Study Of Students' Perception Of Online Teaching And Learning Among Students Of Culinary Programs, Kolej Komuniti Kuantan

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Abstract

The online teaching and learning process (T&L) is becoming a new way of delivering knowledge to students without having to do face-to-face in Malaysia and around the world. It highlights the spread of the COVID-19 virus worldwide, leading to new alternatives to knowledge in the education system. This study aimed to find out the perceptions of the students of the Culinary Programme, Kolej Komuniti Kuantan (KKKUA), towards online teaching and learning due to the COVID-19 pandemic. This study involved 65 students of the Culinary Programme from semester 1 up to semester 4. This study is a quantitative study that uses a descriptive survey method using mean values. The questionnaire used as a study instrument to obtain students' perceptions of online implementation has been adapted from past studies. The Statistical Package for Social Science (SPSS) software analysed the data obtained. The five aspects studied include learning content, interaction, feedback, motivational strategies, and ease of accessing the internet. The findings showed that the mean value for all five aspects studied was at a high level of 3.62, online learning content, online interaction 3.74, lecturer feedback 4.00, motivational strategies used by lecturers 3.98, and ease of accessing online learning applications 3.79. The results of the Pearson Correlation analysis found a significant positive relationship between interaction and motivational strategies ($r = .658$, $p < .001$). Therefore, to ensure that online learning can be carried out more effectively in the future, improvements in terms of Internet equipment and networking need to be made so that learning can be implemented better and more effectively. In addition, lecturers and students also need to be prepared to give a firm commitment so that the teaching and learning of the new norm can positively impact both sides.

Keywords: Online Learning; Covid-19; Culinary

1.0   Introduction.

Teaching and learning include imparting knowledge to the students by planning, managing, delivering, guiding, and evaluating them. However, the COVID-19 pandemic has been sweeping worldwide since the beginning of 2020 and has brought about profound changes in the field of education. The virus has forced educational institutions worldwide to take immediate action to protect the health and safety of students and staff. The pandemic led to the closure of schools, colleges, and universities and forced the transfer to the online T&L mode (Aristovnik et al., 2020).

Similarly, the Malaysian education system has significantly changed due to the Covid-19 pandemic. Malaysia had to come to terms with the change from the conventional face-to-face teaching and learning method to online learning methods (Mohd et al., 2020) to ensure that the learning process remains in place even though the movement control order (MCO) has been set. According to Muzaffar Syah (2020), Prime Minister Tan Sri Muhyiddin Yassin said the control order was made under the Prevention and Control of Infectious Diseases Act 1988 and the Police Act 1967 on 18 March 2020. There will always be a diversity of activities according to the current additional circulation, which is now in the 21st century.

According to Ragnedda (2018), more skilled individuals with a good mastery of digital knowledge are an important new form of capital in this era. In fact, according to the Malaysian Education Development Plan, 21st-century learning is a form of transformation in the country's education system that demands change, especially in teaching and learning (Madinah Mohamad, 2014). Online learning has long been practised in developed countries such as Europe, America, and Australia because it is convenient and benefits more students and their lecturers. Also, technological development and increased Internet network access have opened up new opportunities for implementing PdP (Hassan et al., 2019). Therefore, a perfect time for online learning and study (T&L) is being conducted in a modern educational landscape, especially since the spread of the COVID-19 pandemic has hit the world (Aristovnik et al., 2020).

The Ministry of Education Malaysia (MOE) has prepared guidelines for educators to implement Teaching and Learning at Home (PdPR) as a new alternative to delivering information and knowledge. According to Moore C et al., 2018, virtual learning has two methods: face-to-face and face-to-face learning. The Ministry of Higher Education (MOHE) has also issued instructions through circulars distributed concerning academic activities in Higher Education Institutions (IPT) to be carried out in the same way as in schools. The Ministry has determined that all teaching and learning activities (T&L) should be conducted online. It aims to prevent the spread of the Coronavirus outbreak among students on campus.

