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Abstract

In recent years, the discipline of language pedagogy witnessed transformative changes due to COVID 19 pandemic. The latter stimulated the integration of modern information technologies to create innovative teaching approaches. Many universities and higher education institutes become nowadays oriented towards the digitalisation of pedagogical methodologies for the betterment of teaching and learning outcomes. Nevertheless, there are many issues pertinent to integrating online learning platforms and educational technology. In this context, in-service university teachers must receive adequate training in order to acquire the technical teaching skills and competencies. This paper aims at investigating the major challenges in teachers' techno-pedagogy continuous training, along with delineating the possible resolving measures to adapt to those problems. Hence, eighteen in-service teachers from the university of El-oued participated in the study. A survey design was adopted using quantitative data collection tools. Foremost, unstructured questionnaire was conducted to elicit in-service teachers' attitudes towards the implementation and the need of techno-pedagogy training. Moreover, an interview with teachers were used in order to get an in-depth understanding of the major considerations regarding teachers' training in the use of modern technology in education. Using the statistical analysis, the questionnaire results revealed positive attitudes among teachers toward integrating innovative teaching methods using technological resources and online platforms. On the other hand, qualitative data analysis was performed to generate results from the interview. The findings of the qualitative data revealed resistance on the part of teachers to using modern technologies in instruction and some practical solutions to handle those challenges. The study recommends further research to develop an adequate professional model for technology integration among university teachers, with constant evaluation and monitoring of its effectiveness.

Keywords: In-Service Teachers, Online Learning, COVID 19, Technology.

Introduction

There has always been a genuine recognition of the role that teachers play in the process of teaching and learning. As they work with learners in the classroom. Instructors, in this context, occasionally face numerous difficulties and triumphs. particularly, in the use of information and communication technologies. In this regard, the integration of ICT (information and communication technology) into the process of teaching and learning has a higher impact on both teaching and learning approaches. This is attributed to the fact that ICT has a wide range of tools and resources which influence and determine the way it is used and the subject that it is being integrated into for teaching (Fernandez,. et al., 2020).

Singh & Gupta (2022) define Technology as « the way, manner, or means by which a thing is gained. it creates an understanding of how to use computer software and hardware such as the internet, digital video, and common technologies, interactive or smart boards and e-books in education ». In the same line, techno-pedagogy focuses on how technology can be used to facilitate learning processes and environments. It deals with integrating technology into the learning and teaching process. It includes hands-on applications that focuses on how to evaluate and integrate digital educational resources into the classroom (Asad et al., 2021).

From another perspective, technological competence is regarded as "the capability, ability, proficiency, expertise, skill to use technology or technological methods and equipment's to do something successfully or efficiently. It supports teachers in numerous ways first and foremost in stimulating learning beyond the classroom" (Singh & Gupta, 2022). Hence, it is the application of scientific and technological theories and rules in the educational system and the use of scientific methods and procedures in teaching. This integration of technology in education allows for promoting the learning outcomes as well teachers and students' performance.

1. Methodology

1.1 The Aim of the Study

This paper aims at investigating the major challenges in techno-pedagogy continuous training within the context of higher education in Algeria. The integration of online learning platforms and educational technology has become a pressing need in modern educational systems, yet various obstacles hinder its effective implementation. This study intends to explore these obstacles by analysing the attitudes, experiences, and concerns of university teachers. It also seeks to provide potential solutions to these challenges by proposing practical strategies for

the enhancement of techno-pedagogical skills among teachers, ultimately contributing to the development of a sustainable model for the integration of technology in teaching and learning. The study will highlight the need for a more structured, continuous approach to training in educational technology, ensuring that university educators are adequately prepared to meet the demands of 21st-century pedagogy.

1.2 Research Questions

This research is guided by the following questions:

What are the major challenges faced in techno-pedagogy continuous training among university teachers in Algeria?

What potential measures can be implemented to effectively address these challenges, and how can they improve the integration of online learning platforms and educational technology in university teaching practices?

1.3 The Participants

The participants in this study consisted of eighteen university teachers, selected based on their experience and engagement with modern teaching technologies. These participants were drawn from various disciplines, including humanities, social sciences, natural sciences, and technology in order to ensurre a representative sample across academic domains. The diverse academic specializations of the participants allowed for a comprehensive analysis of techno-pedagogical challenges as experienced by educators with varying needs and resources.

