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## **THE SHIFT IN TEACHING PEDAGOGY FOR INDEPENDENT LANDSCAPE DESIGN DURING THE PANDEMIC: AN ANALYSIS OF STUDENT PERFORMANCE IN ODL**

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### **Abstract**

The teaching and learning environment have subsequently expanded. For the Independent Landscape Design course offered at UiTM Perak Branch, the online distance learning (ODL) has demonstrated the changes of delivery approach in teaching landscape design process. This design-based syllabus is more acquainted with face to face or physical teaching learning environment. Aligned with the Educational 5.0 @ Universiti Teknologi MARA that embraces values and future progressive thinking, this course has adopted MOOCLAA350 to engage and equip these design students with significant understanding, graphic presentation skills as well as technical aspects related to design developments and constructions. This paper analyses student performance throughout the ODL implementation, adopting MOOC and other relevant online platforms during this Covid-19 pandemic outbreak. An online survey supported with a comparative analysis between semesters was conducted to evaluate the students' readiness, challenges and performance throughout the semester. Some tools and techniques to ensure the continuity of learning during the current pandemic are described. The findings revealed factors contributing to student performance and the reality behind the success of this new teaching strategy which is practical for landscape architecture programs and may also be relevant to other design-based programs or courses.

**Keywords:** Independent landscape design, online distance learning, Landscape Architecture, MOOC

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## **INTRODUCTION**

The outbreak of Covid-19 pandemic that hit Malaysia in February 2020 and continues today has indirectly transformed the world's educational learning environment, from face-to-face learning to massive online platforms. The transformation of teaching methodology from face-to-face classroom to online distance learning (ODL) has significantly determined the changes in the learning environment. With a single internet connection, Paul and Jefferson (2019) concluded that learning activities become more flexible through ODL implementation. Distance learning in education has significantly witnessed growth in changing the pedagogical conventional learning environment. Schneider and Council (2020) highlighted that open learning embellish the new educational norm and will continue to enfold teaching pedagogy this decade. Particularly, this pandemic has given impact not just to the community's health and economy, but also to the education sector. Therefore, when the Covid-19 pandemic struck and disconnected people physically, the open learning method was the only solution to keep people connected and continue working in distance (Gewin, 2020). On 18 March 2020, the Government of Malaysia has imposed the Movement Control Order (MCO) that restricts movement of its citizens over the fight of Covid-19. In order to make sure that MCO does not impact the educational sector, online learning has begun to expand within the current Malaysian educational system. In particular, educational institutions have to adapt, design appropriate and effective content, arrange an effective delivery system and provide digital literacy training to pursue current situations and achieve better learning outcomes. From another perspective, this pandemic has indirectly 'forced' digital online learning to commence rapidly and this synergizes with the education industrial revolution 4.0 (IR 4.0) as well as intertwines with the Malaysia education aspiration.

Regardless of the many challenges which have occurred during its early implementation, Adnan and Anwar (2020) emphasised that the educational institutions should promptly adapt to rapid educational transformation, thus engaging IR 4.0 manifestation as the new impetus to the Malaysia educational system (Ramu, Taib, & Aziz, 2020). Therefore, designing an effective content and delivery system that easily supports the current situation is indispensable for better learning outcomes especially to design-based programmes including architecture, town and regional planning, landscape architecture and interior architecture programmes (Alithamby, 2005; Mohamed Ali, Othman, Latif, Awang & Rostam, 2020). Agarwal and Kaushik (2020) noted that the online learning methods offer solutions to keep people connected and continue working in distance. Hence, the transformation of the conventional learning through face-to-face for design-based courses taught in landscape architecture program offered by the Universiti Teknologi MARA (UiTM) Malaysia has significantly challenged the academic in making sure that the syllabus are well delivered and at the same time, the students' learning outcomes are achieved. This

paper focuses on the shift of teaching pedagogy through ODL during the pandemic and looking into the performances of the final year students who are taking the Independent Landscape Design course, a compulsory design-based course offered in Landscape Architecture diploma programme at UiTM Perak Branch.

### STUDENT READINESS FOR ODL

It is undeniable that the ODL approach in teaching the designed-based course is quite challenging and yet satisfying. With regards to the unique semester that began from April to August 2020, this primary Covid-19 semester portrayed its own path and achievement that opened a new gateway for educators to venture into fully e-learning methods while maintaining the quality of student's drawings, thus attaining the course learning outcomes. To understand the students' readiness before the commencement of ODL, an online survey was conducted in March 2020 to determine the students' willingness and challenges faced during MCO that may affect their studies if they continued to enrol in April. 102 respondents participated in this online survey. Since this survey was specifically conducted for students undertaking Independent Landscape Design (see Table 1); 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 could still 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			
			Fast	Medium	Weak	Total
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	