According to Ismail (2020), Microsoft Teams, Facebook Live, or Google Classroom are platforms that can be applied according to learning needs. In addition, the Google Meet, Big Blue Button, and Zoom platforms (Aripin et al., M.A.H., 2020), digital textbooks, PdP videos (EduwebTV/CikgooTube) and PdP-assisted app links such as Edpuzzle that use interactive video teaching apps, Quizizz and Kahoot are game-shaped quizzes where students are more interested in this kind of learning. Educators are free to operate PdP creatively using existing platforms that are readily accepted and accessible to students in their respective areas. Moreover, MOE's Higher Education Development Plan 2015-2025 recognizes the use of learning technology to improve the accessibility and performance of students and instructors in Malaysia. However, it is crucial to understand that students' perceptions of online PdP may vary based on several factors. Recent studies have shown that the level

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of technological skills, the motivation of students, and the support received can influence students' perception of online learning (Almaiah et al., 2020).

2.0   Problem Statement

However, when PdP is conducted online, it is inseparable from the problem of poor and unstable internet access in some places, especially in a house where many people use the internet simultaneously. In this regard, the government has taken the initiative to address this problem around the states of Sabah and Sarawak (Berita Harian, 15 April 2020) as well as to bridge the gap between the issue of internet access between people experiencing poverty and the middle-class (Sinar Harian, 22 April 2020). The government, among others, has allocated RM500 million to bridge the digital divide through the National Digital Network Initiative (JENDELA) to improve internet access. A total of RM7.4 billion will also be allocated by the Malaysian Communications and Multimedia Commission (MCMC) to improve broadband services in 2021 and 2022 (Berita Harian, 30 November 2020). Therefore, by manipulating online teaching and learning methods during the MCO period, the level of education can be passed on to students, as well as ensuring that students are always provided with knowledge, even if they are only at home.

While online PdP offers diversity in terms of teaching, it also brings challenges such as quality of delivery issues, student and lecturer interaction, and adequate technical support (Hodges et al., 2020). Therefore, it is essential to research and understand students' perception of PdP online, especially in the context of the Culinary programme at KKKUA, to ensure that it runs effectively and brings benefits to students. Students' perception of Online Teaching and Learning (PdP) plays an essential role in determining the successful implementation of this method (Fathema et al., 2015). This perception reflects students' views, understanding, and assessment of their learning experience in a virtual environment. Recent studies have shown that students' perceptions can influence their success in online PdP. For example, a study by Almaiah et al. (2020) shows that students who positively perceive PdP online tend to achieve better academic performance. It may be because students with positive perceptions are more involved in learning and more adaptable to the digital learning environment. In addition, interaction between students and lecturers can also influence the success of online PdP. Students who feel that there is good interaction with lecturers and peers online tend to achieve better achievements (Aristovnik et al., 2020). These interactions help better understand the learning content and build motivation to learn. In the context of Kolej Komuniti Kuantan (KKKUA), understanding how students' perception of the culinary programme affects the success of online PdP is essential. This study will assist in assessing the impact of online PdP implementation on students' academic achievement.

Home-based Learning and Teaching (PdPR) have been implemented in a structured and planned manner, and students will follow PdPR optimally (MOE, 2020). However, this approach depends entirely on the level of internet access and whether the educators are also students. On May 16, 2020, at the Special Meeting of Ministers on the Implementation of Movement Control

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Order (MCO), the National Security Council (MKN) approved the proposal of the Ministry of Higher Education (MOHE) on the method of academic activities at the campus of the current Higher Education Institutions (IPT) and the post-MCO phase is conducted online and not allowed all PdP activities face-to-face. Thus, the Kolej Komuniti Kuantan (KKKUA) took note of the matter, replacing all PdP activities conducted online.

3.0 Objective

i. Identifying whether students' responses to online learning are beneficial.

ii. Analyze the effectiveness of online learning.

iii. Studying the ways of learning that students are interested in.

4.0 Literature Review

The spread of the COVID-19 pandemic worldwide is no exception to Malaysia, causing students at the institute to continue their learning online so that the PdP process can be carried out without the delay of the semester. According to Ahmad Zaki et al. (2014), technological advances can accelerate the workflow and improve the quality and quantity of work developed. Students can access the lecture sheets according to their time and circumstances. Some of the issues of online learning during the pandemic were discussed in previous studies. Mohd Faiz et al. (2020) offer several methods to deal with virtual learning and teaching more effectively, i.e. good space management, effective time management, creative methods, and discussing virtually with other partners.

