

TVET Students' Perception towards Online Distance Learning (ODL) during Pandemic COVID-19: Mental Health Perspective

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Abstract

The COVID-19 pandemic has affected the education sector, primarily in vocational education. The pressure for practical assessment solutions of TVET students during a pandemic is the biggest challenge. Social change conditions significantly contribute to increased health problems, including mental and psychological illnesses such as mental disorders. This study aimed to identify the frequency of mental health, TVET students' perceptions and the relationship to online learning perceptions during the COVID-19 pandemic. The design of this study is quantitative survey research. Data was collected through a questionnaire form created on Google Form consisting of 41 questions. The questionnaire used a DASS-21 scale for the 21-item depression, anxiety, stress item and a Likert scale for students' perceptions of online learning. The total sample of respondents was 152 TVET students, with a response rate of 60.3%. This study was analyzed using Statistical Package for the social sciences (SPSS) version 23.0 to calculate the frequency, mean, percentage, standard deviation, t-test correlation and ANOVA test. The study results showed the frequency of mental health of TVET students at the level of disagreement ($M = 1.05$). The highest frequency of DASS-21 is Depression ($M = 10.9$). Respondents agreed ($M = 3.51$) that students' perceptions of online learning affected them. The highest frequency of online perception learning is factor three ($M = 3.63$), and the lowest frequency is factor two ($M = 3.30$). Finally, the study results found that a correlation analysis had no direct positive relationship ($r = .177$) between mental health and perceptions of online learning during the COVID-19 pandemic. Therefore, there is a need to consider educational policies towards a new norm in education to improve the mental health and perceptions of TVET students towards online distance learning.

Keywords: COVID-19; TVET; online distance learning; mental health; students

1. Introduction

Pandemic COVID-19 has hit the whole country, including Malaysia. Starting from Wuhan, China was the first country detected to have a COVID-19 pandemic outbreak. World Health Organization (WHO) declared COVID-19 as a global pandemic on March 11, 2020, which led to most countries announcing the total lockdown for all sectors, including educational sectors. This shutdown has been jeopardized the entire level of the education system from primary school, secondary school, college and universities. It severely impacted educators, students, and institutions worldwide (Ag-Ahmad, 2020). In general, past studies in the current issue of the COVID-19 pandemic while in online learning have identified the impacts and factors that affect students' mental health, primarily for technical and vocational students. Therefore, this technical and vocational faculty considers the level of mental health that needs

to be taken into account. A terrible pandemic COVID-19 has brought the risk of death from infection and yet insufferable psychological, mental health. Anxiety and depression test have been a growing issue in the educational system, especially for technical and vocational students after Malaysia announced the lockdown due to pandemic COVID-19. The pressure for completing their practical assessment during a pandemic is the biggest challenge. This new "norm" enforced the 360-degree educational syllabus changes where online learning already substitutes the traditional educational method. Students are more vulnerable to spontaneous inevitable academic changes, which could lead to anxiety and depression disorders.

According to Jena (2020), COVID-19 has created many challenges and opportunities for educational institutes to strengthen their technical knowledge and infrastructure. (Siddiqui et al., 2020)

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concludes that he addressed several critical areas that need to be focused on continuing online and distance learning in this pandemic situation. Many institutions have introduced online learning modes as an alternative to face-to-face learning amid this lockdown era to provide uninterrupted learning opportunities. Sudden changes from traditional education to the online education system also resulted in uncertainty, confusion, and student failure to cope with educational activities (Giordano et al., 2020). Although the education system suddenly depends on online education, it must be noticed that not all students can adapt to using the latest technology (Jena, 2020). Most of them fear using it, and not all courses are appropriate for accepting online education, particularly in the practical assessment. Thus, TVET students have not obtained traditional experiences, such as practical labs, in-person machine handling, skills training, or on-site practical experience. TVET student struggles to accommodate the lack of adequate access to appropriate facilities and resources while doing practical work at home (Bączek et al., 2021). In conclusion, researchers will look at the factors that affect the mental health of TVET student perceptions' online learning during pandemic COVID-19.

