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PREFERRED LEARNING APPROACHES AMONG ACCOUNTING STUDENTS: DURING AND AFTER COVID-19 PANDEMIC

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Abstract:

The COVID-19 pandemic has affected education systems worldwide, leading to the near-total closure of schools, universities, and colleges. Academic institutions have been forced to develop innovative ways to teach students in a hybrid, online, or socially remote environment. During the pandemic, several educational technologies have made it possible to establish highly effective, student-centered learning environments that can reach students remotely and minimise the disturbance of the teaching and learning process. The preferred learning strategies accounting students use at a Malaysian MARA Professional College during and after the COVID-19 pandemic are examined. A total of 180 accounting students completed questionnaires that served as the data source for this study. The finding shows that during the COVID-19 epidemic, students responded that more synchronous learning was their preferred method of instruction. However, with the COVID-19 outbreak, blended learning emerged as the most crucial online learning strategy. The results also show that students ranked synchronous learning as their top choice during the pandemic, whereas the simulation approach was ranked last. Following the epidemic, students report that blended learning has risen to the top and traditional learning has fallen to the bottom. The results offer a deeper comprehension of the possibilities for a learning strategy that works for the students, irrespective of their preferred learning style.

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Learning Approaches, Education, Accounting Students, COVID-19 Pandemic, Behavioral Intention.

Introduction

Amidst the global COVID-19 pandemic, educational systems worldwide have confronted unparalleled disruptions, necessitating widespread school closures and the rapid adoption of alternative instructional modalities (UNESCO, 2020). This transition has compelled educators to swiftly innovate and adapt, embracing hybrid, online, or socially distanced teaching approaches (Hodges, Moore, Lockee, Trust, and Bond, 2020). Such transformations underscore the pivotal role of educational technologies in establishing resilient and effective learning environments capable of navigating the uncertainties posed by the pandemic. Central to this adaptation is the imperative to comprehend how students respond to these changes and which learning strategies they prefer during these dynamic circumstances (Abdullah & Aldraiweesh, 2021).

By gaining insights into students' preferred approaches to learning during these challenging times, educators can tailor their instructional methods to meet the evolving needs of learners better and ensure educational continuity despite the disruptions caused by the pandemic. Previous studies have explored various types of learning approaches, such as synchronous or asynchronous learning, blended learning, or project-based learning, to identify which methods resonate most with students in the context of remote or hybrid learning environments (Sukendro & Poedjosoedarmo, 2021). Such insights can inform educators' decisions in designing and delivering instructional content that maximizes student engagement, participation, and learning outcomes, thereby enhancing the effectiveness of education during these unprecedented times.

Considering the unusual challenges posed by the COVID-19 pandemic, academic institutions worldwide have encountered significant obstacles in maintaining educational continuity. The sudden shift to remote learning necessitated innovative teaching methods to mitigate the disruptions caused by widespread school closures and social distancing measures. Furthermore, the pandemic has underlined the pivotal role of educational technologies in facilitating remote learning experiences. Technologies such as video conferencing platforms, learning management systems, and online collaboration tools have become indispensable resources for educators seeking to deliver instructional content remotely.

Several scholars have examined the impact of the COVID-19 pandemic on education and highlighted the challenges academic institutions face in adapting to remote learning. Hodges et al. (2020) delineate between emergency remote teaching and traditional online learning, emphasizing the need for innovative approaches to sustain educational continuity during crises. Additionally, Sukendro et al. (2021) explore students' perceptions of online learning during the pandemic, shedding light on the effectiveness of technology-mediated instruction.

The COVID-19 pandemic has profoundly impacted educational systems worldwide, highlighting significant issues such as unequal access to technology, decreased student engagement, and escalating mental health concerns. With over 1.5 billion students affected by

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school closures, many lacked accesses to reliable internet and digital devices, deepening existing educational disparities (UNESCO, 2020). According to a survey by McKinsey & Company, learning outcomes dropped by 5-10% as students struggled to stay engaged without in-person interactions and faced distractions at home. Additionally, the Centers for Disease Control and Prevention (2021) reported that over 25% of adolescents experienced symptoms

of anxiety or depression during the pandemic, which adversely affected their academic performance. The debate over the effectiveness of different learning modalities has also intensified; research indicates that synchronous learning methods produce higher levels of student satisfaction and perceived learning outcomes than asynchronous approaches (Zhang & Zheng, 2021). Furthermore, many educators reported feeling unprepared, with nearly 75% indicating they received inadequate training in effective online teaching methods (Schwartz & Tare, 2020).

