

PREFACE

The SIG CS@e-Learning committee sincerely appreciates the dedication and contributions of the educators from Jabatan Sains Komputer & Matematik (JSKM), UiTM Penang Branch, in bringing the 9th edition to fruition. This edition received 30 scholarly articles, all of which met the required criteria and were accepted. Authors are encouraged to further refine their research with additional insights and discussions for potential publication in high-impact journals indexed by SCOPUS, WOS, or ERA.

The theme for the ninth volume, "Beyond Boundaries: The Multidimensional Horizons of E-Learning," reflects the continuous evolution of digital learning. Over the past few decades, e-learning has proven to be a transformative force in education, demonstrating exceptional adaptability and effectiveness. The widespread use of mobile technology has expanded its reach, making e-learning an essential component not only in higher education and vocational training but also in primary and secondary education. Emerging trends such as artificial intelligence (AI), micro-credentials, big data, virtual and augmented reality, blended learning, cloud-based platforms, gamification, mobile learning, the Internet of Things (IoT), and online video are reshaping the digital learning landscape.

SIG CS@e-Learning remains dedicated to fostering academic excellence through impactful publications. With continuous commitment and innovation, we aspire for JSKM to attain recognition in esteemed academic journals, further advancing the frontiers of e-learning.

Ts. Jamal Othman

Chief Editor

SIG CS@e-LEARNING

Beyond Boundaries : The Multidimensional Horizons of E-Learning

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STUDENT PERSPECTIVES ON ONLINE LEARNING COMPARED TO CONVENTIONAL CLASSROOM LEARNING BETWEEN FIELDS OF STUDY

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ABSTRACT

Transitioning from traditional classroom instruction to online education has ignited extensive discourse among students, educators, and politicians. This study examines student perceptions of online learning versus traditional classroom instruction among Culinary Arts Management and Engineering students at Kampus Permatang Pauh, UiTM Cawangan Pulau Pinang. A survey was administered to a sample of 55 students, chosen using systematic sampling. Data collection was conducted using an online questionnaire, and statistical analysis was executed using SPSS, incorporating an independent sample t-test to evaluate variations in student preferences. Research reveals that although both cohorts acknowledge the benefits of online education, Culinary Arts Management students have a pronounced inclination for conventional in-person instruction owing to the tactile demands of their field. Conversely, Engineering students demonstrate a greater propensity for online learning, appreciating its flexibility and accessibility. The study emphasises the necessity of a balanced blended learning approach that amalgamates the advantages of both techniques to improve student engagement and academic performance.

Keywords: *Online learning, conventional classroom learning, student perspectives, blended learning, education*

Introduction

The transition from conventional classroom instruction to online learning has generated much debate among students, teachers, and legislators (Karp, 2025). Students now have access to a more adaptable and technologically advanced learning environment because of the growth of digital education. However, students now have differing views on how effective this shift is compared to conventional classroom instruction. Some students love the dynamic, structured and collaborative character of traditional classrooms, while others value the ease, independence and accessibility of online learning. Examining how students view these two learning modalities offers important insights into their preferences and difficulties and how each affects their learning experience and academic achievement.

In this study, we are conducting a survey on Student Perspectives on Online Learning Compared to Conventional Classroom Learning in Kampus Permatang Pauh, UiTM Cawangan Pulau Pinang. This survey involved Culinary Arts Management and Engineering Students; our survey population was 82. The sample for this study is 55 students from the Culinary Arts Management and Engineering Students retrieved from the Sample Size Calculator. For the data collection, we used a questionnaire distributed through Google Forms using social media platforms such as WhatsApp and Telegram. The questionnaire was adopted from SurveyPlanet (2025) and restructured to be relevant to our survey. Next, we used systematic sampling to collect the sample. Systematic sampling is a probability sampling technique in which a population chooses components regularly. After randomly selecting a beginning point, each k -th member from the list – where k is the sample interval – is chosen. The intended sample size (n) divided by the overall population size (N) yields the interval k . Data were analysed using SPSS.

The primary purpose of this survey was to examine students' preferences between online and face-to-face classes. The key finding revealed that Culinary Arts Management and Engineering program students were more inclined toward online than face-to-face classes. This study addresses the students' perspectives on online learning compared to conventional classroom learning. The objectives are (1) To identify courses that prefer online learning compared to conventional classroom learning and (2) To investigate whether a significant difference exists between courses that prefer online learning compared to conventional classroom learning.

Methodology

For this study, the method used to collect the data for us to achieve the objectives is "Two Population Mean". Two population means are measured from two sets of independent samples. In this study, our samples were Culinary Arts students and Engineering students. Furthermore, for the sampling technique, in order for us to collect the data, we used a probability sampling technique called systematic sampling, which involves the selection of every 2nd, 5th or 10th, or any ordinal number that is suitable to be used on the person on a list. The sample that we would sample was 55 people, a mix of Culinary Arts students and Engineering students. Therefore, we will choose the fifth person from the list to be in our sample for this study.

