Face-To-Face and Online Learning Environment: Students' Preferences and Differences among Gender, Study Level and Place of Residence

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DOI: https://dx.doi.org/10.47772/IJRISS.2025.903SEDU0048

Received: 20 January 2025; Accepted: 24 January 2025; Published: 24 February 2025

ABSTRACT

The COVID-19 pandemic has forced all institutions to migrate from conventional face-to-face to online platforms. After the pandemic, some institutions are still implementing fully online, while others use blended learning and fully transition back to face-to-face. However, studies have reported on the differences in the effectiveness and preferences of these teaching methods. Therefore, this paper examines the students' preferences between face-to-face and online learning environments and analyzes if there are differences among gender, study level, and place of residence for 202 students at the Universiti Teknologi MARA (UiTM), Seremban campus. The findings indicate that the majority of students selected blended learning as the preferred teaching method in the first rank, followed by face-to-face and online learning in second and third place, respectively. The findings also show that there are no significant differences between face-to-face and online learning environments for gender or study level. However, for the place of residence, the results show a significant difference in preferences between students who stay in college and those who are from outside the college.

Keywords: Teaching Methods, Preferences, Gender, Study Level, Place of Residence

INTRODUCTION

Teaching and learning methods at the university level have undergone significant changes in recent decades, driven by the rapid development of technology. The traditional approach of face-to-face instruction is no longer the sole option for delivering educational content. This shift in teaching and learning techniques has been particularly pronounced in the wake of the COVID-19 outbreak that emerged worldwide in 2019. The pandemic has had a profound impact on the education system, leading to school closures in nearly 200 countries and affecting approximately 1.6 billion students.

In response to the pandemic, universities were compelled to swiftly transition to virtual learning environments as an adjustment for students who were accustomed to face-to-face classes. This sudden change in teaching and learning methods has had a significant impact on students' educational experiences. Amidst this transition, it is essential to explore the preferences of students regarding different learning methods. Face-to-face learning, the most traditional form of instruction, involves in-person teaching where course content and materials are presented to a group of students. This method facilitates real-time interaction between learners

and instructors. On the other hand, online learning, also known as distance learning or e-learning, enables students to study remotely, primarily utilizing internet-based platforms from the comfort of their homes.

Before the COVID-19 pandemic, many higher learning institutions had already embraced blended learning as an effective approach. Blended learning combines face-to-face interaction with online delivery, allowing for a more flexible and dynamic learning experience. Universiti Teknologi MARA (UiTM), for instance, introduced blended learning in its syllabus in 2010, initially implementing it in select generic courses. However, in 2013, UiTM expanded the use of blended learning to encompass all courses, to eventually transition to a fully zero classroom-based tutorial system.

This research paper aims to survey and compare the face-to-face and online learning environments and explore students' preferences regarding different teaching and learning methods. Furthermore, it seeks to examine if there are any variations in preferences based on factors such as gender, study level, and place of residence. By addressing these objectives, this study will contribute to a better understanding of the impact of different instructional methods on students and provide valuable insights for educational institutions in designing effective teaching and learning strategies in the context of evolving technologies and changing learning environments.

LITERATURE REVIEW

Earlier studies have explored the satisfaction levels of students with online and face-to-face learning, yielding mixed results. Allen et al. (2002) and Driscoll et al. (2012) found no significant difference in satisfaction between the two modes of instruction. However, Wright (2017) suggested that online lessons can be effectively integrated into traditional classroom settings by ensuring appropriate materials, technology, and adequate preparation and follow-up in face-to-face classes.

Contrasting views on learning preferences were presented by Bali and Liu (2018), who highlighted the social presence, interaction, and satisfaction associated with face-to-face learning. However, they also noted that there was no statistically significant difference in learning preference based on students' levels, indicating that some students were comfortable with online learning and valued the opportunities for innovation provided by computer technology. A similar perspective was supported by Mather and Sarkans (2018), who stated that online learning was a preferred modality that allowed students to achieve their educational goals.

In recent years, especially during the COVID-19 pandemic, numerous studies have examined the transition from traditional face-to-face to online education. Aristovnik et al. (2020) and Bond et al. (2020) found that students perceived online learning to be more effective during the pandemic lockdown. However, more recent studies by Iqbal et al. (2022), Paudel (2021), and Pongkendek et al. (2022) suggested that technical issues, internet connectivity problems, and negative emotions such as anxiety or boredom were discouraging factors that made students prefer traditional classroom settings over online learning.