2. Education during Pandemic COVID-19

The pandemic Covid-19 has swept the globe, requiring society to maintain social distance. It has impacted negatively the education system, which is a primary determinant of a country's economic future. According to the UNESCO report, it impacted more than 90% of the world's student population. By June 2020, nearly 1.2 billion students from all levels face unprecedented disruption in education worldwide (Pascoe et al., 2020). COVID-19 has infected more than 120 cores of students and youths around the world almost since the outbreak. On March 18 2020, Malaysia declared its lockdown due to the COVID-19 disease outbreak, estimating that a thousand people had tested positive in less than three months. Most essential industries, including educational institutions, have been temporarily closed as part of ongoing steps to minimize the spread of cases.

2.1 Online distance learning (ODL)

Online learning resulted in a lack of physical presence, and students facing difficulty completing their practical activity due to a lack of materials, machines, tools, and equipment at their houses (Khairuddin et al., 2020). These students routinely encounter substantial emotional stress, including anxiety associated with the overloaded practical and technical assessment. TVET students' syllabus is challenging to practice at home due to some limitations of learning aids. An example of strenuous activity at home is furniture making, where students must provide equipment, materials, machines, and tools by themselves. This activity requires a vast space

where not all students can meet all the criteria needed. TVET students are supposed to invest lots of money to fulfil the requirement of their syllabus. In another way, students must find alternatives to ensure they can complete the task as provided in the syllabus. This issue leads to student stress by having an unfavourable impact on learning and mental health problems.

2.2 Mental health in TVET student

Anxiety is defined as unwanted feelings that cause worry, unease, stress, tension, and fear in the environment. Anxiety has a significant impact on academic performance as students will not concentrate or focus on their studies. According to Cullen et al. (2020), students have serious mental health such as traumatic stress, depression, and anxiety disorder due to pandemic COVID-19. According to Irawan et al. (2020), on the other hand, the burden of online assignments is a causal factor to the stress of students, which requires them to quickly master the use of online media even if they have just learned it. In addition, conditions that force them to stay confined at home, lack of physical activity, and lack of interaction with peers cause their condition to worsen. This can also have a psychological effect on students in the form of fear or anxiety. Teaching and learning in the online method require colossal commitment and cooperation from all parties. Teachers and students should be ready for knowledge and skills, information technology, provision of digital devices and access to quality internet access, and appropriate assessment methods to measure student achievement (Salleh, 2020). Other recent studies have revealed increased reports of loneliness, anxiety, and depression due to stay-at-home orders required to combat the COVID-19 pandemic. Hasan and Bao (2020) suggested that mental health among students should be monitored during this pandemic due to student emotional breakdown, especially when having relatives infected with COVID-19. In addition, social restrictions and home-study impact student daily life and delays in academic activities. TVET, as defined by UNESCO, equips people with the technical and professional skills required for socio-economic and industrial development. TVET education entails studying technologies and related sciences and the practical skills, attitudes, understanding, and knowledge related to occupations in various economics and social life sectors. The implementation of distance learning online is not compatible with the TVET course due to the many physical tasks required.

3. Research Methodology

3.1 Research design

This study uses a descriptive approach by describing the characteristics of variables such as respondent demographics through a questionnaire. The questionnaire was then distributed to the

respondents to obtain the data. This study uses a quantitative approach through the survey method.

3.2 Study procedure

The scope of this study focuses on TVET students from technical and vocational faculties, Sultan Idris Education University. There are three departments involved in this research, namely the Department of Engineering Technology (AT55), the Department of Agricultural Science (AT09) and the Department of Home Economics (AT07). The questionnaire is employed as an instrument to collect data for this research. Data was collected through a questionnaire created on Google Form. This questionnaire was adapted and modified from Lovibond (1995) to measure students' depression, anxiety, and stress levels. This questionnaire was adapted and modified from Ag-Ahmad (2020) to measure students' perception of online learning. The instrument was developed with a total of 41 questions. This questionnaire contains only three parts, namely Part A (demographic information), Part B (Depression Anxiety Stress Scale 21 Items (Dass-21) and Part C (student perceptions on online learning). The questionnaire is distributed via WhatsApp Group, and student emails are sent to representatives of each department for distribution to all respondents involved.