Steps of Systematic Sampling

- First, the sampling interval, which is symbolised by " k " or can also be defined as the population size divided by the desired sample size, is determined.
- Secondly, randomly select a number between 1 and k , then include the chosen person in the sample. 3. Thirdly, include each fifth element in the sample.

- Lastly, at the end of the sampling frame, we will have all the people to be included in the sample.

Descriptive of Data

- Population: 82 students from the Faculty of Culinary Arts Management and the Faculty of Engineering at Permatang Pauh Campus of UiTM CPP.
- Sample: 55 students from the Faculty of Culinary Arts Management and the Faculty of Engineering Sampling Technique: Systematic or probability sampling. Students were selected by choosing every fifth person from a list of students from both fields of study.
- Data Collection Method: The data was collected using a questionnaire shared via Google Forms. The survey link was distributed through WhatsApp, making it easy for participants to access and complete the form.

Finding

To comprehend student preferences for diverse learning modalities, we conducted research comparing online learning with traditional classroom instruction across multiple disciplines. This study elucidates the changing educational landscape and the determinants affecting students' decisions. Through analysing these preferences, we aim to offer insights that might guide academic institutions and instructors regarding contemporary trends and prospective areas for enhancement in educational content delivery. The analysis will assist in discovering patterns and preferences that can inform the creation of more effective and customised learning experiences for students.

This bar chart (Figure 1) illustrates a distinct preference for traditional classroom instruction over online education in both disciplines. The disparity in satisfaction levels suggests that students enrolled in Culinary Arts Management and Engineering programs exhibit more contentment with in-person instruction than online learning settings (Cook, 2024). This may result from the experiential aspect of these disciplines, where practical engagement and direct contact are essential to the learning process.

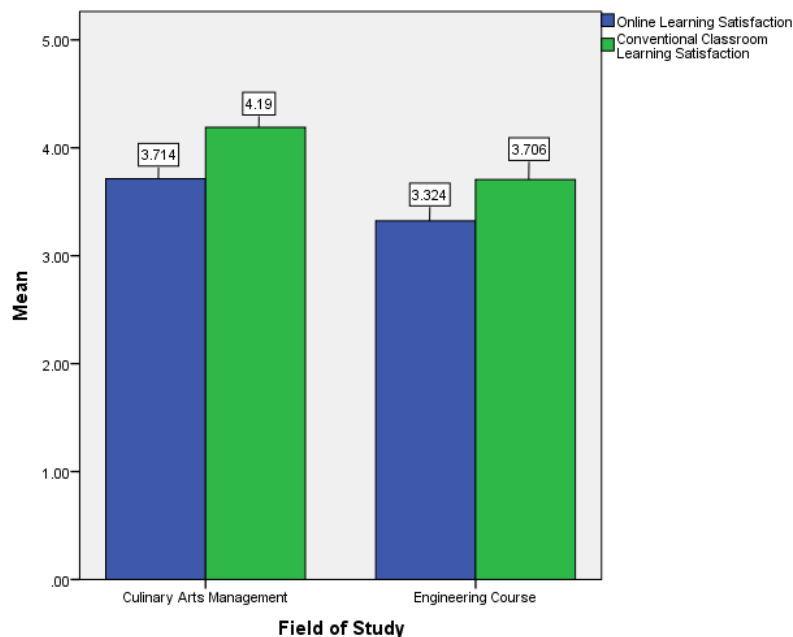


Figure 1: Satisfaction Levels in Different Learning Environments for Culinary Arts and Engineering Students

We performed an independent sample t-test (Table 1) to examine the disparities in student preferences for online learning compared to traditional classroom learning across several disciplines of study. This statistical test seeks to ascertain if a substantial disparity exists between the average satisfaction levels of students in Culinary Arts Management and Engineering courses across both learning contexts. Analysing the t-test results allows us to determine the degree to which the observed differences in satisfaction are statistically significant rather than coincidental. This analysis offers significant insights into the influence of learning modalities on student satisfaction across these specific academic fields.

Table 1: Result of Independent Sample t-Test

		Mean of Online Learning		Mean of Conventional Classroom Learning	
		Equal variances assumed	Equal variances not assumed	Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	.145		4.369	
	Sig.	.705		.041	
t-test for Equality of Means	t	1.963	2.108	2.062	2.285
	df	53	51.203	53	52.927
	Sig. (2-tailed)	.055	.040	.044	.026

Levene's Test for Equality of Variances: The significance level (Sig.) of 0.705 is greater than 0.05, showing that the assumption of equal variances is not violated. This means we can assume that the two groups' variances are equivalent. When identical variances are assumed, the t-value is 1.963, with a 2-tailed significance level of 0.055. This p-value is slightly higher than the customary threshold of 0.05, indicating that the satisfaction gap of online learning is marginally non-significant between the two courses. The analysis suggests that these two courses have an equal preference for online learning.