Furthermore, students often associate in-class learning with higher motivation and interest due to a better understanding of the subject matter and enhanced interaction with lecturers and peers. They appreciate the personal input provided by lecturers during face-to-face sessions. Zapata-Cuervo et al. (2022) conducted a study with students from various geographical locations, including the USA, South Korea, and Colombia, and found that although students were highly engaged in online learning, they perceived it to be less effective and rigorous compared to face-to-face learning.

In summary, previous research has yielded mixed findings regarding student satisfaction and preferences for online and face-to-face learning. While some studies have highlighted the advantages of online learning, such as flexibility and the opportunity to achieve educational goals, others have emphasized the social interaction, motivation, and deeper understanding facilitated by face-to-face instruction. Additionally, technical issues, connectivity problems, and negative emotions have been identified as factors that discourage students from fully embracing online learning. The COVID-19 pandemic has brought increased attention to the effectiveness and challenges of online education, prompting further investigation into the perceptions and preferences of students in various learning environments.

METHODOLOGY

Respondents consisted of 202 students from the Faculty of Computer Science and Mathematics, the Faculty of Sports and Recreation, and the Faculty of Administrative Science and Policy Studies at UiTM, Seremban Campus. These students were enrolled in various undergraduate programs and semesters, with 128 in diploma programs and 74 in bachelor programs. Among the 202 students, 61 were male and 141 were female. Of these students, 88 resided off campus, while the remaining 144 resided on campus.

Table 1: Crosstabulation between Study Level with Gender and Place of Residence

		Gender		Place of residence		Total
		Male	Female	On Campus	Off-Campus	
Study level	Diploma	30	98	51	77	128
	Degree	31	43	63	11	74
Total		61	141	114	88	202

A set of questionnaires adapted from Ritimoni et al. (2021) was used in the study. The questionnaires were divided into four parts. Part A collected demographic background information from the respondents. Part B consisted of 7 questions related to the face-to-face learning environment, while Part C comprised 8 questions about the online learning environment. Both Part B and Part C utilized a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) for scoring. In Part D, respondents were asked to rank their preferred learning methods, including face-to-face, online, or blended learning.

To measure the reliability of the data obtained, the Cronbach's alpha test was used. A reliability coefficient above 0.7 is considered good for a questionnaire (Gliem & Gliem, 2003). The overall reliability coefficient for the questionnaire was 0.963 for face-to-face learning and 0.932 for online learning. For objective 1, the results were presented using median and percentage values. Objective 2 results were visualized through a bar chart along with the corresponding percentages. Objective 3 involved transforming ordinal data into scale data by summing up the scores for all items in both online and face-to-face learning environments. The necessary assumptions, such as normality and variance homogeneity, were met. Variance homogeneity was tested using the Levene and Welch tests for the obtained 202 data points. In cases where equal population variances could not be assumed, the Independent Samples t-test output also included an approximate t-statistic known as the Welch t-test statistic, which was utilized.

RESULTS

Table 2 presents the medians and percentages for each item in the face-to-face and online learning environments. The medians of the five-point response scale indicate that the online environment consistently had higher median values for every item compared to the face-to-face environment. The median value was four, indicating an overall 'agree' selection. However, three items in the online environment had lower medians: item 9 (To learn the subject through the website is much more interesting than other methods), item 10 (I believe that this is a very effective system), and item 12 (The method is easier for me). These items had a median of three, indicating a response of 'neither disagree nor agree'. The percentage values for each item aligned with the medians, with the highest percentages falling under a scale of four. The percentage values ranged from 36.1 percent (minimum) to 48.5 percent (maximum). The fifth scale, 'strongly agree', also had high percentage values, ranging from 33.2 percent to 48 percent. Regarding the online learning environment, students heavily leaned towards responses of 'neither agree nor disagree' (3), 'agree' (4), and 'strongly agree' (5). The percentage ranges for scales three, four, and five were 24.8–44.6 percent, 23.8–41.1 percent, and 13.4–28.7 percent, respectively.