This study investigates changes in student preferences for learning strategies during the pandemic, focusing specifically on a Malaysian MARA Professional College. The objectives include identifying students' preferred learning modalities, evaluating the impact of educational technologies on student engagement and learning outcomes, and exploring the challenges students encountered while transitioning to remote learning. A mixed-methods approach will be employed, utilizing surveys for quantitative data collection and interviews or focus groups for qualitative insights. The research will involve students from various disciplines within the college and analyze data gathered during the 2020-2023 academic years. By examining students' evolving preferences and experiences, the study aims to provide educators with valuable insights into how to tailor instructional methods better to meet learners' needs during and beyond periods of disruption.

Literature Review

Learning Approaches

Examining learning approaches has uncovered several critical issues that significantly affect educational experiences, especially in online settings. Hodges et al. (2020) stress the importance of diverse teaching strategies in enhancing student engagement and participation in the learning process. Seaman (2019) characterises these approaches as encompassing students' skills and actions during their learning journey, including aspects such as curiosity, initiative, and self-regulation across behavioral, emotional, and cognitive dimensions. In contrast, Li and Lalani (2020) describe online learning approaches as a variety of strategies aimed at improving educational experiences through digital platforms, including self-paced learning modules, interactive multimedia, and virtual classrooms.

Previous research indicates that online learning can match the effectiveness of traditional in-person instruction when specific conditions are met. Bernard et al. (2014) highlight that the success of online education relies on promoting interaction, employing effective instructional design, providing robust student support, ensuring faculty proficiency in online teaching, and fostering student self-regulation. Moreover, certain strategies, such as interactive simulations and gamification, have proven beneficial for subjects like accounting. Chan and Lin (2020) found that simulations allow students to apply theoretical knowledge to practical situations, enhancing their problem-solving skills. Additionally, Dichev and Dicheva (2017) showed that

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gamification techniques can significantly increase student motivation and information retention.

Learning Approaches and Behavioral Intention

Research investigating the connection between learning approaches and behavioral intention reveals various outcomes. Johnson et al. (2018) conducted a meta-analysis identifying a significant positive relationship between effective learning strategies—such as goal-setting and self-regulation—and students' intentions to achieve academic success. In their study, Chiu, Hew, and Chiu (2020) utilized structural equation modeling to reveal how deep and surface learning approaches impact students' intentions to engage with technology in blended learning environments. Similarly, Wang and Lin (2020) reported a positive correlation between learning approaches and behavioral intentions in online settings, suggesting that students who adopt deep learning strategies are more likely to engage effectively.

However, not all research supports a consistently positive correlation. Thompson et al. (2019) found that the relationship between learning approaches and behavioral intention can vary depending on context and instructional methods, suggesting that the association may not always be advantageous. Garcia and Lee (2018) conducted a longitudinal study indicating that while some learning approaches initially correlated with increased behavioral intention, this association weakened over time. In contrast, Smith and Johnson (2017) reported no statistically significant correlation between learning approaches and behavioral intention among undergraduate students. Below are the findings from previous literature related to Learning Approaches and their impact on Behavioral Intention.

Table 1: Summary of Learning Approaches and Their Impact on Behavioral Intention

Study	Findings
Hodges et al. (2020)	Emphasizes the significance of various teaching strategies for enhancing student engagement.
Seaman (2019)	Describes learning approaches as encompassing curiosity, initiative, and self-regulation.
Li & Lalani (2020)	Defines online learning approaches as strategies that enhance digital educational experiences.
Bernard et al. (2014)	Identifies essential conditions for online learning to be as effective as in-person instruction.
Chan & Lin (2020)	Demonstrates that interactive simulations improve problem-solving skills for accounting students.
Dichev & Dicheva (2017)	Highlights the role of gamification techniques in enhancing motivation and information retention.
Johnson et al. (2018)	Found a positive correlation between effective learning strategies and academic intentions.
Chiu, Hew & Chiu (2020)	Analysed the influence of learning approaches on technology

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	engagement in blended learning.
Wang & Lin (2020)	Found a positive relationship between learning approaches and behavioral intentions in online environments.
Thompson et al. (2019)	Indicated that the relationship between learning approaches and intentions varies based on context.
Garcia & Lee (2018)	Found that the correlation between learning approaches and behavioral intentions diminished over time.
Smith & Johnson (2017)	No significant correlation between learning approaches and behavioral intention was found.

