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EXTENDED STUDY: STUDENTS' ACCEPTANCE AND PREFERENCE IN ONLINE-DISTANCE LEARNING AND TEACHING DURING PANDEMIC-ENDEMIC

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Abstract

The shift in teaching and learning approaches from the traditional face-to-face to open-distance learning and teaching (ODLT) raises concern about the quality of the education system across the globe. Besides the advantages of flexibility of ODLT and the rapid development of digital tools, this new approach also comes with dilemmas, especially in higher institutions, as it creates higher risks for academic integrity and low-quality interaction in online classes. Thus, this study serves as a fundamental understanding of students' and lecturers' acceptance and preferences on which tools serve them most effectively. It is also a continuation of the previous research with smaller research samples (191 respondents) which later extended to a more significant number of random samples (780 respondents). Two phases are involved in the data collection, which extended over a period of thirteen months. Google Forms using multiple-choice questions and a five-point Likert scale, was used to gather the data for random sampling, which was then analysed using Microsoft Excel statistical analysis for comparative studies. Results from both groups were compared, indicating a consistent distribution of outputs.

Keywords: Acceptance and preference; e-assessment; online learning; pandemic-endemic

Abstrak

Peralihan pendekatan pengajaran dan pembelajaran daripada pembelajaran-pengajaran secara tradisional bersemuka kepada secara jarak-jauh terbuka (ODLT) menimbulkan kebimbangan terhadap kualiti sistem pendidikan di seluruh dunia. Di sebalik kelebihan ODLT yang fleksibel, pendekatan baharu itu juga datang dengan dilema yang lebih besar di mana pelbagai aplikasi berfungsi sebagai medium atau alat pembelajaran-pengajaran yang lebih

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baik dan efektif terutamanya di institusi pengajian tinggi. Ia juga mewujudkan risiko yang lebih besar dari segi integriti akademik kerana ia menyediakan lebih banyak peluang kepada pelajar terlibat dalam ketidakjujuran akademik melalui pelbagai aplikasi dalam talian. Kajian ini merupakan kesinambungan daripada kajian lepas dengan sampel kajian yang lebih kecil (191 responden) dan kemudian dilanjutkan dengan bilangan sampel rawak yang lebih signifikan (780 responden) dengan tujuan mendapatkan pemahaman yang lebih baik tentang penerimaan dan keutamaan pelajar tentang aplikasi digital yang berfungsi dengan lebih berkesan terhadap pengajaran dan pembelajaran mereka. Proses pengumpulan data ini melibatkan dua fasa dan melangkaui tiga-belas bulan. Tinjauan melalui *Google Forms* di mana penggunaan soalan aneka pilihan dan skala Likert lima pilihan, digunapakai bagi fasa pengumpulan data, dan kemudian dianalisa menggunakan Microsoft Excel analisis statistik asas untuk membuat kesimpulan dan cadangan. Keputusan daripada kedua-dua kumpulan telah dibandingkan dan ia menunjukkan hasil keputusan yang konsisten.

Kata kunci: kesediaan dan pilihan; e-penilaian; pembelajaran dalam talian; pandemik-endemik

1.0 INTRODUCTION

From the pandemic phase to now entering the endemic phase, we begin to accept the fact that we must adopt and adapt to the new-norms and move on with our daily lives in the best possible way. Starting on 18 March 2020, the 2020 Movement Control Order (MCO) was introduced and served as a preventive measure by the federal government of Malaysia in response to the COVID-19 pandemic in the country (Bunyan, 2020). However, it inevitably has affected Educational Institutions in terms of the administration and the dissemination of knowledge to students and instructors. This drastic global lockdown has somehow forced everyone to follow new-norms, leaving us with no choice but to accept and implement e-learning (EL), online teaching (OT) and ODLT. Students and instructors both play significant roles in ensuring the success of EL experiences via the optimum level of motivational interactions and discussions. There are worries not only about the quality of students academically during this pandemic but also socially (Abdul Razak, Abd Rahman & Kechil, 2021) and about mentally (Kechil, Abd Rahman & Abdul Razak, 2021, 2022). Past studies have shown that ODL sessions could give rise to unfavourable effects on social interactions such as feeling isolated, being lazy, feeling lonely, as well as undergoing stress and depression.

