

Transitioning to Online Learning during COVID-19 Pandemic: Case Study of a Pre-University Centre in Malaysia

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Abstract—In the last decade, online learning has grown rapidly. However, the outbreak of coronavirus (COVID-19) has caused learning institutions to embrace online learning due to the lockdown and campus closure. This paper presents an analysis of students' feedback (n=354) from the Centre of Pre-University Studies (PPPU), Universiti Malaysia Sarawak (UNIMAS), Malaysia, during the transition to fully online learning. Three phases of online surveys were conducted to measure the learners' acceptance of the migration and to identify related problems. The result shows that there is an increased positivity among the students on the view of teaching and learning in STEM during the pandemic. It is found that online learning would not be a hindrance, but blessing towards academic excellence in the face of calamity like the COVID-19 pandemic. The suggested future research direction will be of interest to educators, academics, and researchers' community.

Keywords—E-learning; STEM; coronavirus: pandemic; education technology; assessment; technology acceptance

I. INTRODUCTION

In the last decade, online learning has expanded rapidly due to its convenience [1]. Online learning attempts to provide flexibility to study ubiquitously for both the instructors and learners [2][3], and it is without its unending challenges. However, the world is shaken with the outbreak of the Coronavirus (COVID-19) outbreak [4]. The situation has forced learning institutions to impose a temporary halt in the academic calendar. Certain level of education are in dilemma whether to abide by the enforcement or to abruptly welcome online learning [5]. The Centre of Pre-University Studies (PPPU), Universiti Malaysia Sarawak (UNIMAS), Malaysia chose to complete its academic calendar, migrating its teaching-learning to online.

Thus, the objective of this paper is to study the students' perceptions of the sudden shift to online learning in terms of participation and examination. This paper presents an analysis of the feedback from the students in PPPU. It is high time for pre-university instructors and learners to readjust their preparedness to tackle the challenges in the migration of offline to online learning. Among the essential elements that need to be addressed include instructors' and learners' readiness of the transition to online teaching and learning. This paper is

structured as follows: Section II discusses the literature review. Section III presents the case study of the PPU migration to online learning. Meanwhile, Section IV explains the methodology. Section V presents the results of the survey. Next, Section V discusses the findings. Finally, Section VI summarizes the project and offers future research opportunities.

II. LITERATURE REVIEW

In Malaysia, the effect of the global pandemic has hampered the learning institutions during the mid-semester break of undergraduate programs and the ongoing second semester of pre-university programs [6]. To further tackle the alarming infection rate of the deadly coronavirus, the Malaysian government had issued a movement control order (MCO) [7] that fully dampen the learning institutions' operational activities. Thus, with little to no option left, learning institutions should opt to alter its course of action from the standard norms to an already seemingly positive alternative of embracing online learning. However, the change must be well planned and appropriately designed to avoid further disruptions caused by the MCO. As the situation provides, there would be ample time to prepare a good instructional design of bachelor degree programs to suit the needs of the current learning environment.

However, online learning comes with massive challenges. Firstly, the students need to have technology access as the primary indicator of the online learning readiness [8]. As students also take their learning independently, instructors may also need more time to design their content delivery effectively [9] as learners will most definitely be facing technical and adapting difficulty. Highlighting a report from UNESCO reported that over 87% of the world's student population from more than 160 countries were impacted by the lockdown [10]. In Malaysia, this unprecedented crisis has provided an opportunity to improve online education for almost 5 million school students and 1.2 million university students [11].

Due to the pandemic, particularly when all educational activities are stopped, online and web-based learning platforms have become dramatically popular. It allows universities to adapt their conventional blended-based learning during the pandemic quickly. However, the migration process onto online