3.3 Population and sampling

Due to the COVID-19 pandemic, to facilitate data collection to obtain the analysis of the study, the study population selected involves technical and

vocational students from semester 7 and semester 6 at Sultan Idris Education University. The total population of this study was 252 people. Using the sampling table of Krecjie and Morgan (1970), the total sample selected was 152. The populations recruited were Bachelor of Education in Design and Technology (AT55), Bachelor of Agricultural Science Education (AT09) and Bachelor of Home Economics Education (AT07) students at Sultan Idris Education University, Perak.

3.4 Data analysis

Data analysis was done using descriptive analysis and inferential analysis. The study was analyzed the data using Statistical Package Social Science (SPSS) version 23.0 to calculates frequency, mean, percentage, standard deviation, t-test correlation, and ANOVA.

4. Result and Discussion

The demographic characteristics of the current sample are shown in Table 1. There were 66.4% female and 33.6% male respondents. The study found that most students TVET respondents were Malays, followed by the and other races. The analysis of data obtained from 152 respondents shows that most students involved are in semester 7. The majority of respondents are from the Engineering Technology Department (JTK), followed by the Family and Consumer Science Department (JSP) and finally, from the Family and Consumer Science Department (JKSK).

Table 1. Demographic characteristics of the entire sample (n=152)

Variable	Categories	f	%
Gender	Male	51	33.6
	Female	101	66.4
Race	Malay	140	92.1
	Chinese	1	0.70
	Other	11	7.20
Semester	6	63	41.4
	7	89	58.6
Department	Engineering Technology Department (AT55)	72	47.4
	Agricultural Science Department (AT09)	44	28.9
	Family & Consumer Science Departments (AT07)	36	23.7
Current Grade Point Average (CGPA)	3.75-4.00	57	37.5
	3.00-3.74	88	57.9
	2.75-2.99	7	4.60

The means, standard deviation scores for depression, anxiety and stress, respectively, are shown in Table 2. The entire construct for this 21-item depression, anxiety, stress item (DASS-21) obtained a mean score = 1.05 with an average standard deviation value of .781. The results indicate that respondents

strongly disagreed with the 21-item depression, anxiety, and stress item construct (DASS-21). The respondents disagreed that these mental health items influenced TVET students during the COVID-19 pandemic in online learning. Based on the perception

table, the respondents showed that item DASS-21 had a low level of agreement.

Table 2. The mean, standard deviation score DASS-21 (n=152)

Scores of DASS-21 sub-scales	Mean (M)	Standard Deviation (SD)	Level of Agreement
Depression	1.09	.842	Strongly Disagree
Stress	1.06	.793	Strongly Disagree
Anxiety	1.00	.798	Strongly Disagree
Total	1.05	.781	Strongly Disagree

Based on Table 3, there are three factors: participation in online classes. The second factor is acceptance of learning in online classes. The third factor is the delivery and execution of tasks online. The respondents' perceptions show that the Perception item has a high level of approval. The study revealed

a shred of evidence in Table 3, showing the average overall mean score for the construct of students' perceptions of online learning is mean = 3.51 and the standard deviation is 0.660. Overall, the means result indicate that the respondents agree with these perceptual items.

Table 3. The mean, standard deviation the factor of online perception learning (n=152)

Factor	Mean (M)	Standard Deviation (SD)	Level of Agreement
Factor 1: Participation in online classes	3.59	.801	Agree
Factor 2: Acceptance of learning in online classes	3.30	.746	Not Sure
Factor 3: Assignment and execution of online tasks	3.63	.765	Agree
Total	3.51	.660	Agree

Based on Table 4, the analysis of the independent t-test showed that there was a non-significant difference of the first factor, which is the statement in the online class. Next, there is a non-significant difference of the second factor: the acceptance of learning in online classes between male and female students. In terms of the mean, the second factor in online learning of male students is higher than female students. Finally, there is an insignificant difference of the third factor, namely the acceptance

and implementation of online assignments. The third factor in online learning, females, was higher than male students in terms of the mean. The analysis of the data obtained to answer this hypothesis shows no significant difference between the COVID-19 pandemic problem and the perception of online learning of TVET students. Data shows that the perception of online learning influences male students in the first and second factors, while the factor influencing female students is the third.

