ever poorer. As for the quantity of syllabi in terms of contents, textbooks, assignments and curricula, respondents have agreed on the lengthy and heavy contents that do not mostly seem appropriate for the target students' levels.

Furthermore, the economic status of the country is improving whereas less financial support is provided to the sector of higher education. Teachers agreed on the status of research laboratories as an important challenge for both teachers and researchers. However, some teachers contended that some technologies are more expensive to be adopted and applied in all the Algerian universities, especially the online platforms for instructions and electronic assessment. This can also be reflected in the imbalance of practical and theoretical sides of tutoring. To clarify, teachers are not supported by sufficient and quality technologies, others have anxieties of using ICTs when tutoring, and others depend only on traditional, manual and classical methods in all areas of learning. Such an obstacle may not stop the teaching / learning processes, but the dependency on theory and ignoring the practical side would create academic and scientific shocks for learners in their professional experiences. Thus, when they attempt to cope with modern and new strategies of tutoring or research, they will find it more difficult.

Challenges and Obstacles	Quality	Quantity
Syllabi-related	- Poor quality in contents.	- Long syllabi.
Financial and Economic	- Quality of research laboratories. - Priorities of region, university, and / or faculty, in financial support.	- Implementing expensive technologies in all universities. - Low budgets for higher education sector.

Theory and Practice in Tutoring	- Old resources in theory and old materials for practice.	- More theoretical than practical.
Implementation of ICTs	- Poor national ICT-assisted engines, repositories and online platforms. - The information divide effect.	- Dependency on limited technological methods. - Class size and requirements.

Table 1. The Major Challenges of Implementing New Technological Methods

The table summarizes the major obstacles of new technological methods' implementation provided by interviewees. Despite the economic status in Algeria, some technology-based or -assisted classrooms and platforms have been described as the result of the information divide effect. That is, Algeria, as a developing country, still cannot manage to create technologically-equipped environments for university learners and teachers. The social factor, moreover, intervenes to make the obstacle even more serious and financially challenging. For instance, issues like the class size and the socio-economic background of teachers and learners would prevent the realization of any policy regarding the implementation of technological strategies in the target sector.

Through the results, university teachers seemed complaining about the tutoring aspects which are based on indoctrination. That is, doors are not open for creativity and individual innovation, and if this exists, it remains individual attempts and not an educational policy. For that, the rates of the brain drain is increasing, otherwise national human capacities can contribute to the framing, formation and development of the country.

Some results have correlationally occurred in some other relevant research works. However, the theoretical or practical

frameworks are different. Notably, Benchicou, Aichouni and Nehari (2010) tackled some of these challenges in engineering education in accordance with empirical e-learning practices in the Algerian higher education.

4. Recommendations

Based on the results of the present study, and in the light of the participants' opinions, some suggestions are highly necessary for university teachers, educationalists, and policy-makers. Inescapably, teachers are required to be well aware of new technologies and well trained on using them. As for policymakers, a process of in-depth reform of higher education is needed in order to create curricula of a global framework and standards that are compatible with new concepts of the era of technological development.

The Algerian government should announce a plan to develop and increase the use of technology in higher education through university mechanization. Such a plan should intend to develop higher education technology and to increase the speed of the internet in universities. That would develop data centers for universities, and help establish electronic course and test centers. Indeed, a well-studied plan will develop the education system in accordance with the requirements of the technological revolution, advanced technology, digital transformation and mechanization of all university services by electronically enrolling students, and collecting expenses with the technological infrastructure.

It is undoubtedly required from researchers to review the role of higher education and scientific research as a public sector in dealing with knowledge, and its production institutions, which are universities and research centers in all scientific, technical, social fields and humanities. That should be conducted through a strategic vision, clear and specific priorities, and precise mechanisms that show how to use ICTs to solve dilemmas and crises. With providing the necessary conditions, a technology-

assisted system will lead to an information society based on knowledge and optimal investment in modern technologies.

Briefly, teachers are required to be well aware of new technologies and well trained on using them. As for policymakers, a process of in-depth reform of higher education is needed in order to create curricula of a global framework and standards that are compatible with new concepts of the era of technological development.

Conclusion

Indeed, implementing modern and technological methods in higher education has widely been adopted by the leading educational systems all over the world. By contrast, the backward countries -like Algeria- are still encountering various challenges.

From the foregoing, universities are currently considered one of the most important institutions of knowledge production, and today they are the key to progress and growth in any country. This calls for a serious consideration to develop the capabilities of universities and higher education institutions in Algeria, update educational curricula, and pedagogical methods, in order to transform from mere institutions transferring knowledge to institutions producing them. That would actively lead to the participation in the production of knowledge in general, and scientific knowledge in particular. Thus, the implementation of any new useful methods would increase the national scientific productivity.

The Algerian policymakers and experts are aware of the need to develop and improve higher education and bring it in line with the global developments. As it is known that education affects the various aspects of human life, countries -like Algeria- are still striving to achieve qualitative and quantitative progress at the academic and scientific international levels.

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Appendix

Interview with Mostaganem University Teachers

Dear teacher,

You are kindly requested to participate in a study that explores the challenges that the Algerian higher education encounter in relation to improving the system with new technological methods. Your participation is valuable in order to help the researchers provide and work on the relevant recommendations which, in turn, will lead to practical improvements that leverage the Algerian university.

Q1. What do you think of the current realities of higher education and scientific research in Algeria?

Q2. To what extent are the material and human capabilities in the Algerian universities sufficient to improve the use of ICTs in higher education

Q3. In your opinion, what are the major obstacles, limitations and challenges that stand against the higher education improvement?

Q4. How does the higher education and scientific research sector contribute to setting a national policy in developing the modern and technological methodologies of instruction and research in Algeria?

Q5. What are the ways and strategies to step over the traditional systems starting from the class and ending with the policy-making?

Q6. As a researcher, what recommendations can you suggest for the realization of Algerian research visibility at the international level?

Q7. What should policy-makers and experts work on for the coming years in order to reduce the challenges and to enhance adopting new technological methods in higher education?