Table 2: Median and Percentage of Face-to-Face and Online Environment Items

No	Item	Median	Percentage (%)				
			1	2	3	4	5
Face-to-Face Environment							
1	Face-to-face sessions help me to learn about subjects in detail	4	3	2	12.9	36.1	46
2	Sharing and discussion environments in face-to-face sessions are quite good.	4	2.5	2	12.9	39.6	43.1
3	It would be better if teachers explained the subject during the 1 sessions	4	3	1	11.4	36.6	48
4	Face-to-face interaction is quite useful for understanding the subject much better	4	2.5	1.5	11.9	37.6	46.5
5	Face to face environment with gestures and mime is quite effective	4	2.5	1.5	14.9	43.1	38.1
6	Face-to-face interaction helps me to learn better and assists in the retention of information about the subject	4	2.5	2	12.4	48.5	34.7
7	If something went wrong in a web environment, we would need 1 interaction to make things clear	4	2.5	0.5	18.8	45	33.2
Online Environment							
8	To learn through a website makes me responsible for the course and motivates me to attend the course.	4	1	6.9	39.6	36.6	15.8
9	To learn the subject through the website is much more interesting than other methods.	3	4.5	10.9	42.1	28.7	13.9
10	I believe that this is a very effective system	3	3.5	14.9	44.6	23.8	13.4
11	I can study by myself in a more comfortable and in a quiet environment	4	1.5	5	28.2	39.1	26.2
12	This method is easier for me.	3	4.5	10.9	38.6	29.2	16.8
13	Studying on the web helps me make plans	4	3.5	7.9	36.6	31.2	20.8
14	I can study at my own pace	4	1	6.4	24.8	41.1	26.7
15	I can study over and over again in the web environment	4	1	4.5	28.2	37.6	28.7

Additionally, the preferred teaching methods of the students were summarized in a bar chart shown in Figure 1. The majority of students, 135 (66.8 percent), chose blended learning as their top preference. Face-to-face learning was the second preferred choice, with 45 students (22.3 percent). Only 22 students (10.9 percent) out of 202 respondents preferred online learning as their top choice. These findings were interesting as they contradicted our prediction based on an informal random survey conducted outside the sample study. The students' preference for blended learning was attributed to the opportunities for live interaction with the lecturer and peers, better understanding in a classroom context, and more active lessons compared to online learning. However, online learning was favored due to its comfort and convenience in terms of location and time.

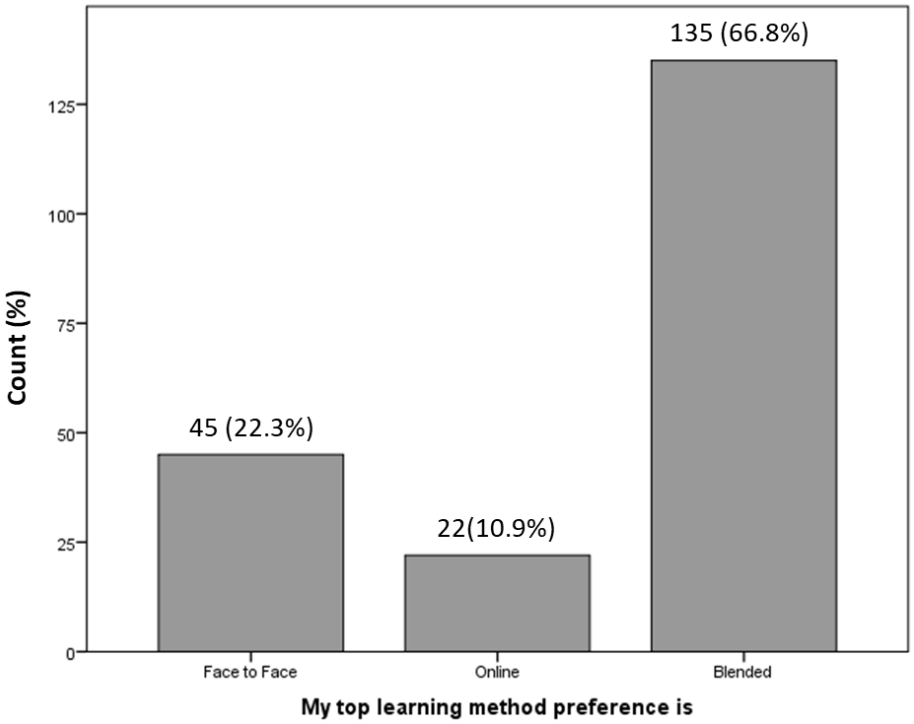

Fig 1: Student's Top Preference for Teaching Method

To examine if there were any differences in demographic variables among students, an analysis was conducted. The independent samples t-test was used to determine differences based on gender (male and female), study level (diploma and degree), and place of residence (college and outside campus). Variances were found to be homogeneous, as indicated by Levene's test for equality of variances for Gender ($p = 0.148 > 0.05$), as shown in Table 3. However, homogeneity of variances was violated for Study Level ($p = 0.010 < 0.05$) and Place of Residence ($p = 0.001 < 0.05$), requiring the use of the Welch test for these variables.