On the other hand, in Levene's Test for Equality of Variances for conventional classroom learning, The significance value (Sig.) of 0.041 is less than 0.05, indicating that the assumption of equal variances is violated. We should use the "equal variances not assumed" t-test results for a more accurate interpretation. When equal variances are not assumed, the t-value is 2.285 with 52.927 degrees of freedom (df), and the significance value (Sig. 2-tailed) is 0.026. This value is also less than 0.05, indicating a statistically significant difference in conventional classroom learning between these two courses. The Culinary Arts Management student prefers conventional classroom learning to online learning.

Conclusion and Recommendations

As for the recommendation, by fusing the advantages of conventional classroom learning and online learning, universities can successfully adopt blended learning in the future. With this method, students may take advantage of the accessibility and flexibility of online learning, which lets them access many digital materials, learn at their own pace, and engage in engaging online conversations and activities.

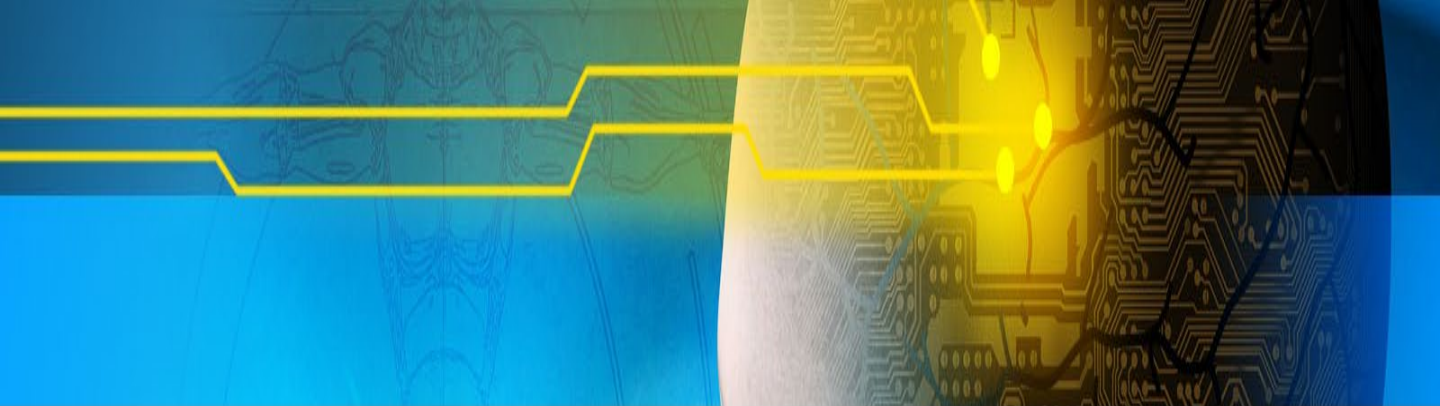
Simultaneously, traditional in-person programs offer structure, instant feedback, practical learning opportunities, and beneficial social connections critical for developing specific skills and subjects. By combining these two approaches, universities can accommodate a range of learning styles, boost student motivation and engagement, and raise academic achievement overall (Houston, 2024). Besides encouraging efficient two-way contact with students, instructors can improve their educational experience. This method entails establishing a lively and engaging learning environment where students can easily share their thoughts, pose queries, and participate in class discussions. Then, two-way communication fosters collaboration and reduces monotony in the learning process. It keeps students interested. Instructors can facilitate this using various techniques, including interactive exercises in in-person seminars, group discussions, and live Q&A sessions. Online platforms can also be used for video calls, discussion boards, and real-time conversations, letting students interact with peers and teachers outside the conventional classroom. Instructors may resolve any issues or misunderstandings, give prompt feedback, and modify their teaching methods to fit the various requirements of their pupils by

keeping lines of communication open. In addition to avoiding boredom, this guarantees that the learning process proceeds efficiently, eventually improving educational results.

In a nutshell, both traditional classroom instruction and online learning have advantages and disadvantages of their own. Unmatched accessibility and flexibility are provided by online learning, enabling students to access a wealth of digital resources and learn quickly and from anywhere. However, it can occasionally result in loneliness and a lack of face-to-face interaction and practical experiences essential for specific subjects. Traditional classroom instruction fosters community and involvement by offering structured settings, instant feedback, and beneficial social connections. However, because of the cost of transportation and lodging, it may be less flexible and more expensive. The benefits of online and in-person learning can be combined in a blended learning strategy, which offers a thorough and well-rounded educational experience that accommodates a range of learning styles and enhances academic performance. By carefully combining these strategies, educational institutions can design future learning environments that are more effective, flexible, and engaging.

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