

e-Proceeding

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VIRTUAL GO-GREEN: **CONFERENCE & PUBLICATION**

"SUSTAINABLE ENVIRONMENT, RESILIENCE AND SOCIAL WELL-BEING"

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MEASURING ODL EFFECTIVENESS: A COMPARATIVE ANALYSIS OF STUDENT PERFORMANCE IN INDEPENDENT LANDSCAPE DESIGN

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Abstract

The outbreak of Covid-19 pandemic that hit Malaysia from February 2020 has indirectly transformed the world educational learning environment, from face to face learning to massive online platforms. As aligned to the Educational 5.0 @ UiTM that embraces values and future progressive thinking, the application of ODL (online distance learning) throughout this pandemic phase has seen a positive and progressive move towards student performance undertaking Independent Landscape Design course. This design-based syllabus that requires a complete landscape design process is synergised to a face to face learning environment. However due to this outbreak, the application of ODL has demonstrated the changes of delivery approach (from traditional to online learning), seeing how MOOC platform (massive open online courses) able to stand as the leading channel that aided landscape design students in performing and delivering their understanding on landscape design process, design approaches and technical drawings in completing their final project. Acknowledging the shift of design-based delivery approach, this paper will further discuss measuring student performance throughout the ODL implementation. These analytical findings further reveal the factors that bestow student performance despite the reality behind the success of this new teaching strategy that is achievable for landscape architecture design students.

Keywords: *independent landscape design; online distance learning; landscape architecture; MOOC independent landscape design*

1.0 INTRODUCTION

Adnan and Anwar (2020) emphasized that educational institutions should promptly adapt to this educational change, thus designing an effective content and delivery system that easily embark to the current situation for better learning outcomes. Agarwal and Kaushik (2020) noted that the open learning method offers a solution to keep people connected and continue working in distance. Hence, the transformation of conventional learning through face-to-face for design-based courses taught in landscape architecture program offered by the University Teknologi MARA (UiTM) Malaysia have significantly challenged the academic in making sure that the syllabus is well delivered and at the same time attaining the student learning outcomes. This paper focuses on teaching pedagogy through ODL and the student's performance undertaking Independent Landscape Design course, a compulsory course offered for the final year student of Diploma in Landscape Architecture, UiTM Perak Branch.

2.0 LITERATURE REVIEW

The advent of teaching methodology from face-to-face classroom to online distance learning (ODL) have significantly embraced the learning environment over this recent decade.

With a single internet connection, Paul and Jefferson (2016) concluded that learning activities are becoming more flexible through ODL implementation. Schneider (2020) highlights that open learning embellished the new educational norm and will continue to enfold teaching pedagogy. With the recent outbreak of COVID-19 Coronavirus pandemic that first evolved in China from December 2019, this worldwide issue has given impact not just to community, health and economy, but also to the education sector worldwide (Gewin, 2020). Responding to this pandemic wave, the Government of Malaysia from 18 March 2020 has imposed the movement control order (MCO) that restricted the movement of its citizens over the fight of COVID-19. In order to make sure that this lockdown does not impact the educational sector, therefore online learning began to expand and flourish within the current Malaysian educational system. From another perspective, COVID-19 has indirectly forced digital online learning to commence rapidly and this synergize to the initial Malaysia's aspiration through its Vision 2020.

3.0 RESEARCH METHODOLOGY

The unique semester that starts from April to August 2020 marked its own path and achievement. To understand the student readiness before the commencement of ODL, an online survey was conducted in March 2020 to determine the student's willingness and challenges faced during MCO that may affect their study commitment if they continue to enroll their study in April.

4.0 RESULTS AND DISCUSSION

Since this survey specifically run for students undertaking Independent Landscape Design (see Table 1), therefore the Pearson Chi-Square result ($\chi^2 = 18.169$, $df = 2$, $p < 0.05$) highlighted in Table 2 illustrates a significant difference between the student readiness for ODL against the level of internet speed. This shows that students can pursue online learning if they were equipped with high internet speed throughout the ODL implementation.

Table 1: Cross tabulation of student's readiness to participate in ODL

			INTERNET SPEED			Total
			Fast	Medium	Weak	
If online learning is carried out, are you ready to access from your residence?	Yes	Count	8	41	4	53
		Expected Count	4.2	37.4	11.4	53.0
		Standardized Residual	1.9	.6	-2.2	
	No	Count	0	31	18	49
		Expected Count	3.8	34.6	10.6	49.0
		Standardized Residual	-2.0	-.6	2.3	
Total	Count	8	72	22	102	
	Expected Count	8.0	72.0	22.0	102.0	

Table 2: The Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.169 ^a	2	.000
Likelihood Ratio	21.963	2	.000
Linear-by-Linear Association	17.959	1	.000
N of Valid Cases	102		

a. 2 cells (33.3%) have expected counts less than 5. The minimum expected count is 3.84.