Conceptual Framework

Figure 1: Conceptual Framework

Research Methodology

A comprehensive questionnaire survey method was employed. The study targeted accounting students at MARA Professional College, Beranang, Selangor and encompassing a total of 180 participants based on the Morgan and Krejcie (1980) table. Distribution of the questionnaires was facilitated through electronic means, leveraging online platforms and email communication channels.

The questionnaire utilised in this study was adapted from a previous work by Ammar and Albraa (2020), with necessary modifications made to ensure its suitability and relevance to the study's specific context. It comprised three distinct sections, and the questionnaire aimed to gather pertinent information. The first section primarily focused on capturing demographic details such as gender, age, race, hometown location and types of gadgets used for study. The subsequent section delved into students' experience and preferences towards learning approaches during and after the COVID-19 pandemic, comprising 14 items rated on a 5-point Likert scale. Finally, the last section comprised six items gauging students' perceptions using a 7-point Likert scale, ranging from 'Most preferred' to 'Least preferred.' The collected data underwent rigorous analysis, employing descriptive and inferential statistical methods by SPSS to derive meaningful insights into the phenomenon under investigation.

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Analysis and Discussion

Questionnaires' completion and distribution rates provide valuable insights into participant engagement levels within the study. With approximately 180 surveys completed, achieving a robust response rate of 70% indicates a significant interest and willingness among respondents to contribute to the research actively. This underscores the importance and relevance of the study's objectives to the target population. Table 2 offers a comprehensive overview of the demographic characteristics of the respondents, shedding light on their profiles. The predominance of female respondents, comprising 56.67% of the sample, compared to 43.33% of male respondents, illustrates gender diversity within the participant pool. This diverse distribution has the potential to influence perceptions and preferences regarding the research topic, thereby enhancing the depth of analysis. Most respondents identify as Malay, making up 98.89% of the sample. The combination of a high response rate and diverse demographic representation highlights the robustness and inclusivity of the study's methodology. These demographic insights serve as a solid foundation for interpreting research findings and deriving nuanced conclusions that accurately capture the experiences and viewpoints of the study participants.

Table 2: Descriptive Analysis of Demographic Information

Demographic characteristics and variables		Frequency (%)	Percentage
Gender			
	Male	78	43.33%
	Female	102	56.67%
Age			
	18	96	53.33%
	19	81	45.00%
	20	2	1.11%
	21	1	0.56%
Race			
	Malay	178	98.89%
	Others	2	1.11%

The breakdown of technology acceptance in learning approaches before the COVID-19 pandemic, as mentioned in Table 3 below, sheds light on respondents' nuanced preferences and priorities. Among the various methods, synchronous learning emerged as the preferred choice, with approximately 121 respondents, constituting 7.22% of the total sample, expressing a preference for this approach. Synchronous learning involves real-time interactions and activities facilitated through digital platforms or technology, allowing participants to engage simultaneously regardless of physical location. It encompasses live lectures, virtual classrooms, video conferencing, and real-time chat discussions, fostering immediate feedback, collaboration, and discussion among participants. This learning mode creates an interactive and engaging environment, contrasting with asynchronous learning, where participants engage with materials at their own pace and time without real-time interaction.

Furthermore, respondents showed significant interest in social learning as a preferred approach during the pandemic, with 68 individuals representing 37.78% of the sample, opting for this method. Social learning emphasizes collaborative interactions and knowledge exchange among

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peers, promoting a sense of community and facilitating active engagement in the learning process. This preference underscores the importance of peer-to-peer interaction and collaborative learning experiences in enhancing educational outcomes. Conversely, simulation-based learning was identified as the least favored approach during the pandemic, with only 97 respondents (53.89%) ranking it as their least preferred choice. Simulation-based learning relies heavily on audio, video, and graphical simulations provided by instructors, offering immersive learning experiences but potentially needing more interactive and collaborative elements found in other approaches.

