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Students' Perception towards Virtual Learning Implementation at Universiti Tenaga Nasional

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ABSTRACT

Education is one of the most impacted areas through the COVID-19 pandemic with students who are unsafe being in the same shared space during face-to-face class sessions. In response to the Malaysian government's closure of schools and higher learning institutions, Universiti Tenaga Nasional (UNITEN) decided to continue the semester implementing virtual learning. This study focuses on the virtual learning implementation issues and investigates them further during the pandemic to understand the students' perception and satisfaction better. Data are collected from both undergraduate and postgraduate students and analysed for virtual learning implementation and overall perception. The questionnaire comprises two main categories on virtual learning which are virtual learning implementation and overall thoughts on the current implementation. A positive trend is observed in the number of respondents who agree and are satisfied with their virtual learning experiences. The findings from the study are pivotal in determining the university's policy in virtual teaching and learning.

1. Introduction

The challenging situation that higher education institutions faced during the COVID-19 outbreak make it necessary to investigate students' satisfaction in an online and virtual learning environment. As Malaysia's higher education institutions were mostly designed in favor of physical classes like engineering and computing disciplines, the transition to a fully online learning poses challenge. While most courses demand real-time, synchronous communication including discussion, online teaching methods may result in delayed feedback and responses, often disrupting the learning process.

Research has shown that well-designed online learning courses can be on par with face-to-face learning [1]. Nevertheless, structured online courses delivery is difficult when in transition. There is a

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need to investigate the satisfaction of students in an online learning environment. Furthermore, this study is undertaken to examine the students' satisfaction with their learning during the transition. As a result, the goal of this study is to look into the issues of conducting online and virtual learning courses at Universiti Tenaga Nasional (UNITEN) during the COVID-19 pandemic.

2. Background

Due to the threat of COVID-19, schools and universities are coping with how to continue teaching and learning while keeping their faculty, staff, and students safe from a rapidly spreading public health disaster [1]. The COVID-19 pandemic has forced every learning institution to change and adapt to the strict requirements and procedures [2]. Most of the institutions had to resort to conducting the teaching and learning in virtual mode through the use of secure online learning platforms and applications [3,4].

To deploy online and virtual learning, both teachers and students needed to make a vital paradigm shift as the existing learning activities incompatible as they were designed for conventional teaching and learning [5-7]. Moreover, the contact between students in schools and colleges became difficult, and an effort was made to come up with strategies to solve basic challenges that were encountered during virtual teaching and learning.

At Universiti Tenaga Nasional (UNITEN), all classes have been conducted virtually throughout the Extended Special Semester and Interim Semester, Academic Year 2019/2020. Some institutions conducted the effectiveness of implementing online and virtual learning [9-14] and UNITEN must carry the survey to find out about the well-being of the students during the transition period. The respondents are active foundation, diploma, degree and postgraduate students. The main teaching and learning activities include lectures, tutorial and lab sessions. Most of the activities were carried out in one, two, three or more contact hours.

3. Questionnaire

A student questionnaire on virtual learning implementation at UNITEN was conducted from March to June 2020 to acquire their responses. The survey was conducted online using Google Forms and opened to all students taking any classes during that semester. Parts 1 and 2 has four questions each (Q1 – Q4) and (Q5 – Q8) regarding the students virtual learning implementation and UNITEN preparation to implement it, respectively. The following questions were asked:

3.1 Part 1

- a. (Q1) Virtual Learning Session has helped me in managing my learning time better
- b. (Q2) Virtual Learning Session has helped me in understanding course material and objectives more effectively than the face-to-face sessions of this course
- c. (Q3) Virtual Learning Session has helped me in effectively reinforced what I was learning during the face-to-face sessions of this course.
- d. (Q4) Virtual Learning Session has helped me in improving my skills & knowledge of using online learning tools, software and platform

3.2 Part 2

- a. (Q5) UNITEN should implement Virtual Learning for the students
- b. (Q6) I prefer Virtual Learning compared to Traditional or Conventional approaches
- c. (Q7) UNITEN lecturer(s) has knowledge and skilled in implementing Virtual Learning approaches in their teaching and learning processes
- d. (Q8) UNITEN should provide Virtual Learning approaches for its students

For each question, the students were asked to rate the questions between a five-point Likert scale with answers for:

- Strongly Agree (A)
- Agree (A)
- Neutral (N)
- Disagree (D), or
- Strongly Disagree (SD)

4. Results and Discussion

4.1 Demographics

The survey was distributed to all students from five colleges and program levels. A total of 607 responses were obtained throughout the survey period. Figure 1 shows the demographic of the students participating in the survey with 145 responses or 23.9% were from College of Engineering (COE), 161 responses or 26.5% are from College of Computing and Informatics (CCI), 271 responses or 44.6% are from College of Business and Accounting (COBA), 16 responses or 2.6% are from College of Energy Economy and Social Sciences (CES) and 14 responses or 2.3% are from College of Graduate Studies (COGS).