Additionally, 84.3% of the respondents informed that they owned a laptop while 72.5% claimed to have smart phones that enabled them to well participate in ODL processes (see Figure 1). Equipped with personal electronic devices, this finding further denoted that students were ready to enter the fully online learning procedure from home for this semester. Having regards to this finding, the students were asked to highlight their online learning platform that suits them throughout this ODL implementation. With multiple choices of answers, the majority of the respondents prefer WhatsApp application as their main platform. As this application is easily accessible through smartphones, this further allows for prompt responses to any queries thus aligned with Gewin (2020) study that highlights on student engagement that correlate to effective online learning platforms. Other than WhatsApp application, 52.9% of the respondents nominated Telegram and i-Learn v3 UiTM, 49% preferred MOOC Open Learning platform while 44.1% selected Google Classroom. Aligning to the respondent's selections, these findings further guide academic teaching Independent Landscape Design to set up the right online learning platform that benefit both parties thus uplift the student's learning experience for this semester.

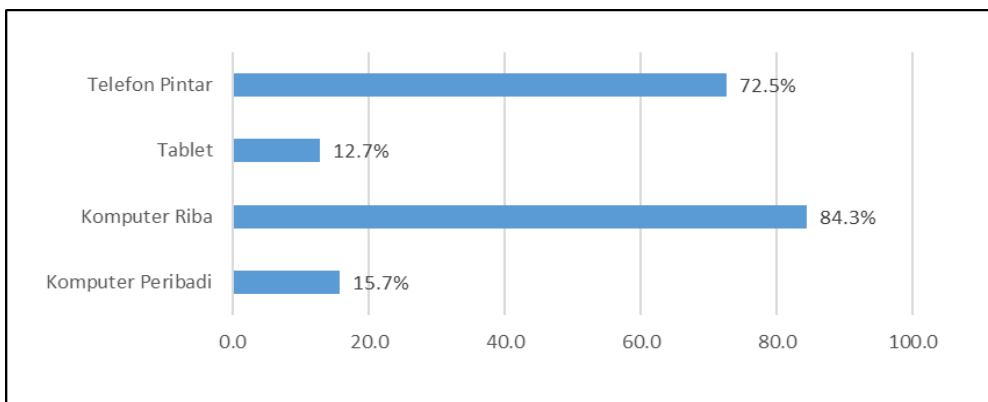


Figure 1: Electronic devices own by the students

Source: Author (2020)

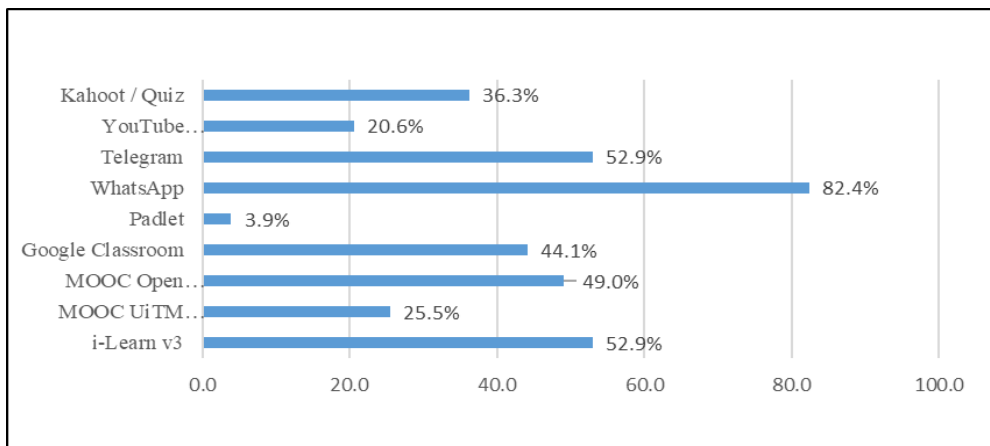


Figure 2: Student preferences for online learning platforms

Source: Author (2020)

In measuring the effectiveness of ODL during Covid-19 pandemic, Paul (2019) emphasised that a study could develop analyses that measure several semester achievements. Therefore, this study analysed the student performance within the three recent semesters - Semester March – July 2019, Semester September 2019 – January 2020, and Semester March – July 2020. Based on the analysis, it is surprising to discover that the result for this semester depicted an incense of students getting Grade A for this course (see Figure 3). Despite the challenges faced by both academics and students throughout this ODL

implementation, the student's results for this semester is satisfactory. Delivery process even to the academics is quite challenging for this semester knowing the subjective demand of landscape design and at the same time making sure that all 102 students are able to grasp the critical knowledge related to design development and processes, construction drawings and documentation as well as technical report. As proverb say, all hard work pays off, a comparative results for three semesters depicted in Figure 3 demonstrated that regardless of limitation¹ Throughout the ODL implementation, the results for this semester have surpassed the percentage of students getting grade A cluster (grade A+, grade A and grade A-) with an increase of 11%. This Independent Landscape Design requires students to venture into a different project scope and demand (with various design strands that include waterfront landscape design, urban landscape, parks and community design, institutional landscape design, cultural landscape, urban heritage and landscape, etc.), therefore considering this complexity and to attain to each project aim, hence this result reveals the successful implementation of the online learning for landscape architecture program. The increased percentage of grade A cluster has also evidenced in the decrease of percentage of students getting grade B (11%) and grade C (1%) as compared to the previous semester results.