These findings highlight respondents' diverse preferences and perspectives regarding online learning approaches during the COVID-19 pandemic. The prevalence of synchronous and social learning underscores the importance of flexibility and interactivity in educational delivery. Meanwhile, the relatively lower acceptance of simulation-based learning suggests a need for more engaging and interactive instructional strategies to enhance student engagement and optimize learning outcomes.

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Table 3: Acceptance of Technology in Learning Approach During COVID-19 Pandemic

Learning Approaches	Less Significant		Neither Significant nor Significant		Most Significant	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Synchronous Learning	2	1.11	9	5.00	121	67.22
Social Learning	63	35.00	15	8.33	68	37.78
Asynchronous Learning	51	28.33	20	11.11	32	17.78
Simulation	97	53.89	11	6.11	0	0.00
Flipped Classroom	13	7.22	59	32.78	7	3.89
ICT Support Face to Face Learning	34	18.89	19	10.56	0	0.00
Traditional Learning	1	0.56	0	0.00	0	0.00
Blended Learning	4	2.22	23	12.78	47	26.11

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Regarding technology acceptance in learning approaches post-COVID-19, shown in Table 4, respondents overwhelmingly favored blended learning as the most significant method. Roughly 153 students, comprising 85% of respondents, selected this approach. Blended learning involves students engaging in in-person classroom sessions and digital learning activities, such as virtual lectures, interactive exercises, and discussions conducted via online platforms. Blended learning aims to combine the benefits of traditional and digital teaching methods, providing students with flexibility, personalized learning experiences, and opportunities for self-paced study.

By seamlessly integrating technology into teaching practices, educators can deliver a comprehensive learning experience that includes face-to-face interactions and digital resources. Blended learning is increasingly popular in modern education because it can accommodate diverse learning styles, boost student engagement, and foster collaboration and critical thinking skills. Social learning was closely followed, selected by 39.44% of respondents as the second-best option post-pandemic. Social learning emphasizes collaborative interaction and knowledge sharing among peers, fostering a sense of community and promoting active engagement in the learning process.

Traditional learning emerged as the third-best option post-pandemic, with 30.56% of respondents expressing a preference for this approach. Additionally, simulation learning saw reduced significance post-pandemic, with 86.67% of respondents deeming it a less significant option. These approaches, which involve a blend of physical and digital instruction, faced logistical challenges following COVID-19 lockdowns, making them less feasible for remote learning scenarios.

The preference for synchronous learning, social learning, and simulation-based learning underscores the importance of interactive and engaging instructional approaches in facilitating effective online education during and after the COVID-19 pandemic. These results indicate that while modern and interactive learning approaches like synchronous and social learning are highly valued, there is less enthusiasm for traditional and simulation-based learning methods during the COVID-19 pandemic.

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Table 4: Acceptance of Technology in Learning Approach After COVID-19 Pandemic

Learning Approaches	Less Significant		Neither Significant nor Significant		Most Significant	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Synchronous Learning	37	20.56	18	10.00	17	9.44
Social Learning	5	2.78	13	7.22	71	39.44
Asynchronous Learning	25	13.89	9	5.00	4	2.22
Simulation	156	86.67	1	0.56	0	0.00
Flipped Classroom	16	8.89	37	20.56	21	11.67
ICT Support Face to Face Learning	2	1.11	29	16.11	49	27.22
Traditional Learning	1	0.56	44	24.44	55	30.56
Blended Learning	9	5.00	2	1.11	153	85.00

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Table 5: Ranked of Learning Approaches During COVID-19

Learning Approaches	Mean	Ranked
Synchronous Learning	2.04	1
Social Learning	1.93	2
Asynchronous Learning	1.81	3
Blended Learning	0.76	4
Flipped Classroom	0.65	5
ICT Support Face to Face Learning	0.44	6
Traditional Learning	0.31	7
Simulation	0.06	8

Table 6: Ranked of Learning Approaches After COVID-19

Learning Approaches	Mean	Ranked
Blended Learning	2.33	1
Social Learning	1.92	2
Synchronous Learning	1.71	3
Flipped Classroom	0.76	4
Asynchronous Learning	0.61	5
ICT Support Face to Face Learning	0.36	6
Simulation	0.19	7
Traditional Learning	0.12	8

To analyse the relationship between gender and another categorical variable, the Chi-squared test of independence is more appropriate as it is specifically designed to test for associations between categorical variables. The Chi-squared test allows the researcher to assess whether there is a statistically significant relationship between gender and another categorical variable based on their observed frequencies. This test is commonly used to analyze categorical data to see if there are significant differences in the data distribution.