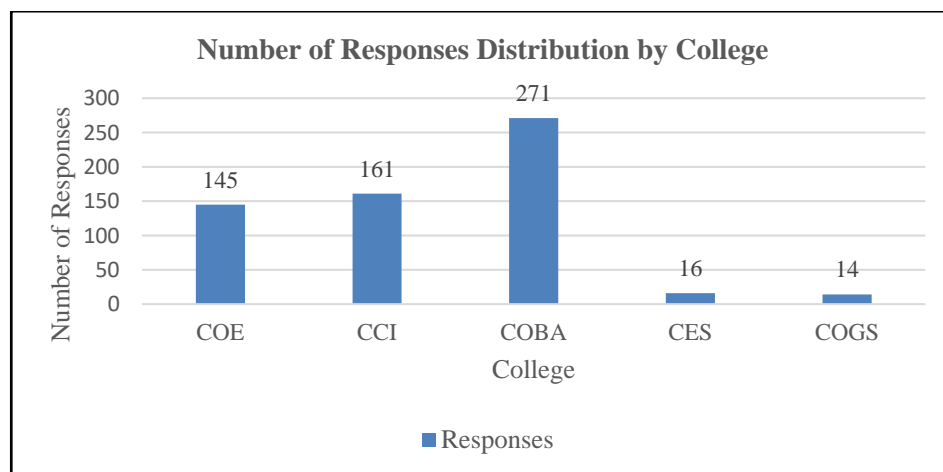


Fig. 1. Number of Responses Distribution by College

Table 1 details the students’ program levels: foundation, diploma, bachelor’s degree and postgraduates (master and doctoral). The highest responses received are from the first year bachelor’s degree students with 171 responses (28.2%) while there was none from the doctoral program. Figure 2 displays the contact hours of a virtual leaning session: highest contact hour is two-hour session (33%) while the lowest is three-hour session (14%).

Table 1

Program Levels		
Program level	Number of responses	Percentage (%)
Foundation	94	15.5
Diploma, 1st year	64	10.5
Diploma, 2nd year	21	3.5
Diploma, Final year	11	1.8
Degree, 1 st year	171	28.2
Degree, 2 nd year	111	18.3
Degree, 3 rd year	45	7.4
Degree, Final year	76	12.5
Postgraduate, Master	14	2.3
Postgraduate, Phd	0	0.0

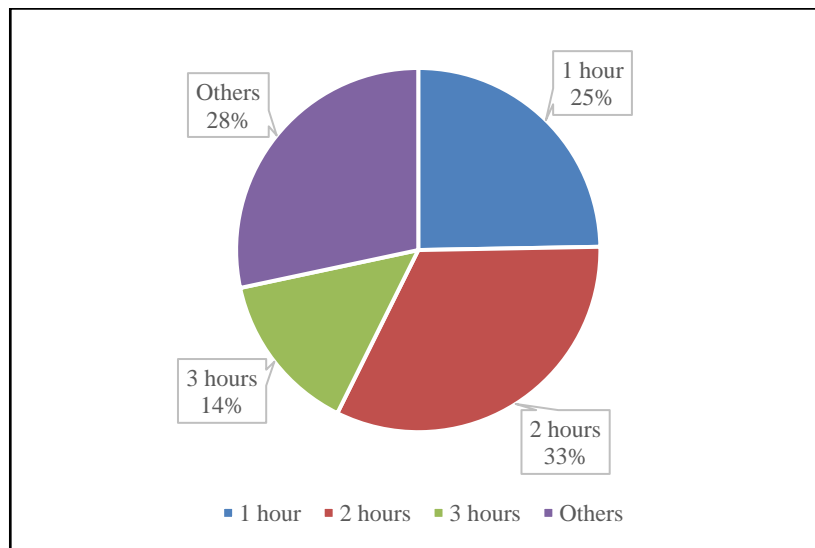


Fig. 2. Contact hour of virtual learning session

4.2 Virtual Learning Implementation

There were two parts with four questions each. The first part was on the virtual learning session experience and the second part was on the overall satisfaction of the implementation. The eight questions were designed with a user-perceived agreement with the virtual learning implementation. The percentage of respondents’ agreement is shown below based on the questions.