Through student preferences of the online learning platform based on the survey conducted in March 2020 (see Figure 2), it is therefore evidence that i-Learn v3 and MOOC Open Learning platform have sufficiently aided the students in undertaking Independent Landscape Design. Given WhatsApp, ZOOM and Telegram as the intermediate platform that sufficiently stand as the communication platform between students and academics, MOOC Independent Landscape Design serve as the core reference platform that aided students with four development modules - Module 1 (Introduction of Independent Study); Module 2 (Site Planning & Design Development); Module 3 (Construction & Documentation); and Module 4 (Portfolio and Design Samples). Through consistent online critique sessions via Google Classroom, Padlet, together with sufficient references uploaded through i_Learn v3 and updated samples in MOOC Independent Landscape Design, challenges faced through ODL implementation is tackled successfully. Besides, these successful students in distance learning contexts showed the ability to study independently, highly motivated and able to absorb the communicated information on their own. Hence the excellent results depicted in Figure 3 have verified that online learning platform is another teaching method for landscape architecture students.

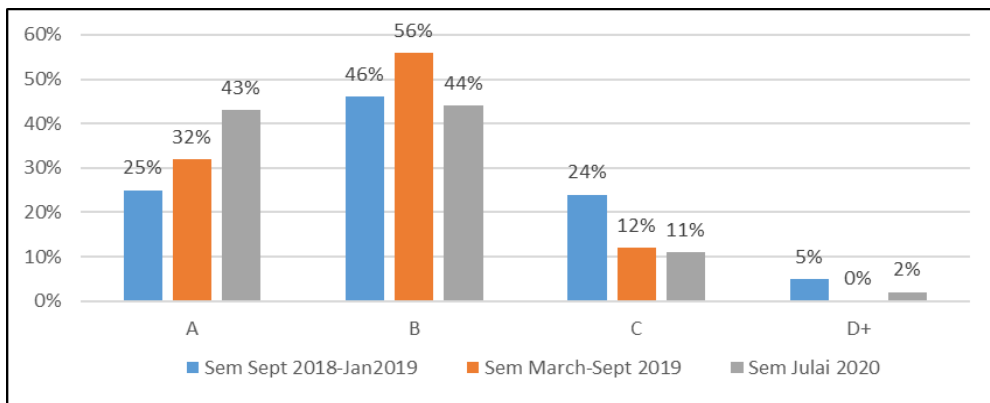


Figure 3: Result by percentage for three semester for independent landscape design course

Source: Author (2020)

¹ Due to MCO (Movement Control Order) imposed by the Malaysian Government from 18 March 2020, some students were affected financially due to parents loss of jobs, and some of them are doing part time online work to support the family financial problems (data were based on the online survey for Independent Landscape Design that was conducted in March 2020). These difficulties have indirectly impacted the work progress of the related students.

5.0 CONCLUSIONS

This study does not challenge the needs and importance of face-to-face through traditional methods of learning but offers another dimension that is also suitable for teaching landscape architecture design courses. From the e-survey findings and student performance analysis, this paper demonstrated that distance learning is significant in safeguarding the teaching and learning strategy amid Covid-19 pandemic. Interestingly, the comparative results depict the overwhelming contribution of ODL in oppose to conventional teaching methods that was previously adopted for Independent Landscape Design. The findings also demonstrate the student's capability and appropriate survival strategy to conquer the 'changing' situation as part of their lifelong learning experience. This adds a new dimension to the field of online learning evaluation that enables the comparison of different modalities besides proposing a methodological shift for future.

Furthermore, this online learning for design-based students evidences desired findings, where the majority of students are still able to achieve good grades although they are facing various challenges and difficulties. The educator's efforts in exploring various teaching strategies, together with the students' initiatives and motivation, are the self-driven factors that have made this online teaching and learning successful. Therefore, this paper highlighted the reliability of teaching strategy, learning initiatives, online platforms and electronic devices are important factors assisting the effectiveness of these pedagogical changes.

In conclusion, this paper evidences that the practicality and reliability in conducting distance learning to design-based courses are no more in doubt and sufficiently competent towards enhancing the teaching methodology during pandemic and accommodating the trends of Education IR 4.0.

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Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
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Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

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