The perception of students of the Diploma in Early Childhood Education at Kolej Universiti Islam Melaka towards the implementation of online learning during the COVID-19 pandemic was studied by Muhammad Izzat, Zuriani Hanim & Nur Hafizaliyana (2020) on the five (5) aspects studied at a moderate level i.e. online interaction (3.05), motivational strategies used by lecturers (3.36), learning content (3.13), lecturer feedback (3.51), and ease of accessing online learning applications (3.40). Similarly, the study produced by Nasimah & Mohd (2021) states that online learning facilities constitute a significant challenge to low- and middle-income students, so all parties, whether IPT, parents, teachers, local communities or the government, need to provide support and improvement in terms of providing online learning facilities to students in terms of learning equipment, online resources and Internet access.

The study by Abdul Rashid et al. (2020) states four main elements that are challenging and stressful to pupils during the new norm. Such elements are self-adjustment, internet access problems, time management vulnerabilities, and financial issues for purchasing Internet data. Similarly, the study stated in Ahmad Fikri & Mohd Effendi (2023) that students from B40 families were found to be more affected by having to subscribe to internet data to enable them to participate in classes, exams and submit assignments. In undergoing

PdPR, internet access is a priority that should be available other than devices such as laptops or mobile phones because if the internet connection is weak, it will interfere with the smooth running of the PdP process and cause students to feel less eager to continue learning.

According to Norfezah, Nur Sabrina & Mohd Syafiq (2022), Culinary students can still be conducted online for all classes, including theory and laboratory, although in this course most of them are "hands-on" who are taught in meetings by replacing the process with live demonstrations or recordings (Askren &; James, 2021).

Hands-on teaching has shifted to the virtual world in culinary arts programs, for example, using a combination of video and simulation (Flaherty, 2021). Culinary lecturers can now teach students online from their homes while students prepare from their own homes using food kits purchased and delivered to their homes. The COVID-19 pandemic has caused the learning and teaching process to shift from face-to-face to online to break the pandemic chain (Hamat et al., 2020).

5.0   Methodology

This study used a questionnaire on Culinary Programme students at Kolej Komuniti Kuantan and used a Social Science Statistics Package data analyst, SPSS. It is done to make the systematic review and its journey more directed toward achieving the study's objectives.

5.1   Study instruments

5.1.1 Questionnaire

Questionnaire studies are a popular method researchers use because they are easy to devise and cover a wide range of subjects. Information relating to the respondent will be kept confidential during the questionnaire. This study used questionnaire instruments adapted from studies by Muhammad Izzat, Zuriani Hanim & Nur Hafizaliyana (2020) to determine students' perceptions of online implementation. This questionnaire was provided for 65 to 65 sets of the Kolej Komuniti Kuantan Culinary Programme students. The questionnaires are divided into five aspects that have been studied, including learning content, interaction, feedback, motivational strategies, and ease of internet access. This questionnaire is a closed question, and it is easy for the respondent to analyze and give an answer (Syed Arabi: 1998:135). A brief description of the purpose of the questionnaire states that personal information will not be disclosed throughout the process. The five aspects studied include learning content, interaction, feedback, motivational strategies, and the ease of accessing the Internet for online teaching and learning.

5.1.2 Data analysis techniques

SPSS software has been used to process the data collected from the questionnaires. Using such software will make it easier to analyze 65 questions derived from the questionnaire process accurately. Figures and graphs will be presented after analyzing the available data. The authors use

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the action study method by categorizing students' answers into several categories before analyzing written test data using SPSS.

6.0   Result & Discussion

In the recent study conducted by Hassan et al. (2021), she concluded that implementing e-learning has proven to be a highly effective method in managing the learning process during the COVID-19 pandemic. This method allows students to engage in learning activities flexibly, irrespective of time and place. Some respondents in her study also expressed that e-learning has positively impacted them.

Rasmitadila et al. (2020) similarly outlined that the online learning approach becomes more meaningful during the COVID-19 pandemic. This perspective aligns with Hassan (2021) view, indicating a consensus on the effectiveness of e-learning during these challenging times. According to Lundin (2014), online learning can provide significant benefits by allowing access to educational materials widely and facilitating interaction between students and teachers. Online learning is also believed to expand students' knowledge and technological skills by enhancing self-directed learning.

Will Richardson (2010) stated that online teaching and learning methods can produce students with a positive attitude and proficiency in obtaining online information. He emphasized that students also succeed in building close social relationships among themselves and with educators. Dawi et al. (2016) also expressed positive views, stating that online web media technology can have favourable implications for teaching and learning and student performance. Thus, he highlighted the importance of technology in supporting more effective implementation in the national education system.