Regarding the face-to-face environment, the analysis showed no significant differences in gender and study level. However, a significant difference ($t(202) = 2.836$, $p = 0.005$) was observed when analyzing Place of Residence. This indicated a significant difference in face-to-face opinions between students residing in college and those residing outside college, with a mean difference of 2.407. For the online environment, the equality of variances was met for all variables (Gender, $p = 0.249 > 0.05$; Study Level, $p = 0.127 > 0.05$; and Place of Residence, $p = 0.597 > 0.05$). The results indicated a significant difference in Place of Residence ($t(202) = -3.215$, $p = 0.002$), with a significant mean difference of -2.818 between students in college and those outside campus.

Table 3: Independent Samples Test for Face to Face and Online Teaching Method Based on Gender, Study Level and Place of Residence

Levene's Test for Equality of Variances				t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
Face to Face Environment									Lower	Upper
Gender	H_0	2.113	.148	.068	200	.946	.059	.877	-1.671	1.790
	H_1			.073	138.448	.942	.059	.810	-1.542	1.660
Study Level	H_0	6.720	.010	-.487	200	.627	-.407	.836	-2.055	1.241
	H_1			-.542	196.872	.588	-.407	.750	-1.886	1.073

Place of Residence	H_0	12.274	.001	3.030	200	.003	2.407	.794	.841	3.974
	H_1			2.836	129.769	.005	2.407	.849	.728	4.086
Online Environment										
Gender	H_0	1.338	.249	-.371	200	.711	-.360	.970	-2.274	1.553
	H_1			-.396	132.820	.693	-.360	.910	-2.161	1.441
Study Level	H_0	2.348	.127	1.326	200	.186	1.221	.921	-.595	3.038
	H_1			1.404	178.967	.162	1.221	.870	-.496	2.939
Place of Residence	H_0	.281	.597	-3.215	200	.002	-2.818	.876	-4.546	-1.089
	H_1			-3.207	185.516	.002	-2.818	.879	-4.551	-1.084

H_0: Equal variances assumed, H_1: Equal variances not assumed

CONCLUSION

In conclusion, this study sheds light on students' preferences for face-to-face and online learning environments at UiTM, Seremban Campus. The findings demonstrate that blended learning emerges as the favored teaching method among the majority of students, followed by face-to-face and online learning. These results align with previous studies that have highlighted the benefits of blended learning in promoting engagement and interaction among students (Garrison & Vaughan, 2018).

Interestingly, the students' strong preference for blended learning contradicts initial predictions based on an informal survey. This preference can be attributed to the advantages of live interaction with instructors and peers, enhanced understanding within a classroom setting, and the increased activity levels associated with face-to-face components. These findings are consistent with prior research that emphasizes the importance of social interaction and collaborative learning in blended environments (Vaughan, 2014; Garrison & Kanuka, 2004).

Moreover, the analysis of demographic variables reveals no significant differences in preferences based on gender or study level. This finding aligns with studies that have indicated similar patterns of preference across various demographic groups (Bao, 2020; Al Lily et al., 2020). However, a significant difference emerges in the face-to-face environment between students residing on campus and those residing off campus. This disparity suggests the influence of environmental factors on students' perceptions and preferences for face-to-face learning (Kokotsaki et al., 2016).

Furthermore, it is important to acknowledge the limitations of this study, including its focus on a specific institutional context and the reliance on self-reported data. To gain a more comprehensive understanding of student preferences, future research should consider additional factors that may influence these preferences and explore the impact of different teaching methods on learning outcomes (Wang et al., 2018; Tsekleves et al., 2017).

In conclusion, this study contributes to the existing body of knowledge by highlighting the preferences of students in face-to-face and online learning environments. The findings emphasize the importance of designing student-centered learning experiences that incorporate blended learning approaches, taking into account the benefits of interaction, collaboration, and flexibility (McCarthy et al., 2021; Means et al., 2013). By aligning instructional strategies with students' preferences, educational institutions can enhance the overall effectiveness and satisfaction of the learning process.

