A BLENDED LEARNING MODEL OF TECHNOLOGY ACCESS AND TECHNICAL SELF-EFFICACY: MULTIPLE MEDIATOR EFFECTS ON STUDENT READINESS

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ABSTRACT - Studies establish that the individual' beliefs on their own capacity and attitude in blended learning practice, results in positive learning outcomes. This study examines how the personal factors affecting the success of e-learning system to improve better results. Structural equation models on data of 305 targeted respondents from the selected public university demonstrates online communication self-efficacy, attitude and online media as multiple mediators between the technology access and technical usage self- efficacy and leads to increased blended learning readiness among students. It appears that despite technological factors, students with high belief in their ability and attitude makes themselves prepared towards new way of learning as they gain expanded learning experience.

Keywords: Technology access; technical usage self-efficacy; communication self-efficacy; attitude; online media.

1. INTRODUCTION

The concept of blended learning has draw immerse attention to allow for multi channel teaching method through online learning experiences all in one place. It has emerged of different ways designed to suit the varying learning styles of their students. Majority of blended learning studies revealed new teaching and learning model in higher education[1,2] that provides a great impact on teaching and learning outcome[3]. These are evidence in academic achievement, where greater flexibility in learning[4,5]. Characteristics of the blended learning environment inspire students to obtain knowledge and advice from various sources, to apply the subject matter and acquire confidence in implementing the knowledge they learn

in a real world context. One of the important aspects towards the successful implementation of the blended learning at the university level is to access their readiness[6].

Recent researchers found that most students have a positive attitude towards application of new technologies in the educational process[7,8], which specifically demonstrates the belief that blended learning improves their productivity and enables them to achieve their learning more effectively than traditional classroom-based approaches[7].Their studies' findings are consistent with previous study found that students often have a positive attitude towards blended learning that eventually has a positive influences on students' achievements and their outcomes[9]. In line with the online learning environment, it also requires communication using computer and quality in the learning experience in this media, competence in learning activities, student interaction and active participation[10]. In fact, students' willingness to engage with others through electronic communication is a key feature of students' ability to predict success with online learning. Moreover, digital videos are the most commonly used form of media used by students to preview material before attending class in blended learning[11]. The videos designed for online classes interactively contribute to both the development of the student-content interaction and to increase student self-efficacy, which eventually may influence sub-dimensions of students' readiness. Drawing upon these literatures, the goal of this study was to examine the relationship between technology access and technical usage self- efficacy on students' readiness. We also examined the role of multiple mediators of online communication self-efficacy, attitude and online media between the technology access and technical usage self- efficacy on blended learning readiness among students.

2. MATERIALS AND METHODS

Research survey in quantitative analysis was used as the primary research design for this study. Both research designs can be considered as suitable methods since researcher intends to measure the targeted variables as a quantitative in nature[12]. A total of 305 targeted respondents for the selected public university participated in this study, and all the questions are completely answers by these respondents since the researchers used a face to face data collection method. This study used Structural Equation Modeling theory by using Partial Least Square estimation technique (i.e. PLS-SEM) due to exploring effect of three mediator variables simultaneously since this technique can be considered as an optimal technique for handling this complex situation as compare to Covariance based Structural

Equation Modeling (i.e. CB-SEM) technique[13,14]. Since the significance test of PLS-SEM rely on bootstrapping properties, it is suggested to use 5000 bootstrap samples for accessing the influence of mediating effect [14,15].

3. RESULTS AND DISCUSSION

3.1. Subtitle

The mediating analysis indicated that, Online Communication Self-Efficacy, Attitude and Online Media simultaneously fully mediated the relationship of Technical Usage Self- Efficacy and Readiness. In the same way, all the three mediator variables were also simultaneously partially mediated the relationship of Technology Access toward Readiness. This two primary findings can be made because the direct relationship of the Technology Access toward Readiness was found statistically significant, whereas the contradict finding

was found for the direct relationship between Technical Usage Self-Efficacy toward Readiness. Figure 1 and Figure 2 below shows the result of PLS-SEM analysis.
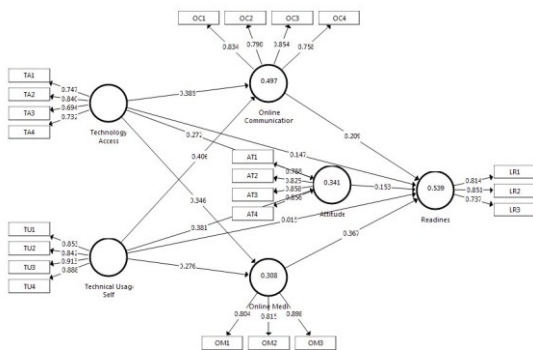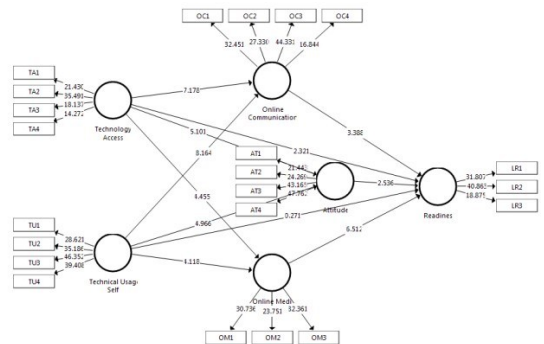
Figure 1. Loading Assessment   **Figure 2**. Bootstrapping Assessment

4. CONCLUSION

Based on this findings, it can be concluded that, if average levels of Technology Usage Self- Efficacy increase, it will simultaneously increase the level of Online Communication Self- Efficacy, Attitude as well as Online Media levels, hence it

will lead to increase the level of Readiness, but the Technology Usage Self-Efficacy also partially give an direct influence toward Readiness. Besides that, in the context of the simultaneous concept, when the level of Technology Access was also increase, simultaneously the level of Online Communication Self-Efficacy, Attitude and Online Media levels will increase too. Therefore, it will also fully indirectly increase the level of Readiness.

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