Smart Lesson Planning Environments for Deeper Learning:
A Kuwaiti Case Study in Teacher Education

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EXECUTIVE SUMMARY

This chapter is related to pre-service teachers preparing to teach in Kuwait public schools. Pre-service teachers were enrolled in an instructional technology course related to how to integrate emerging technologies, especially Web 2.0 tools, in their teaching. This course emphasized the connection between theory and practice reinforcing the process of how pre-service teachers smartly think about using web tools as means to enable them to experience deeper thinking when creating their lesson plans. This deeper thinking process will prepare them to transfer their gained experience into their actual teaching field. A conceptual model combining 7P-ILD with ASSURE model aided the design of the smart lesson planning environment. This design enables pre-service teachers to create innovative lesson ideas in the cloud environment. The lesson ideas and tools that were used to engage deeper learning enabled pre-service teachers to share their ideas with a wider audience and at the same time allowed the wider audience to assimilate these ideas into their own lesson structures.

INTRODUCTION

Technology integration in Kuwait public schools is perceived by the Ministry of Education (MOE) as not being as pervasive as desired, and is below expectations as compared to the MOE's efforts to provide ICT (Information and Communication Technology) use in teaching and learning (National Center for Education Development, 2013). Moreover, the majority of the MOE's officers gave a low rating for the quality of Kuwait's teacher preparation programs and the quality of teachers graduating from these programs. In line with this situation, the literature indicates the lack of pedagogically sound technology

integration skills, especially skills related to Web 2.0 tools, in the teaching and learning process among newly graduated teachers (Butler, 2012). Therefore, teacher preparation programs are still considered insufficient to prepare teachers on how to use technology applications in learning. This insufficiency emerges from the fact that pre-service teachers tend to concentrate on using technology as a personal productivity tool instead of as a tool that can affect students' learning. Consequently, the popular productivity tools that are frequently used are those that are aligned to word processors and presentation programs (Graham, Tripp & Wentworth, 2009; Hughes, Gonzales-Dholakia, Wen & Yoon, 2012). Therefore, in light of the availability and affordability of freely accessed Web 2.0 and Web 3.0 tools, teacher education programs need to consider the importance of implementing sound cloud-based design learning environments. These cloud-based learning environments can be adopted in technology related courses to align with the 21st century framework for teacher preparation (Breen, 2018; Clark, Zhang & Strudler, 2015) that reinforces deeper learning. Deeper learning refers to the process of helping individuals, in this case pre-service teachers, to develop transferable knowledge and skills that can be applied in new situations, which are the actual teaching for pre-service teachers (Pellegrino, 2015).

A study by Al-Furaih (2015) using the Decomposed Theory of Planned Behavior revealed that pre-service teachers in future will have a higher tendency to display positive behavioral intentions in using Web 2.0 applications in their classrooms. In light of the literature on deeper learning and the findings by Al-Furaih, this case study highlights how this is achievable through a process of Smart Lesson Planning Environments (SLPEs). As stated by Thomas, Larson, Clift and Levin (1996), fruitful efforts are expected to be gained in implementing these leaning environments in the light of pre-service teachers' aptitudes to adapt, model and integrate technology in instructional lessons and classroom management.

PROBLEM STATEMENT

There is dissatisfaction among the Ministry of Education (MOE), Kuwait on the quality of pre-service teachers graduating from teacher preparation programs in spite of the MOE's efforts in providing professional development programs and ICT tools (National Center for Education Development, 2013). This dissatisfaction is linked generally to various factors in teacher preparation and particularly to the use and transfer of ICT skills in public schools in Kuwait. To mitigate the problem, a pedagogically sound learning environment was created to allow pre-service teachers to apply and transfer their knowledge, skills and competencies within a compulsory instructional technology course, which required them to build technology-rich lesson plans using smart technology processes. The method used by the pre-service teachers to build the innovative technology-rich lesson plans followed a conceptual model combining 7P-ILD (Al-Furaih, 2017a) with the ASSURE model (Heinich, Molenda, Russell & Smaldino, 2001). The idea of providing a conceptual model is to first use proven theories of technology integration, and secondly to provide a smart environment for pre-service teachers for their ideas to emerge implicitly and innovatively when they design technology-rich lesson plans using cloud enabled technologies.

LITERATURE REVIEW

Pre-service teacher preparation programs are planned based on literature spanning many decades of research. In the last decade, these programs have been influenced by influential schools of thought in

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