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Accepting the fact that there are varieties of online platforms to choose from which help lecturers to deliver the materials of ODLT effectively, past studies have concluded that the top four preferable online tools are Google Meet (78.01%), Google Classrooms (70.7%), Microsoft Teams (64.9%) and WhatsApp (63.4%). These results are based on the previous y done by Abd Rahman, Abdul Razak & Kechil (2021). Meanwhile, Almahasees, Mohsen & Amin (2021) in their study analysed the perceptions of faculties and students regarding online learning in Jordan, and concluded Zoom and Microsoft Teams (for interactive classes) and WhatsApp (for communication with students). Faculty and students agreed that online education is very beneficial during the pandemic, but it is less effective than physical face-to-face learning. This is supported by previous studies (Lim, Hong & Tan, 2008; Aminudin et al. 2020; Choong, 2020; Abd Rahman, 2020; Abd Rahman, Kechil & Abdul Razak, 2021). Challenges identified include difficulties adapting to online education, lack of interaction and motivation, technical and internet issues, and concerns about data privacy and security. In addition, most virtual tools only meet basic needs in learning, thus insufficient to support the construction of more immersive teaching and learning scenarios and difficulties in achieving deep interaction between lecturers and students, also between lecturers and lecturers (Jiang et al. 2022).

Besides the negative views on ODLT, could everyone accept this new way of learning? What are other challenges students, lecturers and administrators have to face? How do we assess laboratories and fieldworks and more importantly, how do we assess and evaluate the students knowing that the risk of cheating and plagiarism is higher than in-person or face-to-face teaching and learning method? What actions should all educational institutions take to modernize their approach towards lectures, tutorials, examinations and assessments to suit this new norm of online teaching, learning and assessing? Is it possible to assess students' focus and interest merely using YouTube analytics, as mentioned by Zamzuri (2022)? Which method/s of ODLT are preferable by students and instructors after five semesters of adapting the approach?

Besides all the worries, one step needs to be taken at a time, and this study thus serves as a fundamental platform to understand the level of acceptance, readiness and preferences of both lecturers and students regarding ODLT with a larger and more significant number of samples. It is in hopes that the outcomes will provide a better understanding of the problems so that they can be overcome wisely and effectively, thus creating an optimal teaching and learning environment for all parties based on their experiences during this COVID-19 pandemic-endemic phases.: the academicians, the learners, and the administrators.

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2.0 MATERIALS AND METHODS

2.1 Participants and Data Gathering Integrity

The population of the study was faculties and students at various levels, from primary schools to postgraduate. The online surveys were created using Google Forms and randomly distributed to faculty and students via emails, WhatsApp messages, Google Classrooms and UiTM UFuture notification board. Participation in the study was voluntary and confidential information was not gathered. The collection of data involves two segments. The first segment was from 1 October 2020 to 28 February 2021, where only one-hundred and ninety-one (191) responses were collected. The second segment was done within the period of thirteen (13) months from 1 October 2020 to 2 November 2021, where seven-hundred and eighty (780) responses were successfully accumulated. The data were then analysed using Microsoft Excel and Pivot Table Adds-in for comparative studies. Figure 1 below represents the flow of how the research process was done.

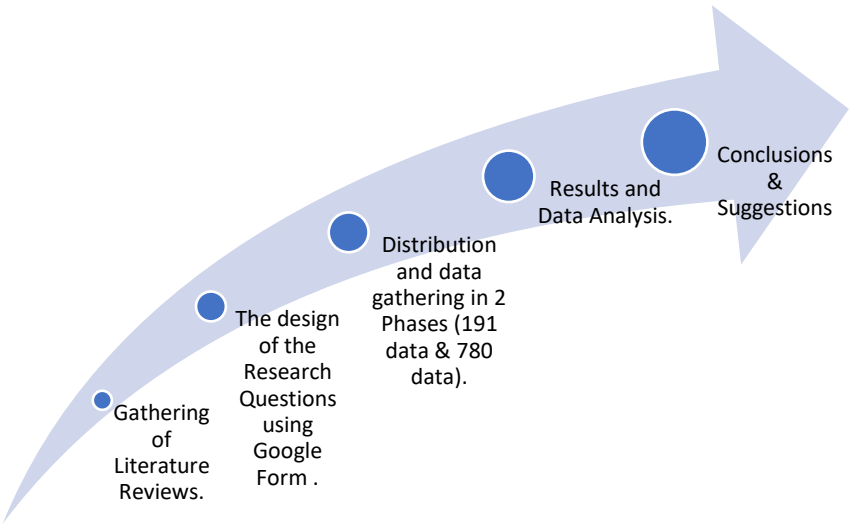

Figure 1: The flowchart of the research process.

2.2 Design of Research Question

The online surveys were created by Google Forms and examined by two experts to validate the survey's design. Their comments were taken into consideration and changes were made accordingly. The first section of the survey consists of five multiple-choice questions, referred to as Q1 to Q5, which are related to personal and demographic information. Followed by the second section (Q6 to Q12) was on internet accessibility and ODL related questions, as in Table 1 below.