Overall, these studies provide a consistent picture of the advantages of e-learning, contributing to the understanding that the use of technology in education is a progressive step that positively impacts students, especially in the context of a global pandemic such as Covid-19.

The five aspects used to assess students' perception of online learning are online learning content, online interaction, lecturer feedback, motivational strategies used by lecturers, and the ease of accessing online learning applications. The mean score and standard deviation will be used to answer the objectives of this research study. This study refers to the interpretation of scores by Pallant (2011) and is modified to suit studies conducted on the scope of "student perception", as shown in Table 1.

Table 1: Mean Score for Students' Perception of Online Teaching and Learning

Mean Score	Mean Score Interpretation
3.67 – 5.00	High
2.34 – 3.66	Average
1.00 – 2.33	Low

6.1 Student's Perception of Online Learning Content

Table 2 presents the mean score analysis used to gauge students' perceptions of online learning content. The highest mean score, at 3.90, reflects the agreement of 45 respondents that reference materials aid students in online learning. However, two question items received the lowest mean score of 3.49 each. For question item 2, 34 respondents agreed, while 21 respondents expressed uncertainty about the ease of understanding the topics discussed in online learning. Regarding question item 3, 39 respondents agreed, and 14 respondents were less certain about the effectiveness of discussions during online learning in aiding their understanding of less obvious concepts. The overall average mean score is 3.62, indicating that the learning content, particularly discussions during online learning, plays a moderate role in shaping students' perceptions.

This observation aligns with Ismail Zain's (2002) assertion that the content in online learning is a crucial element and can significantly impact the teaching and learning process.

These findings suggest that while certain aspects of online learning content, such as reference materials, are well-received by students, there is room for improvement in the clarity and effectiveness of discussions. Ismail's perspective underscores content's pivotal role in the online learning experience, emphasizing the need for thoughtful design and delivery to enhance the overall effectiveness of teaching and learning in virtual environments.

Table 2: Student's Perception of Online Learning Content

No.	Statement	Mean Score	Std. Deviation
1	Online learning content according to the course I took	3.64	1.13
2	Topics of discussion in online learning are easy to understand	3.49	1.04
3	Discussions during online learning help me understand the less obvious	3.49	1.03
4	Discussions during online learning make it easy for me to ask questions with lecturers directly	3.58	1.05
5	Reference materials (e.g. links, notes) helped me a lot in online learning	3.90	.913
Average		3.62	1.03

6.2 Student Perception of Online Interaction

Table 3 presents the mean score analysis assessing students' perceptions of online in-class interactions. Out of 50 respondents, it was found that discussions among coursemates significantly contributed to better understanding, with a mean score of 3.92. The lowest-rated item indicated that students find it somewhat challenging to participate in online discussions with peers for assignment completion, garnering a mean score of

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3.33, and 32 respondents expressed agreement with this statement. The overall average mean score is 3.74, suggesting a consensus that online interaction is beneficial. Engaging in discussions with lecturers and online coursemates is seen as constructive for enhancing students' comprehension.

Wu & Hiltz (2003) study conducted at the New Jersey Institute of Technology involving 116 students found that online discussions were beneficial for learning skills and improved the quality of student learning. Students generally prefer interacting through interactive and innovative mediums (Hanafiah et al., 2019) compared to formal communication within the physical classroom setting (Rosly & Khalid, 2017).

Findings from a study by Tsitsia et al. (2020) focusing on lecturers indicated that most respondents observed a highly positive impact of online learning on students' perceptions. For instance, 84.4% of students were reported to provide quick feedback on assigned tasks. However, some respondents noted that 77.3% of students did not regularly attend synchronous classes.

These findings collectively underscore the positive influence of online interactions on students' learning experiences, aligning with previous research and emphasizing virtual engagement's effectiveness in student-peer and student-lecturer interactions.

Table 3: Student's Perception of Online Interaction

No.	Statement	Mean Score	Std. Deviation
1	Discussions between lecturers and students run consistently throughout the semester.	3.87	.960
2	Discussions between coursemates helped to improve my understanding	3.92	.973
3	I find it easier to join online discussions with friends to complete tasks or assignments	3.33	1.04
4	My lecturer encourages students to interact with each other during online learning	3.78	.960
5	Interaction between lecturer and student helps me understand online learning	3.81	.950
Average		3.74	.976

6.3   Student's Perception of Lecturer's Feedback

Table 4 analyses mean scores assessing students' perceptions of lecturers' feedback during online learning. The highest-rated response indicates that lecturers provided additional information needed by students, receiving a mean score of 4.07. A total of 55 respondents agreed with this statement. On the other hand, the lowest-rated item suggests that students had a somewhat lower understanding of the feedback delivered by the lecturer, with a mean score of 3.92 and agreement from 51 respondents. Despite this, all five mean scores in this aspect are high, with an average mean score of 4.00. It indicates

a consensus among respondents that the feedback provided by lecturers is effective and aids in understanding the material covered during online learning sessions. This feedback plays a significant role in shaping students' perceptions of teaching and online learning.

