DEVELOPMENT AND EVALUATION OF AN ELECTRONIC PROTOTYPE FOR PEDAGOGICAL SKILLS ENHANCEMENT OF EDUCATORS IN MALAYSIAN HIGHER LEARNING INSTITUTIONS

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ABSTRACT

This study was aimed at investigating how electronic learning prototype could be employed as an alternative training support of educators in Malaysian higher education for improving their pedagogical knowledge and skills. It explores the benefits of e-learning platform to facilitate higher learning educators and to mitigate growing challenges faced by educators in enhancing their pedagogical skills. The theoretical framework model of this study was guided by constructivism and connectivism learning theories along with activity theory and other theories such as adult learning theory, experiential and transformation theory. The activity theory guided the design-based research (DBR) by Reeves (2000, 2006) which is adapted in this study as its research methodology. This design-based research is carried out in eight phases: analysis, design, validation, development, implementation, evaluation, impact and continuous learning. The analysis and design phases obtain the perspectives of 8 experts comprises educators, manager, learning designers cum trainers and system administrator. In analyse phase the needs and challenges faced by educators in professional development for pedagogical skills enhancement were analysed and also identified the benefits and acceptance of an electronic prototype as an alternative solution for professional development. In design phase experts were to giving their inputs on learning strategies, elements, tools and system specifications for designing an electronic prototype. In validation and development phase, experts used ACTA techniques to validate the prototype. During the implementation and evaluation, 43 educators from higher education participated in the training course offered by the prototype. Two surveys were conducted immediately after the completion of the course. The result indicated that all educators agreed that they are ready and motivated to use technology in teaching and learning. Further, educators'

age, gender and teaching experience have no influence over their performance expectancy, effort expectancy and self-efficacy. However, the performance effort expectancy and self-efficacy have significant towards educators' behavioural intention of using the prototype as self-directed and lifelong learning platform. The study also reported that the Secondary Influence, Environment and Ability variables have influence over the Motivation variables. Hence, electronic training can be scalable and sustainable alternative learning system for continuous professional development.

APPROVAL PAGE

I certify that I have supervised / read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, as a thesis for the fulfillment of the requirements for the degree of Doctor of Philosophy.

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DECLARATION

I hereby declare that the thesis submitted in fulfillment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

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This journey had many perils and triumphs. The journey was not limited to acquiring new skills and knowledge, rather discovering myself, people, culture and politics in general. I have learnt that experience is the best teacher and this research study would be my new beginning.

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INTRODUCTION

1.1 Introduction

In the study of human development and social science, the term development is used widely as vital changes in skills, knowledge and attitudes of individuals over a period of time (Feldman, 2010). In education, the term professional development may be used in reference to a wide variety of specialized formal education, faculty training or continuous learning intended to support administrators, teachers and other educators to expand their professional knowledge, competence, skill and effectiveness (The Great Schools Partnership, 2013).

The nascent demand for professional development as part of lifelong learning for Higher Learning Educators (HLEs) has increased remarkably worldwide in the last two decades (Fenwick, T., 2018; Lai, 2011). These are also due to the rapid increase in the number of local and international students in Higher Education Institutions (UNESCO, 2009; Diamond, 2008) The emergent of 21st-century learning culture changes the pedagogical approaches and strategies in higher education (Lizier, J. T. et. al., 2018; Lai, 2011; CERI report OECD, 2009).

This thesis first, attempts to conduct a preliminary investigation on the issues, the challenges and the needs of professional development to enhance educators' pedagogical skills in Malaysian higher learning institutions. Second, it proposes an electronic prototype as an alternative solution to a traditional professional development environment. Finally, conduct evaluations on user acceptance of the proposed electronic prototype and the user motivation to transfer learning using such prototype.

1.2 Background of the Problem

In Malaysia, this development in the education sector is encouraged and supported by Ministry of Higher Education in line with the nation's vision to be a developed nation by the year 2020 (New Economy Model (The Tenth Malaysia Plan (RMKe-10) 2010 – 2015; NEM), 2011). The outcomes of these initiatives were mooted to develop a knowledge-based society by leveraging human capital through innovative and dynamic continuing education or lifelong learning (MOHE 2015).

The initial blueprint proposed the National Higher Education Plan (NHEAP) for 2007 to 2010 (Ministry of Higher Education (MOHE), 2007). Phase 1 placed the footing for implementing the basics necessary to complete long-term plans. The next blueprint was National Higher Education Strategic Plan (NHESP) 2011–2015 (MOHE, 2007), comprising the following four phases (Grapragasem et al., 2014) as shown in Figure 1.1.