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Table 1. Demographics, Internet and ODL Info (Q1 to Q12)

Sec1 & Sec2	Details
Q1	What is your gender? (male/female)
Q2	Please pick your age range.
Q3	Please tick one, which describes you.
Q4	Where do you live? (i.e., Pick a State)
Q5	Your residential area is considered as ... (urban/suburban/rural)
Q6	Which Mathematics/Statistics course are you taking this semester? (Note: Only apply to UiTM Students, if you are not, then just choose 'Not relevant')
Q7	Do you have limited/unlimited data for your internet? (*just choose ONE)
Q8	How fast is your internet? *Choose ONE only.
Q9	Which do you prefer most? Having your classes in Face-to-face Mode Learning, Open-Distance Learning, or Blended-Learning?
Q10	Choose which method/s suit you best for your eLearning/Open Distance Learning (ODL)? *can choose more than one method
Q11	How do you prefer to sit for your Assessment 4 (Final Examination)?
Q12	Given a scale from 1 to 5, please give your level of satisfaction of ODL done by your lecturers on the whole

The third section consists of eight questions (R1 to R8) on a comparative study on students' readiness, behaviours and attitudes towards e-learning (EL) and Open Distance Learning and Teaching (ODLT) – refer Table 2. Five-point Likert scale was used for this section, from strongly disagree (1) to strongly agree (5).

Table 2. Section 3 - Research Questions Students' Readiness on ODL R1 to R8).

	Questions on readiness
R1	I am anxious in completing my degree/diploma/school.
R2	I believe in my capability to interact with technology.
R3	I am cognitively engaged in doing the e-learning activities.
R4	I am willing to participate in any types of e-learning activities.
R5	I have the initiative and motivation to learn and use the system.
R6	I have high level of self-confidence in using the system.
R7	I am satisfied with the time and place flexibility of the system.
R8	I feel that a class with videos from the instructor works better for me than one without videos from the instructor.

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3.0 RESULTS AND DISCUSSION

3.1 Demographics & Internet Accessibility

Information related to internet accessibility as well as the personal and demographic information of the respondents were collected. Table 3 shows that the ratio of male over female respondents to the survey is (51.4%: 48.8%), whereas previously was (45.5%: 54.5%). Q2 & Q3 show that the majority of the respondents from Group-A aged between eighteen to twenty-two, thus indicating that most of them are pre-diploma and undergraduate students, rep 84.0% (previously 79.1%) of the total responses. However, it shows a reduction in the percentage of postgraduate respondents, which is from 20.9% to 5.9% in Group-A.

Table 3. Responses from Q1 to Q5 (780 vs 191 data; 'bold' represents the highest score)

Item (Q1-Q5)	Total Sample A (780) Frequency (%)	Total Sample B (191) Frequency (%)
Q1-Gender		
Male	**401 (51.4)**	87 (45.5)
Female	379 (48.8)	**104 (54.5)**
Q2-Age		
18-22	**606 (77.7)**	**130 (68.1)**
23-30	164 (21.0)	51 (26.7)
31-40	6 (0.8)	5 (2.6)
41-50	4 (0.5)	5 (2.6)
Q3-Level of Academic		
Primary School	4 (0.5)	0
Pre-diploma	43 (5.5)	7 (3.7)
Undergraduate	**612 (78.5)**	**144 (75.4)**
Postgraduate	46 (5.9)	40 (20.9)
University Lecturer	11 (1.4)	0
Other	64 (8.2)	0
Q4-States		
Peninsula	**683 (87.6)**	191 (100.0) - Malaysian
Sabah/Sarawak	28 (3.6) / 32 (4.1)	
Others	37 (4.7)	
Q5-Residential Area		
Urban	**372 (47.7)**	**89 (46.6)**
Suburban	234 (30.0)	58 (30.4)
Rural	174 (22.3)	44 (23.0)

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Next, from Q4 and Q5 indicate that the majority of the respondents' background are from urban and suburban Peninsula Malaysia and only less than 23% are considered themselves to come from rural areas.

3.2 Mode of Learning and Students' Readiness

Table 4 represents the summarized data from the selected responses based on the questions in Table 1. Q6 indicates that the majority of the respondents are taking the undergraduate courses, where 80.9% in Group-A and 100% in Group-B. From Q7 and Q8, it clearly indicates the readiness of the respondents in implementing and practicing ODLT where more than 54% of both sample groups have unlimited data plans, and greater than 66.5% have medium-speed internet. Furthermore, both smaller and larger groups have very similar percentages of respondents that opt for blended learning as their class preference, and only differs by a smaller difference, 0.1% (54.5%:54.4%).