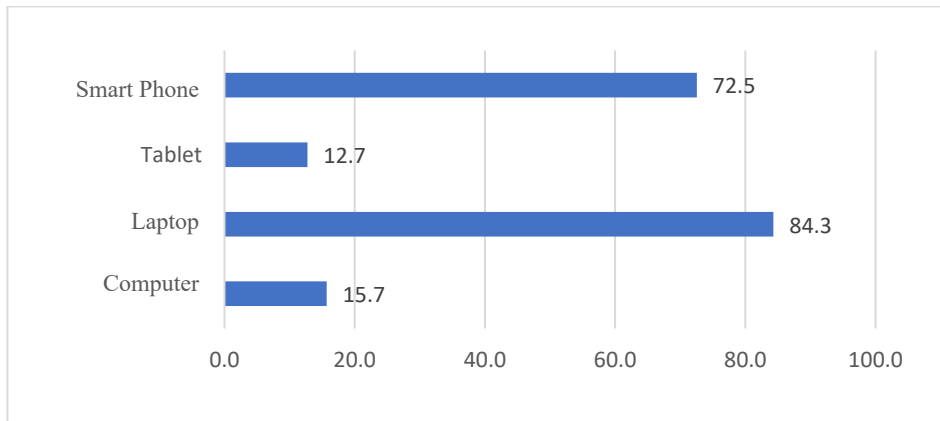
Table 2: The Chi-Square Tests

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

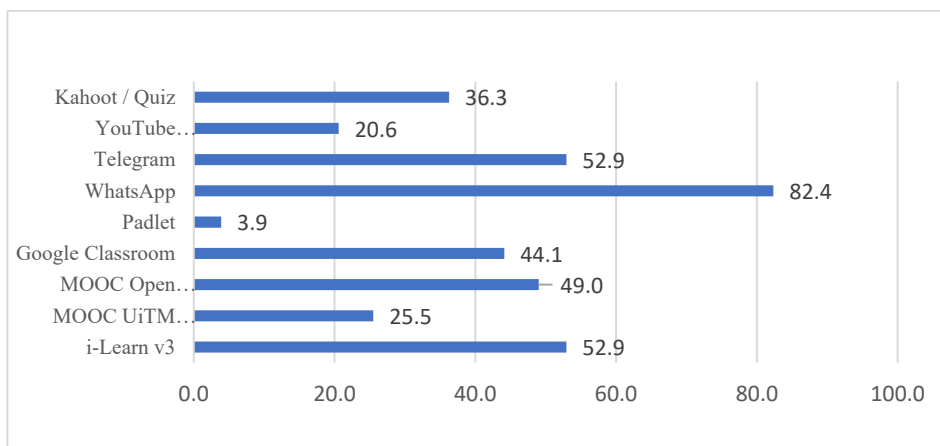
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.84.

Furthermore, the majority of the respondents (84%), informed that they owned laptops, while 72.5% claimed to have smart phones that enabled them to actively participate in ODL processes (see Figure 1). Equipped with personal electronic devices, this finding further denotes that the students are in 'ready mode' to enter the fully e-learning platforms from home for this semester. Moreover, the students were also asked to highlight their online learning platform that suits them throughout this ODL implementation. The students were provided with multiple choice answers and majority of the respondents preferred WhatsApp application as their main ODL platform. As this application is easy to use and mostly accessible through their smartphones, this further allows prompt responses to any queries. This is in line with Gewin's (2020) study that highlights students' engagement that correlates with effective online learning platforms.

Other than WhatsApp application, 52.9% of the respondents nominated Telegram and i-Learn v3 UiTM, 49% preferred for MOOC Open Learning platform while 44.1% selected Google Classroom as their preference (see Figure 2). Taking into account the respondents' selections, these findings have further guided educators teaching Independent Landscape Design to structure the conditional e-learning platform that would benefit both parties thus uplifting the students' e-learning experiences for this semester. Taking into account the situation and challenges faced due to Covid-19 pandemic that limits the access to traditional classroom/studio method, the e-learning platforms that are used in teaching the Independent Landscape Design students are able to enrich their learning skills and prepare them to adapt to the new normal lifestyle and the change in educational landscape. This is perhaps what Cornain (2020) emphasized in her article that described the new normal as 'different' in the way we live and socialize and 'change' in the way we use to work or study.