4.2.1 Question 1

For (Q1) “Virtual Learning Session has helped me in managing my learning time better”, the result is shown in Figure 3. About 46.13% of the students substantially agree that their virtual learning sessions assisted them in managing their learning time better, followed by 32.13% and 21.75% being neutral and disagree respectively.

The result implied that most students agree that the virtual learning session helped them manage their learning time more effectively. The students have more control of their studying time with virtual learning sessions. They are more punctual with class lectures and tutorials if compared to commuting to face-to-face classes. Nevertheless, the respondents who disagree found to be having difficulties during the transition to virtual learning implementation.

4.2.2 Question 2

The result for (Q2) “Virtual Learning Session has helped me in understanding course material and objectives more effectively than the face-to-face sessions of this course” is shown in Figure 4. The respondents fairly agree (28.34%) that the virtual learning session helped them in understanding their course material and objectives more effectively than the face-to-face sessions. However, a higher number of respondents (35.91%) are indecisive and disagree (35.75%) whether they can cope and understand the course material and objectives better.

The sudden change of delivery mode from face-to-face to virtual lecture session is reflected in the survey responses. Most respondents do not know how well they can cope with the virtual teaching and learning for their lectures and tutorials. They were yet to experience the impact as the questionnaire responses were collected during the early Movement Control Order (MCO) period.

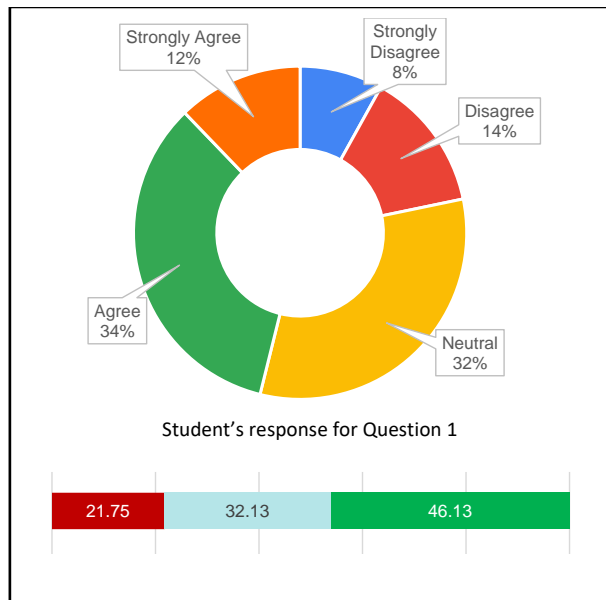


Fig. 3. Survey results for (Q1) Virtual Learning Session has helped me in managing my learning time better

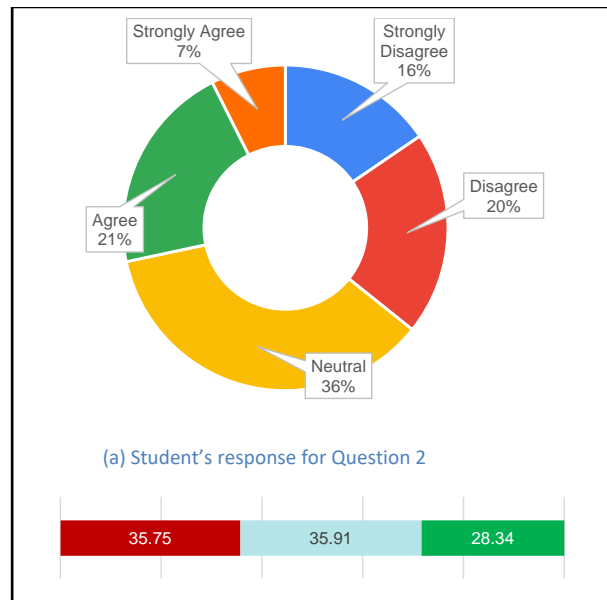


Fig. 4. Survey results for (Q2) Virtual Learning Session has helped me in understanding course material and objectives more effectively than the face-to-face sessions of this course

4.2.2 Question 3

The result for (Q3) “Virtual Learning Session has helped me in effectively reinforced what I was learning in the face-to-face sessions of this course.” is shown in Figure 5. The respondents are in moderate agreement (39.21%) whether the virtual learning session is helping them with their understanding of the course. Despite the number of high agreements, the respondents are neutral (36.24%) and in disagreement (24.55%) whether they learned effectively with virtual learning.