Table 4. Analysis of t-test independent of online learning perceptions by gender

Factor	Gender	N	M	SD	t	df	Sig.
Factor 1: Participation in online classes	Male	51	3.66	.945	.830	150	.408
	Female	101	3.55	.719	.759	80.04	.450
Factor 2: Acceptance of learning in online classes	Male	51	3.33	.827	.298	150	.766
	Female	101	3.29	.705	.283	87.52	.778
Factor 3: Assignment and execution of online tasks	Male	51	3.60	.870	-.331	150	.741
	Female	101	3.64	.710	-.309	84.54	.758

Based on Table 5, the analysis of the independent t-test showed that there was a non-significant difference of the first factor. In terms of mean, the first factor in online learning of semester 6 was lower than that of semester 7. Next, there is a non-significant difference of the second factor: the acceptance of learning in online classes between semester 6 and semester 7. In terms of mean, the second factor in online learning of semester 6 was

higher than that of the semester. Finally, there is an insignificant difference of the third factor, namely the acceptance and implementation of online assignments. In terms of mean, the third factor in online learning of semester 7 is than semester 6 students. This suggests that the perceptions of online learning that influence semester 7 students are more likely to be the first and third factors while the second factor influences their semester 6 students. The perception of semester 7

students for factor one, classroom participation, was very encouraging in online learning during the COVID-19 pandemic. For this case, they are more prepared and enthusiastic about online learning. In addition, the third factor is online assignments and implementation at an agreed level where semester 7 students are more likely to think that the assignments given are very burdensome during the COVID-19 pandemic in online learning. Finally, the perception of

semester 6 students is more influential in the acceptance of learning in online classes. Among them, they argue that online learning is challenging compared to face-to-face classes. They are also not very confident in online learning, where group activities are done only using the online medium. The researcher claimed that students with low self-confidence would be facing more doubt in online learning too.

Table 5. Analysis of t-test independent of online learning perceptions by semester

Factor	Semester	N	M	SD	t	df	Sig.
Factor 1: Participation in online classes	6	63	3.53	.871	-.733	150	.465
	7	89	3.63	.749	-.715	120.60	.476
Factor 2: Acceptance of learning in online classes	6	63	3.33	.773	.408	150	.684
	7	89	3.28	.730	.404	128.80	.687
Factor 3: Assignment and execution of online tasks	6	63	3.59	.813	-.520	150	.604
	7	89	3.66	.732	-.511	124.68	.610

Based on Table 6, the mean for the highest factor was the Agricultural Science Department followed by the Engineering Technology Department and the Family and Consumer Science Department) at the agree level. The difference in mean values was significantly shown using the one-way ANOVA test. Next, the second factor showed the Family and Consumer Science Department's agreed level as the highest mean compared to the Engineering Technology Department. The Family and Consumer Science Departments showed an uncertain agreement level. Based on the result, the Family and Consumer Science Department influences the perception of online learning. From the results, the researcher concludes that the Family and Consumer Science Department requires practical preparation that exactly encompasses online learning. They are unable to adapt theory to practice online. The Family and Consumer Science Department needs to apply more theory learning-based compared to the practical based.

For example, for the livestock management subject (VAA 3013), the practice that needs to be done before online learning is to learn how to care for poultry and quails from small to mature. This livestock management should be applied practically because of the process of seeing the changes in the livestock. If students are interns at home, they have the constraints of a place to do the internship. For example, if students live in flats or condo houses, they do not have space to defend livestock such as chickens or quails. In addition, the aquaculture subject (VAA 3023) studied aquaponic processes that require large irrigation systems. If they do at home, they can adapt but not as a whole. Furthermore, the way fish care is not the same if students misuse the wrong techniques. In conclusion, the findings stated that students' perceptions of the Family and Consumer Science Department showed factors that influenced online learning during the COVID-19 pandemic.