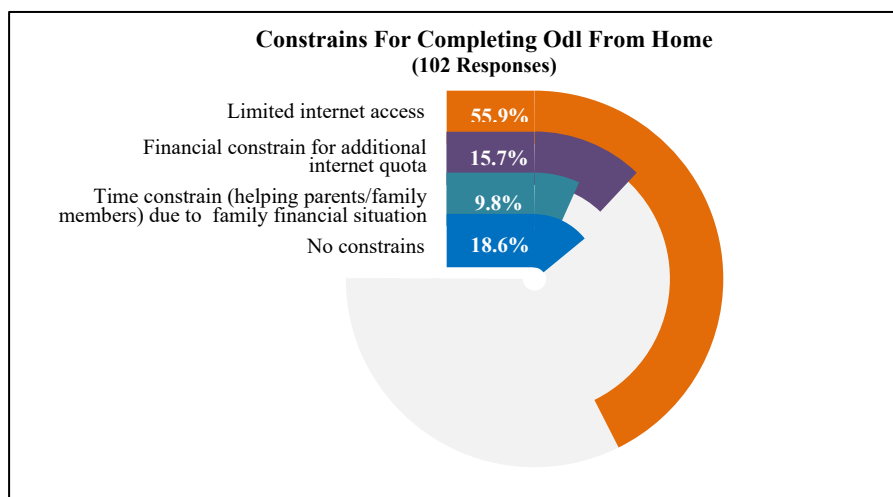
**Figure 1:** Electronic devices own by the students  
*Source: Author, 2020*



**Figure 2:** Student preferences for online learning platforms  
*Source: Author, 2020*

Apart from recognizing the students' preference for the online learning platform, the respondents were also asked about the constraints that limit them from accomplishing ODL in April 2020. 55.9% highlighted that limited internet access could be the major deficiencies to online learning since studio critique sessions may prolong 6-8 hours weekly. Other than that, 15.7% of the respondents highlighted financial constraints for additional internet quota since the majority of them were using prepaid plans. It is shocking to discover that 9.8% of the respondents were currently under financial pressure due to lack of

parents' income which was affected by the MCO (with some parents losing their jobs) and apparently the respondents and their other siblings had to commit to part time jobs to ease their families' financial struggles.