The survey shows that students spend their learning time more effectively with virtual learning as the course materials and lectures are accessible at any point in time. The fact that the course materials are made available for virtual learning sessions (i.e. playback of recorded lectures, tutorials) does contribute to their self-paced learning and reinforced their understanding. Nevertheless, many students have trouble coping and consistently learn virtually as to lack access to the Internet and limited devices.

4.3.4 Question 4

The result for (Q4) “Virtual Learning Session has helped me in improving my skills & knowledge of using online learning tools, software and platform” is shown in Figure 6. The respondents substantially agree (60.96%) that the Virtual Learning Session helped them improve their skills and knowledge of using online learning tools, software and platform. Only 24.71% and 14.33% of the students are in fair and slight disagreement, respectively.

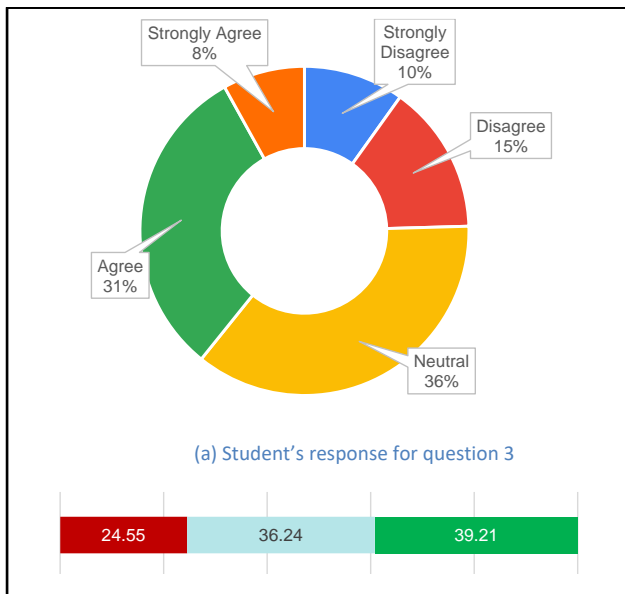


Fig. 5. Survey results for (Q3) Virtual Learning Session has helped me in effectively reinforced what I was learning during the face-to-face sessions of this course

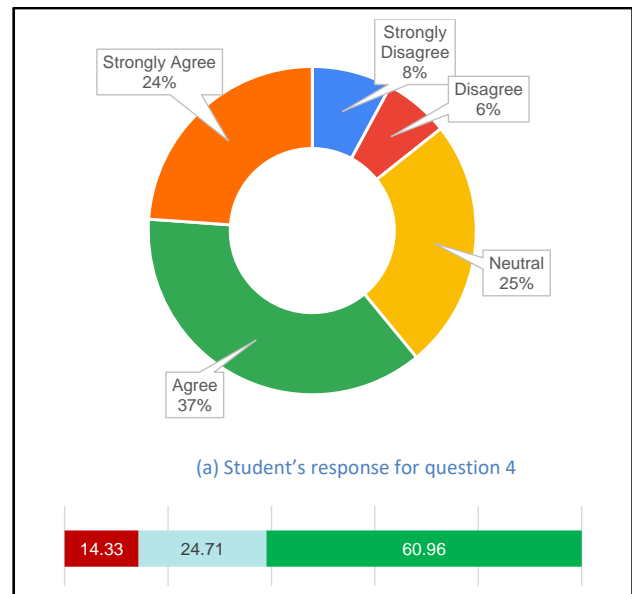


Fig. 6. Survey results for (Q4) Virtual Learning Session has helped me in improving my skills & knowledge of using online learning tools, software and platform

The virtual learning implementation at UNITEN shows that the respondents improve their online learning experience in many ways such the online learning platforms, software and tools. They are

exposed to Moodle Learning Management Platform (LMS) (for course repository), Panopto (video management system) and Telegram (for communication channel).

4.3.5 Question 5 till 8

The results obtained for Part 2 (Q5 till Q8) in Figure 7 shows that the respondents substantially agree with all the statements. The respondents have the highest agreement for (Q7) *“Overall, I think that UNITEN lecturer(s) has knowledge and skilled in implementing Virtual Learning approaches in their teaching and learning processes”* with 52.22%, followed by (Q8) *“Overall, I think that UNITEN should provide Virtual Learning approaches for its students”* and (Q5) *“Overall, I think that UNITEN should implement Virtual Learning for the students”* with 45.30% and 40.69% agreement, respectively. However, most respondents significantly disagree (44.48%) with (Q6) *“Overall, I think that I prefer Virtual Learning compared to Traditional or Conventional approaches”*.