REFERENCES

1. Allen, M., Bourhis, J., Burrell, N., & Mabry, E. (2002). Comparing student satisfaction with distance education to traditional classrooms in higher education: A meta-analysis. The American Journal of Distance Education, 16(2), 83-97.
2. Al Lily, A. E., Ismail, A. F., Abunasser, F. M., & Alqahtani, R. H. A. (2020). Distance education as a response to pandemics: Coronavirus and Arab culture. Technology in society, 63, 101317.
3. Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. Sustainability, 12(20), 8438.
4. Bali, S., & Liu, M. (2018). Students' perceptions toward online learning and face-to-face learning courses. Journal of Physics: Conference Series,
5. Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. Human behavior and emerging technologies, 2(2), 113-115.
6. Bond, M., Buntins, K., Bedenlier, S., Zawacki-Richter, O., & Kerres, M. (2020). Mapping research in student engagement and educational technology in higher education: A systematic evidence map. International journal of educational technology in higher education, 17(1), 1-30.
7. Driscoll, A., Jicha, K., Hunt, A. N., Tichavsky, L., & Thompson, G. (2012). Can online courses deliver in-class results? A comparison of student performance and satisfaction in an online versus a face-to-face introductory sociology course. Teaching Sociology, 40(4), 312-331.
8. Garrison, D. R., & Vaughan, N. D. (2018). Blended learning in higher education: Framework, principles, and guidelines. John Wiley & Sons.
9. Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. The internet and higher education, 7(2), 95-105.
10. Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Midwest research-to-Practice Conference in Adult, Continuing, and community education.
11. Joseph, A. G. & Rosemary, R. G. (2003). Calculating, Interpreting and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. 2003 Conference (Columbus, Ohio: Ohio State University), 82-88.
12. Iqbal, S. A., Ashiq, M., Rehman, S. U., Rashid, S., & Tayyab, N. (2022). Students' perceptions and experiences of online education in Pakistani Universities and Higher Education Institutes during COVID-19. Education Sciences, 12(3), 166.
13. Kokotsaki, D., Menzies, V., & Wiggins, A. (2016). Project-based learning: A review of the literature. Improving Schools, 19(3), 267-277.
14. Mather, M., & Sarkans, A. (2018). Student perceptions of online and face-to-face learning. International Journal of Curriculum and Instruction, 10(2), 61-76.
15. McCarthy, J., O'Connor, U., & Twining, P. (2021). The impact of blended learning on the student experience in higher education: A systematic review of the literature. Frontiers in Education, 6, 603508.
16. Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2013). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. US Department of Education.
17. Paudel, P. (2021). Online education: Benefits, challenges and strategies during and after COVID-19 in higher education. International Journal on Studies in Education, 3(2), 70-85.
18. Pongkendek, J. J., Ahmar, D. S., Munandar, H., & Azzajjad, M. F. (2022). Student perceptions of online learning during the COVID-19 pandemic. EduLine: Journal of Education and Learning Innovation, 2(1), 1-16.
19. Ritimoni, B., Prasenjit, D., & Kandarpa, D., (2021). Perception towards online/ blended learning at the time of Covid-19 pandemic: an academic analytics in the Indian context. Asian Association of Open Universities Journal, 16(1), 41-60.
20. Tsekleves, E., Cosmas, J., Aggoun, A., Armitage, R., Chandler, S., Cowling, M., & Kay, J. (2017). Blended learning in a Master's degree in Human Computer Interaction. IEEE Transactions on Learning Technologies, 10(1), 98-110.

21. Vaughan, N. D. (2014). Perspectives on blended learning in higher education. International Journal on E-Learning, 13(3), 289-303.
22. Wang, L., Li, Y., & Zhang, J. (2018). Investigation on factors influencing learners' engagement in the context of blended learning. Educational Technology & Society, 21(3), 222-232.
23. Wright, B. M. (2017). Blended learning: Student perception of face-to-face and online EFL lessons. Indonesian journal of applied linguistics, 7(1), 64-71.
24. Zapata-Cuervo, N., Montes-Guerra, M. I., Shin, H. H., Jeong, M., & Cho, M.-H. (2022). Students' psychological perceptions toward online learning engagement and outcomes during the COVID-19 pandemic: A comparative analysis of students in three different countries. Journal of Hospitality & Tourism Education, 1-15.