Table 6. Mean and standard deviation of online learning perception factors by department

Factor	Department	N	M	SD
Factor 1: Participation in online classes	JTK	72	3.60	.683
	JSP	44	3.66	.874
	KSK	36	3.46	.926
Factor 2: Acceptance of learning in online classes	JTK	72	3.21	.615
	JSP	44	3.46	.887
	KSK	36	3.29	.786
Factor 3: Assignment and execution of online tasks	JTK	72	3.62	.682
	JSP	44	3.71	.840
	KSK	36	3.54	.835

*JTK: Engineering Technology Department, KSK: Family and Consumer Science Departments, JSP: Agricultural Science Department

Based on Table 7, the one-way ANOVA test showed no significant difference for all the factors based on department. The results revealed that there is no difference between the three departments regarding the perception of online learning. The researcher concludes that each department has followed the same

level of syllabus based on Program Learning Outcome (PLO), Course Learning Outcome (CLO) and Student Learning Time (SLT) for the learning time, assessment, practical and assignment throughout the whole semester.

Table 7. One-way ANOVA analysis of differences in online learning perception factors by department

		SS	df	MS	F	Sig
Factor 1: Participation in online classes	Between Groups	.847	2	.423	.658	.520
	Within Groups	95.927	149	.644		
	Total	96.774	151			
Factor 2: Acceptance of learning in online classes	Between Groups	1.714	2	.857	1.552	.215
	Within Groups	82.283	149	.552		
	Total	83.998	151			
Factor 3: Assignment and execution of online tasks	Between Groups	.611	2	.305	.519	.596
	Within Groups	87.742	149	.589		
	Total	88.353	151			

Based on Table 8, the correlation analysis results found no direct positive relationship ($r = -.177$) between mental health and the perception of online learning. With this result, the third hypothesis (H3) is

rejected. As a result, there is a consideration that there is no relationship between mental health and perceptions of online learning.

Table 8. Correlation of mental health and perceptions of online learning among TVET students

Construct		Relationship Level	Hypothesis (Ho)
Mental health with the perception of online learning	Correlation	-.177*	
	Sig.	.029	No Relationship Rejected
	N	152	

*. At the 0.05 level, the correlation is significant (2-tailed).

5. Conclusion

In conclusion, mental health among TVET students at Sultan Idris Education University, Perak, Malaysia, did not affect online learning during the COVID-19 pandemic. To clarify the first question, a substantial influence will occur when TVET students' mental health is at a high level of agreement. The perception of online learning will affect TVET students' stress, anxiety, or depression. A study from Hasan and Bao (2020) suggested that mental health among students should be monitored during this pandemic due to student emotional breakdown, especially when having relatives infected with COVID-19. At the same time, a study from Osman et al. (2020) explained that the majority of students experiencing high anxiety during this pandemic. Tharumalay et al. (2020) described that students have serious mental health issues such as traumatic stress, depression, and anxiety disorder due

to the COVID-19 pandemic. Next, the questionnaire data found that the results of the ANOVA test showed the perception of online learning between departments. There was no significant difference. This means students from the three departments do not differ because online learning is possible through the same process such as assignment, project work, and others.

Overall, all TVET students had no significant differences between departments. Thus, the findings of the study for hypothesis 2 are rejected. Based on studies Bączek et al. (2021), students believe that online learning cannot provide better experience and productivity in mastering skills and competencies in vocational education. When the subject is related to specific procedures and is practice-based, online learning can be complex. Also, teachers find it challenging to notice nonverbal behavioural signals

and assess whether students are disengaged, irritated, or disinterested in engagement without face-to-face experiences. Finally, the correlation test found a significant relationship showing no relationship between mental health and online learning. Then the study findings for hypothesis 3 were rejected. The following is a study conducted by Shamzaeffa and Kevin Tan (2016), which found that more than 50% of respondents are faced with an unhealthy mental state. The difference in findings may be due to differences in the learning environment by respondents involved in these studies. Recently, the COVID-19 pandemic has had an impact on the education sector, primarily in vocational education. Many institutions have directed online learning modes to curb the spread of the COVID-19 epidemic. This study aims to identify the mental health and perceptions of TVET students in online learning during the COVID-19 pandemic in IPTA. Therefore, this study can identify some suggested measures to improve mental health and TVET students' perceptions of online learning.

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