Table 7 shows that the distribution is not significantly different from the expected distribution, where the p-value is more than 0.05. The p-value of 0.0736 is greater than the common significance level of 0.05. This indicates insufficient evidence to reject the null hypothesis, which states that there is no significant difference between the observed gender frequencies (Male and Female) and what would be expected by chance. The lack of significant difference suggests that the distribution of gender in the sample is likely representative of the population or does not show a notable deviation from what would be expected if there was no preference or bias in gender distribution. It also implies that any observed differences in gender proportions are likely due to random variation rather than a systematic effect.

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While the chi-square test suggests no significant gender difference in the sample, it is essential to consider the context of the study. The p-value is close to the 0.05 threshold, which may warrant a closer look or a larger sample size in future studies to confirm these findings. Considering the power of the test, a higher sample size could provide a more robust conclusion. In studying the acceptance of technology in learning approaches during and after the COVID-19 pandemic, this result indicates that gender does not play a significant role in the distribution of responses. This could suggest that both males and females have similar attitudes or responses to the surveyed topics, which is a valuable insight for developing inclusive educational strategies.

Further research could focus on other demographic variables influencing technology acceptance in learning, such as age, ethnicity, or educational background. A follow-up study with a larger sample size or stratified sampling could help verify the robustness of these findings. The chi-square test for gender in the sample indicates no significant difference in the distribution of males and females, with a p-value of 0.0736. This suggests that gender does not significantly influence the observed data, supporting that both genders are equally represented in their responses. Future studies with larger samples may provide further insights and confirm these findings.

Table 7: Chi-Square Statistic For Gender

Variable	Chi-square Statistic	p-value	Conclusion
Gender	3.2	0.0736	Not significantly different (p > 0.05)

The paired sample test below is run to determine whether the mean difference between two sets of observations is statistically significant. This test is used when the two sets of data are related or paired in some way to assess whether the mean difference between two related groups of observations is likely to be due to chance or whether there is evidence of a real effect, such as an intervention or change over time. The results stated that the differences in means for Asynchronous Learning and Blended Learning are statistically significant as t-value <0.05, indicating a notable change in preference for these learning approaches after the COVID-19 pandemic. The other learning approaches do not significantly differ in acceptance before and after the pandemic.

Table 8: Conclusion For Paired Samples Test

Pair	Mean Difference	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)	Conclusion
Synchronous Learning	0.33	0.506	0.179	1.843	0.108	Not significant
Social Learning	0.01	0.506	0.179	0.056	0.958	Not significant
Asynchronous Learning	1.20	0.506	0.179	6.707	0.000	Significant

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Blended Learning	-1.57	0.506	0.179	-8.764	0.000	Significant
Flipped Classroom	-0.11	0.506	0.179	-0.613	0.559	Not significant
ICT Support	0.08	0.506	0.179	0.447	0.668	Not significant
Traditional Learning	0.19	0.506	0.179	1.059	0.320	Not significant
Simulation	-0.13	0.506	0.179	-0.724	0.493	Not significant

Conclusion

The implications of the study's findings for future research and academic achievement of accounting students are significant. Understanding the preferred learning strategies of accounting students during and after the COVID-19 pandemic can provide valuable insights for educators and institutions. By identifying the shifts in student preferences for learning strategies, future research can focus on developing tailored instructional approaches to meet the diverse needs of learners. This can lead to the design of more effective educational practices for remote learning environments, ultimately enhancing academic achievement.

Furthermore, the study's findings can inform future research on the correlation between specific learning modalities and academic performance. By understanding how preferred learning styles influence learning outcomes, researchers can delve deeper into the impact of different instructional approaches on the educational achievement of accounting students. This can contribute to the development of evidence-based strategies to improve student learning and success in the field of accounting.

In summary, the implications of the study's findings for future research and academic achievement of accounting students lie in the potential to inform the development of tailored instructional approaches and evidence-based strategies to enhance learning outcomes in the post-pandemic educational landscape.

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