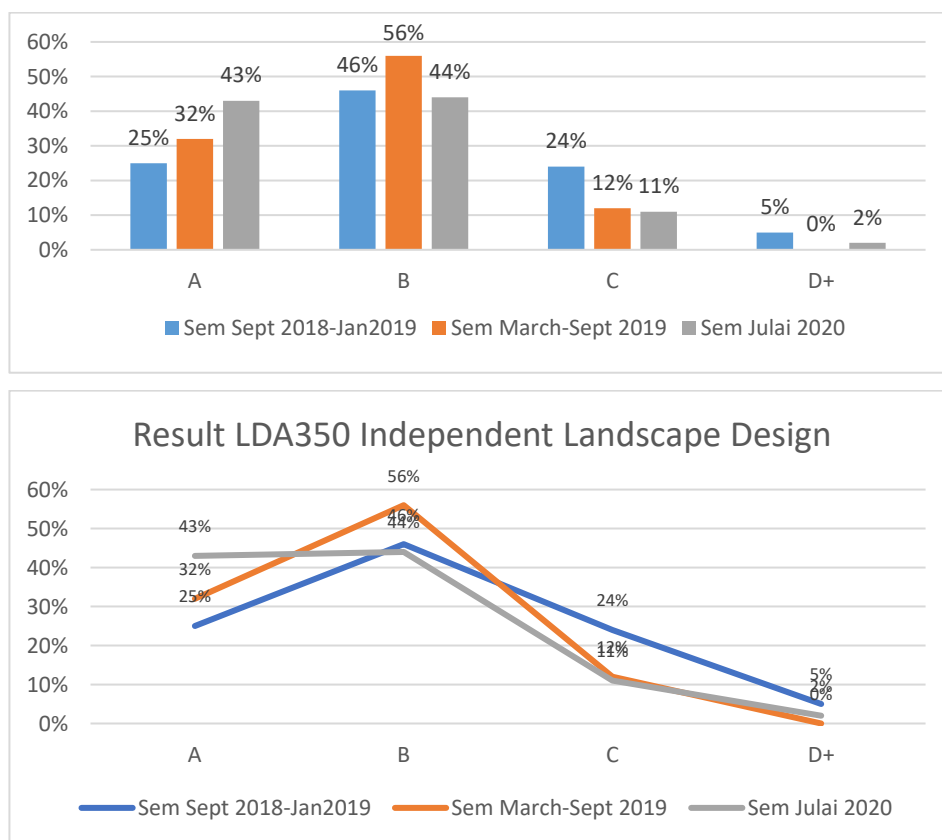


**Figure 3:** Constraints that limit student to ODL

### ANALYSIS OF STUDENT PERFORMANCE DURING ODL

In measuring the effectiveness of ODL during the Covid-19 pandemic, Paul and Jefferson (2019) emphasized that a study conducted for a specific event should include an analysis of student performance for several semesters. Therefore, this study analyses students' performance within three recent semesters; Semester March – July 2019, Semester September 2019 – January 2020, and Semester March – July 2020. Based on the analyses, it is surprising to discover that the result for this semester depicted an increasement/increment of students getting Grade A for this course (see Figure 4). Despite the limitations or challenges faced by both academics and students throughout this ODL implementation, the students' results for this semester have been excellent. With 102 students, each one of them varied in their landscape site selections and design approaches, construction drawings and technical report documentation, delivery through this e-learning platform has somehow been challenging. Knowing the subjective demands of landscape design, their processes and the assigned tasks that require students to produce functional yet aesthetic masterpiece designs, MOOC Independent Landscape Design was chosen as the major platform that guided students' understanding through uploaded samples of portfolios and additional lecture notes for their convenient reading. With various design strands (this

include waterfront landscape design; parks and community landscape design; high rise and high-density urban landscape; institutional landscape; cultural landscape; urban heritage and landscape; etc.), it is remarkable to witness that the outstanding results for this semester have surpassed the percentage of students getting grade A cluster (grade A+, grade A and grade A-). An increase of 11% of students manage to obtain this excellent result (the grade A cluster).



**Figure 4:** Result by percentage for Three Semester for Independent Landscape Design course  
*Source: Author, 2020*

Furthermore, with the increased percentage of students who obtained grade A clusters, there is also evidence in the decreasing percentage of students getting grade B (11%) and grade C (1%) in comparison with the results from the previous semesters. Hence, these results significantly reveal the successful implementation of the online learning for students undertaking Diploma in

Landscape Architecture in UiTM Perak Branch. Besides MOOC Independent Landscape Design, it is evident that i-Learn v3 together with UFuture UiTM platform have sufficiently aided the students' e-learning process for this semester supported by consistent weekly online critique sessions by the educators (monitoring work progress weekly). Given WhatsApp, Telegram and Google Meet applications as the intermediate communication platforms that sufficiently connect students and their educators this semester, MOOC Independent Landscape Design served as the core reference platform. Developed with four significant modules: Module 1 (Introduction of Independent Study); Module 2 (Site Planning & Design Development); Module 3 (Construction & Documentation); and Module 4 (Portfolio and Design Samples), this massive open online course not only has proven to be beneficial to students in their final year taking Independent Landscape Design studio, but also to students undertaking park and community design studio as well as urban design studio. Besides weekly online critique sessions with their educators, module 4 that was loaded with previous students' portfolios and board samples of various strands stands as the core focus and the most 'favourable' module that inspires and supports the new students' cohort throughout their progressive design development. Furthermore, through consistent online critique session that was established through Google Classroom and Padlet, supported with additional references uploaded through i\_Learn v3 and UFuture UiTM, challenges faced throughout the ODL implementation had been successfully tackled. In particular, students' motivation<sup>1</sup> improved and this 'change' proved to be beneficial as it had been depicted through students' results, as illustrated in Figure 4 above.

As the most compelling evidence, these excellent results have indeed portrayed the successful participation of students in distance learning platforms, indicating the students' high motivation and ability to absorb knowledge and information independently. In particular, the excellent results depicted in Figure 4 above have significantly verified the new normal of teaching and learning pedagogy for landscape architecture students.

## **CONCLUSION**

Over the past few months, the whole world has been experiencing the unprecedented fundamental shift in our daily life due to COVID-19 pandemic. Due to restrictions to our way of life, the new normal that emerged from this alarming situation has opened doors to another - perspective and this includes the educational landscape worldwide. One thing that is certain is the commonly

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<sup>1</sup> Motivation from this perspective is the student willingness to change and adapt to the new normal, considering the changes of learning environment from traditional face to face for weekly critique session to present e-learning platform.



known fact that adjusting to changes can be very challenging despite the opportunities that may unfold all difficulties towards the end. It is important to realize that this study does not challenge the needs and importance of face-to-face through traditional methods of learning; in fact, it offers another perspective of teaching landscape architecture design courses through online distance learning.

From the e-survey result and student performance analysis, this online learning for design-based students evidences a desired finding, where the majority of students are still able to achieve good grades although they are facing various challenges and difficulties. The findings have demonstrated that distance learning is significant in the continuation of teaching and learning for the Diploma in Landscape Architecture program offered by UiTM Perak Branch. The comparative results depict the overwhelming contribution of ODL compared to conventional teaching methods that were previously adopted for Independent Landscape Design. The findings also reveal the students' capability and - survival strategies to conquer the 'changing' situation as part of their lifelong learning experience. This uncertain scene has indirectly given rise to new teaching approaches, enabling the online learning evaluation that permits comparison of different modalities besides proposing a methodological shift for the future in education. Furthermore, the educators' 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 as well as the progressive thinking of Education 5.0 @ UiTM.

#### **ACKNOWLEDGEMENT**

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