These findings align with the observations of Aviv & Golan (1998), who noted that during online learning, particularly in discussions, most students tend to engage passively, with only a few presenting questions. They recommended that electronic discussions be well-planned, focused, and guided throughout the learning process to create an effective learning experience.

The results emphasize the importance of constructive feedback from lecturers in online learning environments, supporting a positive impact on students' understanding and overall perception of the teaching and learning process.

Table 4: Student's Perception of Lecturer Feedback

No.	Statement	Mean Score	Std. Deviation
1	My lecturer responded immediately to my	4.00	.750
2	The lecturer gave me the answer I wanted	4.03	.749
3	The lecturer gives me the extra information I need	4.07	.776
4	I understand the feedback delivered by the	3.92	.756
Average		4.00	.752

6.4 Student's Perception of Motivational Strategy Used by Lecturer

Table 4 is a mean score analysis assessing students' perceptions of lecturers' motivational strategies. A total of 56 people in the survey agreed that lecturers inspire and encourage students to participate in online learning, with the highest mean score of 4.07. At the same time, the lowest item was 47 respondents who agreed that lecturers encouraged students to participate in online learning, with a mean score of 3.80. All mean values for this item are high, with an average mean score of 3.98. This result shows that the majority of respondents who filled out the questionnaire in this study agreed that motivation and encouragement in terms of encouraging attendance and the participation of respondents in the discussion during the online learning session by lecturers is good. The role of lecturers is very important to ensure that teaching and learning can be carried out as best as possible so that there is no dropout of information to students.

Table 5: Student's Perception of Motivational Strategies Used by Lecturers

No.	Statement	Mean Score	Std. Deviation
1	The lecturer encouraged me to participate in online learning	3.80	.904
2	Lecturers provide motivation and encouragement when I am present in online learning.	4.07	.756

3	Lecturers use my feedback to encourage discussion during online learning	4.00	.790
4	Lecturers encourage all students to participate in discussions during online learning	4.06	.768
Average		3.98	.804

6.5 Student's Perception of Ease of Access Online Learning Applications

Table 5 illustrates a mean score analysis assessing students' perceptions of the ease of accessing online learning apps. The highest mean score in the analysis, at 3.92, was attributed to 52 respondents who agreed that the online learning application used by lecturers facilitated easier student feedback submission. Conversely, the lowest-rated item indicated that 37 respondents agreed that students could easily access online learning apps used by lecturers without internet interference. This item obtained the lowest mean score of 3.46, signifying a moderate level, with an average mean score of 3.79. These findings suggest that most respondents generally find the ease of accessing online learning applications satisfactory.

The distinctive characteristic of the millennial generation, as highlighted by Johari et al. (2021), is their willingness to embrace and adapt to technological developments, given their early exposure to ICT-based technologies.

In conclusion, the results indicate a positive overall perception regarding the ease of accessing online learning applications among the respondents. This finding aligns with the inherent technological adaptability of the millennial generation, underscoring the importance of user-friendly platforms to enhance the overall online learning experience.

Table 6: Student's Perception of the Ease of Accessing Online Learning Applications

No.	Statement	Mean Score	Std. Deviation
1	I know how to access online learning apps used by lecturers	3.90	.861
2	I can easily access the online learning apps used by lecturers without internet interference	3.46	1.09
3	Lecturers use online learning apps that make it easier for me to send feedback or assign tasks.	3.92	.853
4	Feedback or assigned tasks are not lost	3.84	.939
5	I like the display of online learning apps used by lecturers	3.84	.939
Average		3.79	.932

6.6 Correlation Relationship between Student Perception of Online Interaction and Student Perception of Motivational Strategy used by Lecturer