Among the participants, seven were male and eleven were female, reflecting a balanced gender distribution and contributing to diverse perspectives on the adoption and integration of educational technologies. The participants' experience of teaching ranged from early-career educators with 3–5 years of experience to teachers with over 10 years in the profession. This range in experience levels provided valuable insights into the different attitudes and skill sets of teachers when it came to the integration of technology in their teaching practices. It is worth mentioning that all participants had previously attended at least one professional development session on the use of technology in education, though their frequency of use of these technologies varied.

1.4 Methods

To gain a comprehensive understanding of the challenges faced in techno-pedagogy training, a survey design was employed using the unstructured questionnaire and the semi-structured interview as data collection tools. This design ensures a comprehensive analysis of the research problem.

1.4.1 The questionnaire

The unstructured questionnaire was designed and distributed among the participants. The questionnaire comprised ten questions aimed at gauging teachers' familiarity with online learning platforms, their current usage of such platforms, and their attitudes toward the integration of technology in their pedagogy. Specific areas of inquiry included the types of technological tools used in the classroom, the frequency of use, the perceived benefits and drawbacks of these in conjunction with teachers' confidence in their own technological competencies. The quantitative data provided data on the current state of techno-pedagogical practices in Algerian higher education institutions.

1.4.2 The Interview

While the questionnaire data provide deeper insights into the experiences and perspectives of the participants, semi-structured interviews were conducted with all eighteen teachers. These interviews allowed for deeper discussions about the challenges and barriers to integrating technology in the classroom. The open-ended format of the interviews enabled participants to express their concerns, suggestions, and personal experiences in detail. Key areas explored in the interviews included the teachers' perceptions of the adequacy of existing techno-pedagogical training programs, the challenges they encountered when using technology in teaching, and their thoughts on potential improvements to training initiatives.

2. Summary of the Results

The findings from the quantitative data revealed that the majority 79% of respondents held positive attitudes towards the integration of technology in education. This proportion of participants expressed enthusiasm for the potential of online platforms and digital tools to enhance the learning experience, improve student engagement, and provide more interactive and flexible modes of instruction. Moreover, 75% of teachers indicated that they regularly used technological tools in their classrooms, though the extent and frequency of this usage varied.

Commonly used tools included multimedia presentations, online assessment platforms, and virtual classrooms, such as Moodle and Google Classroom.

Despite these positive attitudes, the data highlighted several significant challenges: The participants stated the lack of access to adequate technological resources as a major barrier to the effective implementation of techno-pedagogical practices. In particular, the absence of multimedia resources, such as interactive software, projectors, and reliable internet connections, was seen as a significant hindrance to the use of blended and online learning strategies. Teachers reported that students' performance was often negatively affected by these infrastructural challenges, leading to lower achievement levels and reduced engagement in technology-based activities.

Besides, the qualitative data from the interviews revealed that many teachers are unprepared to fully integrate technology into their teaching due to a lack of comprehensive training programs. Although most participants had attended some form of professional development on the use of technology in education, these sessions were often described as superficial and lacking in practical applicability. Teachers expressed a need for more hands-on, continuous training that not only introduced them to new tools, but also provided guidance on how to effectively incorporate these tools into their teaching practices. Furthermore, several participants mentioned that they were often left to navigate new technologies on their ownwithout sufficient institutional support or peer collaboration**.**

The interviewees raised the issue of resistance to change among some educators. While many teachers were open to adopting new technologies, others were hesitant or resistant to altering their established teaching practices. This resistance was often attributed to a combination of factors, including a lack of confidence in using technology, concerns about the time required to adapt to new tools, and doubts about the effectiveness of digital learning platforms in promoting deep learning.

Conclusion and Recommendations

The results of this study emphasise the importance of providing continuous, high-quality professional development for university teachers in the area of techno-pedagogy. In order to successfully integrate technology into higher education, it is essential to address the challenges identified in this study. Namely, the limited access to resources, the insufficient nature of current training programs, and the resistance to change among some educators.

The study recommends that educational institutions prioritize the development of comprehensive training programs that are tailored to the specific needs of university teachers. These programs should go beyond basic digital literacy and focus on helping educators integrate technology into their pedagogy in meaningful ways. In this regard, training should be ongoing, with opportunities for peer collaboration, and practical application of skills learned. Moreover, institutions should invest in improving the technological infrastructure available to teachers and students, ensuring that all classrooms are equipped with the necessary tools for successful technology-enhanced learning.

Additionally, the study calls for further research into the development of a professional model for techno-pedagogical training in Algerian higher education. This model should be designed to be adaptable to the diverse needs of teachers across different disciplines and should include mechanisms for continuous evaluation and improvement. Therefore, universities in Algeria can create a more supportive environment for the integration of technology into teaching, ultimately improving the quality of education and preparing students for the demands of the digital age.

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