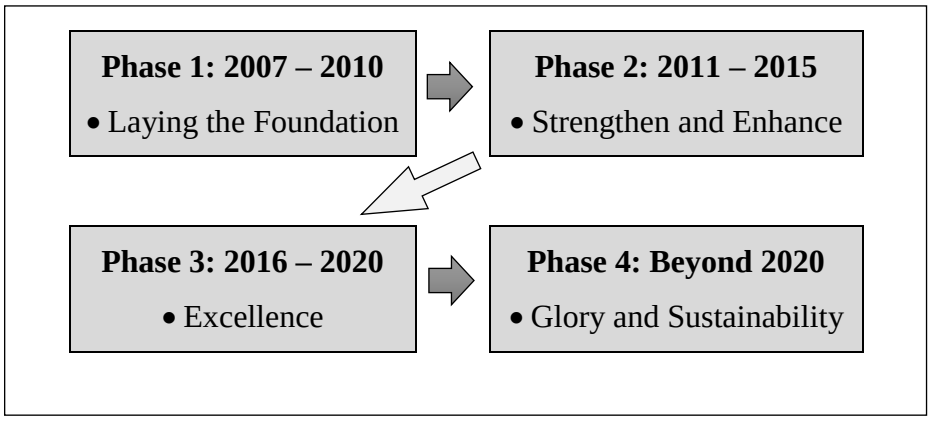

Figure 1.1 Phases of the National Higher Education Strategic Plan

The first NHEP blueprint (2007–2010) represented initiatives to assist all higher educational institutions in the production of a human capital cohort with first-class attitudes. The plan had five pillars that acted as the foundation for future developments. These were governance, leadership, academic environment, teaching and learning, and research and development (R&D). Among the pillars, the third

pillar is the academia environment which emphasises activities that promote academic staff developments. The fourth pillar is teaching and learning, expected academics to lead in their respective fields and focus on innovative methods of curriculum delivery and participate in enrichment programs while demonstrating professionalism and competence in their pedagogical skills. The Malaysian Qualifications Framework was set as a benchmark for the facilitation of quality control in higher education.

The Phase 2 of NHESP was designed to execute the Critical Agenda Plan's (CAP) project. CAP criteria included APEX University, MyBrain15, academic performance audit, lifelong learning, and graduate training scheme. In Phase 2, the Minister of Education highlighted a focus on strengthening efforts with the following goals: to produce human capital; enrich creativity and innovation; maximize the ecosystem of higher education; take advantage of globalization; and transform the leadership of leading institutions of higher learning. Regarding efforts to produce human capital, the plan emphasised strengthening the 5C's which comprising: Effective Communication skills; Collaboration and team building; Creativity, Critical thinking and innovation, and enculturation literacy. The development of human capital also focuses on enhancing intellectual Capital.

Overall, based on plans introduced in Phases 1 and 2, the current system of higher education in Malaysia has begun to focus on four distinct areas; globalization, pedagogical enhancement, governance, and a knowledge-based society. The general aim of NHESP's comprehensive design is to strengthen higher education consolidation as an international and regional hub of academic and educational excellence. One of the shifts in the Malaysian National Education Blueprints 2013-2025 and 2015-2025 is to increase the educators' quality of delivery and pedagogical knowledge and skills (MOE, 2014, 2015).

As Ministry of Education has a huge responsibility of educating Malaysians towards achieving world-class standards. The Malaysian Qualification Agency and the Ministry of Education Malaysia ensure the curriculum and assessment of higher education institutions are aligned with the international benchmark (MQA, 2012; MOE, 2014, 2015). In order to achieve this, educators need to be competent in educating learners towards the Vision 2020 as aspired by Malaysian government (MOE, 2014, 2015). This has implications on continuous training or leaning of educators in higher education as it would produce educators who are competent in pedagogical and technological skills that require to educate 21st-century learners (Fadzil, M., 2014; Freifeld, 2011). As one of the importance parameter for accreditation of Malaysian higher learning institutions (MHEI), the MHEI must provide a minimum of forty (40) hours of professional development training for their (MQA, 2012).

Developing high quality education through high quality professional development courses for educators in higher education institutions and foster lifelong learning initiatives are part of the focuses of the Malaysian National Education Blueprint for Higher Education 2013 – 2025 (MOE, 2014, 2015). One of the most important shifts in quality higher education is to maintain or enhance quality of the educators (Roy, T. S., 2016; Shirani Bidabadi, N., et. al. 2016; Moore, 2014; Henard, F and Roseveare, D, 2012; OECD, 2011). Professional development programs are designed to produce high-quality educators who are competent in their job. There have been constant measures to upgrade educators' in Malaysian higher education and efforts have been taken towards achieving this goal (MOE, 2014, 2015). Educators are the pillars of any education system. Their training and continuous learning need to focus on the contemporary knowledge and skills that are useful in both present and