Table 4. Responses for Q6 to Q12
(780 vs 191 data; 'bold' represents the highest score)

Item (Q6-Q12)	Total Sample A (780) Frequency (%)	Total Sample B (191) Frequency (%)
Q6-Courses		
Undergraduates	**631 (80.9)**	**191 (100.0)**
Not Relevant	149 (19.1)	0
Q7- Data Plan		
Limited	341 (43.7)	84 (44.0)
Unlimited	**448 (57.4)**	**104 (54.4)**
None	6 (0.8)	3 (1.6)
Q8- Internet Speed		
Slow	82 (10.5)	23 (12.0)
Medium	**572 (73.3)**	**127 (66.5)**
Fast	143 (18.3)	40 (20.9)
Not Internet	3 (0.4)	1 (0.6)
Q9- Class Preferences		
Face-to-face	193 (24.7)	61 (31.9)
ODL	171 (21.9)	28 (14.7)
Blended Learning	**417 (53.5)**	**102 (53.4)**
Q10- eLearning Apps		

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Google Meet	**655 (84)**	**149 (78.01)**
Zoom	86 (11)	22 (11.5)
FB Group	27 (3.5)	4 (2.1)
WhatsApp	**478 (61.3)**	**121 (63.4)**
Google Classrooms	**570 (73.1)**	**135 (70.7)**
Webex	84 (10.8)	2 (1.0)
Microsoft Teams	**411 (52.7)**	**124 (64.9)**
YouTube	232 (29.7)	57 (29.8)
Q11- FinalExam Preference		
Face-to-face	184 (23.6)	65 (34)
Online	**596 (76.4)**	**126 (66.0)**
Q12- Satisfaction of ODL		
Very Poor	6 (0.8)	5 (2.6)
Poor	30 (3.8)	13 (6.8)
Fair	204 (26.2)	62 (32.5)
Good	**305 (50.6)**	**78 (40.8)**
Excellent	145 (18.6)	33 (17.3)

Nowadays, there are many alternatives on online tools for EL and ODL purposes. Most of them have their own uniqueness and advantages to serve the education system. For those reasons, they were asked to state their preferences. The results indicate that the majority of the students prefer Google Meet, Google Classrooms, WhatsApp's and Microsoft Team as their main online platforms of online learning and discussions (Q10 in Table 4), with (73.1% and 78.01%), (73.1% and 70.7%), (61.3% and 63.4%) and (52.7% and 64.9%), respectively.

Q11 in Table 4 indicates that 76.4% (Group-A) and 66.0% (Group-B) of student's preferences do not opt for the conventional way or face-to-face approach for their Final Examination or Assessment 4. The majority of the respondents prefer to do it online. This is parallel to the results from Q9, which show that the majority (53.5%) of the responses opt for Blended learning as the main method of learning and teaching. The last question indicates that greater than 90% felt that the ODL practiced by their institutions fulfil their expectations (fair to excellent).

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In addition to the data above, Table 5 gives us more in-depth information on students' readiness and acceptance toward EL and/or ODL. The results from the two groups of responses (191 and 780) indicate that more than 87% of respondents agree that the videos from instructors help them to understand their class materials better. Based on the information gathered from Item-1, the majority (over 57%) of the students in both groups were anxious to complete their studies as quickly as possible, while less than 5% preferred otherwise with mean of 3.7295 and 3.9058. Referring to Items 2, 4 and 5, with the mean of more than 3.5 for each question indicates a high enthusiasm for engaging with technology in their EL.

On the other hand, the overall percentage for the flexibility and confidence level in using the technology for Items 3, 6 and 7 were slightly below 50% for agree and strongly agree for the small sample group, but normalized as the number of samples increased. Furthermore, more than 77% of the students agreed and strongly agreed that the use of videos works better in supporting them to revise and understand the study materials supported by higher mean-values of 4.1423 and 4.172

Table 5. Comparative study on students' readiness towards EL and ODL
*(**N1=191 & N2=780** ; '*' (Abd Rahman, Abdul Razak and Kechil, 2021)*