This section will present the findings of the analysis obtained on the relationship between students' perception of online interaction and motivational strategies used by lecturers. Based on the results of the correlation analysis, the Pearson Correlation value shown has a moderately high significant correlation value (r = .658**). From the analysis results, it can be noted that students' perception of online interaction has a significant relationship with the motivational strategies lecturers use. This result shows that lecturers are key individuals who motivate students to participate in the online discussion. Hamzah (2007) supported this finding and found that lecturers are responsible for motivating students and ensuring they use online discussions. Kearsley (2000) also stated that one of the lecturers' roles is to ensure high interaction and engagement during the learning process. In line with the lecturer's job as a moderator, lecturers should always be with the suitors in conducting online discussions to help improve students' knowledge (Abdul Aziz & Hamzah, 2011). This finding can be seen in Table 7:

Table 7: The Relationship between Online Interaction and Motivational Strategies used by Lecturers

Variables		1	2
Online interaction	Pearson Correlation	1	0.658**
	Sig. (2-tailed)		<.001
Motivational Strategies Used by Lecturers	Pearson Correlation	0.658**	1
	Sig. (2-tailed)	<.001	

7.0 Conclusion

This study highlights students' perception of the Culinary Certificate programme towards online teaching and learning, and students' perception is good even though this is the first time that classes have been held completely online. In addition, the results also show the role of lecturers in providing encouragement and motivation to students as the main aspect of the positive perception. Other factors like internet networking are the main determinants of online teaching and learning perception. Although discussions to complete assignments and access learning applications used by lecturers easily without internet interference are less significant, the frequency of use can help students understand how to use the online application. In order to improve the quality of online Teaching and Learning (T&L) in the context of the culinary programme at Kolej Komuniti Kuantan (KKKUA), it is important to implement improvements based on the study's findings and students' views. These recommendations should consider the needs and challenges identified in previous studies. One of the suggestions for improvement is providing more quality online learning resources. This result includes lecture notes, instructional videos, and interactive learning materials. The quality of this material needs to be improved to ensure that students can better understand the learning content (Almaiah et al., 2020). In addition, online interactions

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also need to be given greater emphasis. Lecturers need to strive to provide more effective support and interaction with students through online platforms. Students need to be able to get technical assistance easily if they have trouble accessing during the online learning process. Platform PdP needs to make sure it works properly and has the facility to report if there is a problem (Hodges et al., 2020). In addition, lecturers should also be given pedagogical training to ensure that they have sufficient skills in teaching online. Lecturers must understand effective teaching methods and strategies in a virtual environment (Fathema, Shannon, & Ross, 2015). This finding will help ensure that students have a better learning experience and greater academic success in online T&L.

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Author Contributions

The contributions of each author to this research project are as follows:

Azmira M.: Conceptualization, methodology, and project supervision. She was responsible for the study's overall design, including the research framework and methodology. Writing - original draft preparation. She was primarily responsible for drafting the initial manuscript, including the introduction, methodology, and results sections. Writing - review and editing. She critically reviewed and edited the manuscript, offering valuable insights and improvements to the content. Funding acquisition and project administration. She secured the necessary funding for the research and managed administrative tasks related to the project.; Research support and data validation. She supported the research process, assisting with data validation and quality control;

Siti Mariam M. A. @ A. A.: Data collection, analysis, and interpretation. She played a pivotal role in gathering, processing, and interpreting the data essential for this research. Literature review and theoretical framework

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development. She extensively reviewed existing literature and contributed to developing the theoretical framework. Data visualization and figure preparation. She created figures and visual representations of the data, enhancing the clarity of the research findings.

Conflicts of Interest

In conducting the research on "Students' Perception of Online Teaching and Learning Among Students of Culinary Programs at Kolej Komuniti Kuantan," the research team adhered to the highest transparency and ethical conduct standards. No conflicts of interest existed that could have unduly influenced the research process or the reporting of its findings. The authors of this study declare that they had no financial interests, personal relationships, or affiliations with organizations that could potentially bias their interpretation of the data or results. This research was carried out with the sole objective of contributing to the body of knowledge in online teaching and learning, and the authors maintained their impartiality and independence throughout the research process. The authors are committed to upholding the principles of academic integrity, ensuring that the study's outcomes are presented objectively and without any external influence. The results of this research are based on rigorous analysis and are reported with the utmost impartiality and transparency. Should any potential conflicts of interest arise that could impact the integrity of this research, the authors are committed to disclosing such conflicts promptly and taking the necessary steps to address them according to best research practices and ethical guidelines.

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