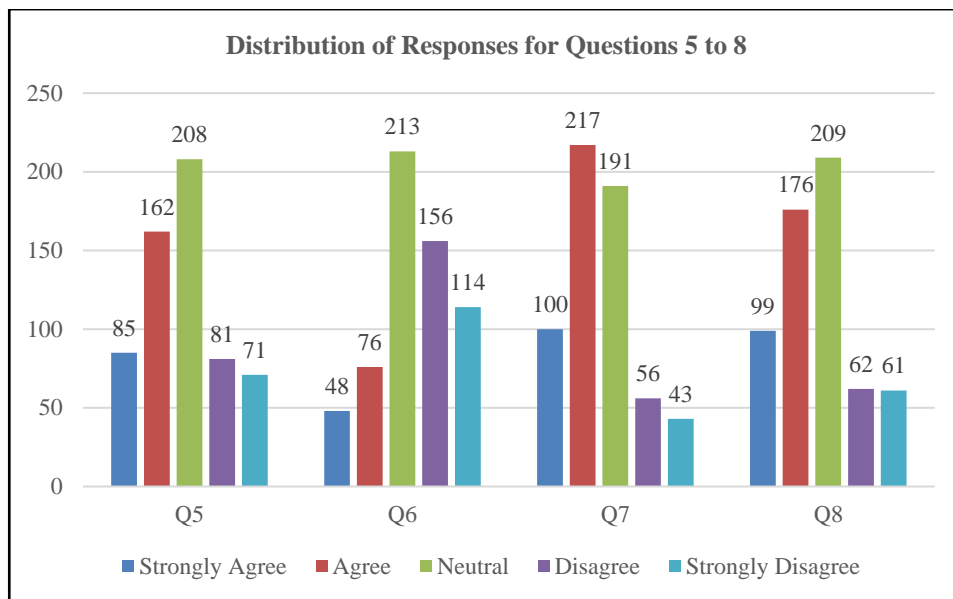


Fig. 7. Distribution of responses for Part 2

4.4 Students Perception of the Virtual Learning Implementation

Table 2 shows the students perception of the virtual learning implementation at UNITEN. Question 4 obtained the highest agreement from the respondents, followed by Question 7 and Question 8 as shown by the mean values obtained from the questionnaire data. Based on the statements, virtual implementation at UNITEN is effective in its transition from the conventional approach as (Q4) *“Virtual Learning session has helped me in improving my skills and knowledge of using online learning tools, software and platform”*, (Q7) *“Overall, I think that UNITEN lecturer(s) has knowledge and skill in implementing Virtual Learning approaches in their teaching and learning processes”* and (Q8) *“Overall, I think that UNITEN should provide Virtual Learning approaches for its students”*. The average mean obtained is 3.19 for all the questions which indicate that the respondents are neutral and in agreement with the statements.

Table 2
Students perception of virtual learning implementation

No.	Description	Mean	Std. Deviation
Part 1	Virtual Learning session has helped me in:	3.22	1.15
Q1	Managing my learning better	3.29	1.10
Q2	Understanding the course material and objectives more effectively than the face-to-face sessions of this course	2.85	1.14
Q3	Effectively reinforced what I was learning in the face-to-face session of this course	3.13	1.08
Q4	Improving my skills and knowledge of using online learning tools, software and platform	3.63	1.15
Part 2	Overall, I think that:	3.15	1.19
Q5	UNITEN should implement Virtual Learning for the students	3.18	1.18
Q6	I prefer Virtual Learning compared to Traditional or Conventional approaches	2.65	1.15
Q7	UNITEN lecturer(s) has knowledge and skill in implementing Virtual Learning approaches in their teaching and learning processes	3.45	1.09
Q8	UNITEN should provide Virtual Learning approaches for its students	3.31	1.16

5. Conclusion

The respondents substantially agree that the virtual learning sessions help them in their studies during the COVID-19 pandemic. Despite the sudden transition from face-to-face learning to virtual learning, the students are satisfied with the virtual learning implementation and agree that UNITEN should continue to implement the virtual learning approaches in the majority of the courses. The findings from the study are beneficial in improving the quality of the online course delivery as well as serving as a guide to producing a virtual learning implementation policy.

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