Item	**Details**	**Total Sample A (N=780)** ***Frequency*** (1 / 2 / 3 / 4 / 5) **%** (1 / 2 / 3 / 4 / 5)	**Total Sample (N=780)** ***Mean / Mode***	***Total Sample B (N=191)** ***Frequency*** (1 / 2 / 3 / 4 / 5) **%** (1 / 2 / 3 / 4 / 5)	**Total Sample (N=191)** ***Mean / Mode***
R1	I am anxious in completing my degree/diploma/schools.	12 / 35 / **281** / 276 / 176 (1.5 / 4.5 / **36.0** / 35.4 / 22.6)	3.7295 / 3.0000	02 / 07 / **56** / 68 / 58 (1.0 / 3.7 / **29.3** / 35.6 / 30.4)	3.9058 / 3.0000
R2	I believe in my capability to interact with technology.	03/ 37 / 250 / **371** / 119 (0.4 / 4.7 / 32.1 / **47.6** / 15.3)	3.7256 / 4.0000	01/ 10 / 66 /**83** / 31 (0.5 / 5.2 / 34.6 / **43.5** / 16.2)	3.6963 / 4.0000
R3	I am cognitively engaged in doing the e-learning activities.	09/ 49 / 324 / **329** / 69 (1.2 / 6.3 / 41.5 / **42.2** / 8.8)	3.5128 / 4.0000	05/ 15 / **78** / 72 / 21 (2.6 / 7.9 / **40.8** / 37.7 / 11.0)	3.4660 / 3.0000
R4	I am willing to participate in any types of e-learning activities.	13 / 51 / 256 / **338** / 121 (1.7 / 6.5 / 32.8 / **43.3** / 15.5)	3.6410 / 4.0000	05 / 14 / 68 / **73** / 31 (2.6 / 7.3 / 35.6 / **38.2** / 16.2)	3.5812 / 4.0000
R5	I have the initiative and motivation to learn and use the system.	15 / 48 / 246 / **357** / 113 (1.9 / 6.2 / 31.5 / **45.8** / 14.5)	3.6436 / 4.0000	09 / 10 / 60 / **80** / 32 (4.7 / 5.2 / 31.4 / **41.9** / 16.8)	3.6073 / 4.0000

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R6	I have high level of self-confidence in using the system.	13 / 38 / 300 / **302** / 94 (1.7 / 8.7 / 38.5 / **38.7** / 12.1)	3.4192 / 4.0000	04 / 27 / **68** / 67 /25 (2.1 / 14.1 / **35.6** / 35.1 / 13.1)	3.4293 / 3.0000
R7	I am satisfied with the time and place flexibility of the system.	15 / 46 / 284 / **309** / 118 (1.9 / 5.9 / 36.4 / **39.6** / 15.1)	3.5705 / 4.0000	15 / 16 / 68 / **72** / 20 (7.8 / 8.4 / 35.6 / **37.7** / 10.5)	3.8691 / 4.0000
R8	I feel that a class with videos from the instructor works better for me than one without videos from the instructor.	04 / 24 / 151 / 279 / **322** (0.5 / 3.1 / 19.4 / 35.8 / **41.3**)	**4.1423** / **5.0000**	01 / 08 / 28 / 74 / **80** (0.5 / 3.1 / 19.4 / 35.8 / **41.3**)	**4.1728** / **5.0000**

4.0 CONCLUSIONS

Although this is the second phase of the study focusing on the readiness and preferences extending from only 191 to 780 respondents involved with the implementation of ODLT during the COVID-19 pandemic, the distributions of outcomes from both groups are very much similar, thus it indicates the validity of the results. Overall, students and instructors are very much ready to implement ODLT during the pandemic and endemic sessions. By the end of the first year of MCO, majority of them have set their own preferences of online mediums in teaching and learning. Google Meet and Google Classroom are on their top list, because of the simple and user-friendly concept of the tools. Even though the samples may still have some limitations, there is no doubt about the long list of advantages of ODLT and online assessments. Not to put aside, the flexibility for the assessors and assesses to conduct and take assessments from anywhere in the comfort of their homes which presumably is less stressful, and saves time and money (TestReach, 2020; Nor Hanim, 2020). Not only that, the shorter process of marking-time tremendously reduced administrative burden in terms of organizing and running exams, printing and circulating exam papers which is costly and time-consuming.

In addition, while most students and instructors are ready and willing to accept ODLT and e-assessment practices through various online platforms such as Google Meet, Google Classrooms, WhatsApp, Zoom and Microsoft Teams, each medium undeniably has its own advantages and disadvantages. Based on Doo et al. (2023), these online medium preferences will remain argumentative and were found as the most research theme even after the pandemic. Last but not least, many researchers also seem to highlight their deep concerns over academic dishonesty, including cheating and plagiarism practices in ODLT (Wahab et al. 2022;

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Sadruddin, 2021; Nizam et al. 2020; Mellar et al. 2018). These additional issues should not be taken lightly and need serious attention, thus requiring further investigations on how to upgrade the online platforms to ensure that high-quality graduates are produced during the pandemic, post-pandemic and endemic phases.

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