Preferences for Hybrid Learning of Postgraduate Students

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Abstract
This paper aims to describe the preferences of postgraduate students regarding hybrid learning and thefactors that influence their preferences for this learning model. This is considered important becausepostgraduate students are mature individuals and have the right to determine the learning process that suitstheir needs. Therefore, this research is a quantitative descriptive study. The research sample consisted of 204postgraduate students from Sultan Syarif Kasim State Islamic University of Riau, including master's anddoctoral programs. Sampling was carried out using a quota random sampling technique withoutdistinguishing between study programs. The research instrument used was a closed questionnaire. Dataanalysis was conducted using descriptive statistics in the form of tables and diagrams. The results showedthat of the total respondents, 8 students (4%) had a very strong preference for hybrid learning, 165 people(81%) had a preference in the good category, 13 people (6%) had a poor preference, 15 people (7%) had anunfavorable preference, and only 3 people (1%) had a very unfavorable preference for hybrid learning.Factors that influence postgraduate students' decisions to choose hybrid learning include the availability ofresources for online learning, as well as the provision of complete and varied online learning resources.

Keywords: preferences, hybrid learning, graduate students, online learning.

Introduction

The COVID-19 pandemic, which began in 2019, has caused various problems in various sectors, including the world of education. This global pandemic has prompted all stakeholders to reconsider how to conduct education by implementing social distancing measures to combat the spread of COVID-19 (Raes, 2022, Raes et al., 2020). Learning had to continue even without face-to-face meetings. In this context, the COVID-19 pandemic has prompted educators to create learning processes that are suitable for pandemic conditions, showcasing high creativity (Edi Wiranto, Muhammad Kristiawan, 2021). The COVID-19 pandemic has also led to changes in education in many countries, including Indonesia, which has been affected since March 2020 (Sultana & Palaroan, 2023).

Online learning has become a solution for students who are distant from campus. Some universities combine online lectures with face-to-face meetings with lecturers in class, similar to traditional learning. However, the effectiveness of this learning model remains a question that needs to be addressed (Chattaraj & Vijayaraghavan, 2021). While there is research by Masalimova et al. (2021) that concluded that hybrid learning has been shown to be effective and productive, it should be noted that this research is retrospective. Graduate students are typically independent individuals who finance their own studies while working. They often have busy schedules and may not be in one location, with some having to travel long distances, even up to 7 or 8 hours by car. Therefore, it is essential to pay special attention to ensure they can continue their studies while still working and generating income. Assuming that graduate students have reached a mature stage of development and are capable of independent learning (Engel et al., 2023), the use of a hybrid learning model may be a suitable solution for them.

The importance of online learning at the graduate level highlights the need for research on hybrid learning models in graduate programs. Several previous studies on postgraduate students have attempted to explore

their perceptions regarding the use of technology in learning (Rodríguez, Y. Castro, 2018), teaching methods (Palomino, 2016), and preferences for online learning (Muthuprasad et al., 2021).

This research seeks to describe the diversity of postgraduate students' views and tendencies towards Hybrid Learning by considering factors such as gender, age, and technology proficiency. The aim of this research is to understand students' perspectives on the learning models currently implemented in postgraduate education. It is hoped that the results of this research can contribute to the improvement of the postgraduate-level learning system.

Research questions

This research aims to answer the questions that will be obtained through research, namely:
1. What are the preferences of graduate students for hybrid learning?
2. What factors influence the choice of hybrid learning by graduate students?

Material and Methods

Hybrid learning is a form of innovative education that combines two learning models: face-to-face learning and online learning (Anggrawan et al., 2021). The hybrid learning model is inspired by project-based learning (Liang, 2021), where students are encouraged to explore their environment rather than solely relying on traditional classroom-based face-to-face learning. This approach makes learning less monotonous and more diverse (Charlotta Hilli & Aaen, 2019).

In recent years, especially during the Covid-19 outbreak, hybrid learning has garnered significant attention in the field of education. This model offers numerous advantages by combining traditional face-to-face learning and e-learning (Wang et al., 2009). Hybrid learning presents various advantages when compared to exclusively face-to-face learning. The diversity of learning models within hybrid learning can stimulate various aspects of knowledge (Pavlidou et al., 2021). Moreover, hybrid learning facilitates students' conversational practice and can enhance learning outcomes (Hariadi et al., 2019). This model can also improve the effectiveness, efficiency, and engagement of students in the learning process (Nashir & Laili, 2021). Additionally, hybrid learning provides an engaging and interesting learning experience for students (Singh et al., 2021).

Hybrid learning can also serve as an alternative to flexible learning, allowing students to choose between face-to-face or online learning (Müller et al., 2023, Raes et al., 2020). The use of hybrid learning can enhance learning motivation, subsequently leading to improved student achievement (Nørgård, 2021; (Zhang & Zhang, 2023). This learning model can elevate learning outcomes and advance Advanced Mathematical Thinking (AMT) abilities, which are crucial for higher-level mathematics learning, as well as enhance creative thinking skills (Aristika et al., 2021; Rahardjanto et al., 2019).

Hybrid learning is adaptable to various fields of science, not limited solely to cognitive content but also applicable to skill-based subjects, such as arts (Q. Li et al., 2021). It is also well-suited for improving speaking skills, mind mapping, modeling, and vocal enhancement (Dwijonagoro & Suparno, 2019). Additionally, this model can be effectively applied to language learning as it creates an environment conducive to enhancing students' language skills (Akla, 2022). By integrating online and offline learning in hybrid learning, this model can stimulate students' independent learning abilities and promote cooperative learning skills (M. Li, 2022).

Therefore, hybrid learning is most effectively applied at the highest level of education, namely at the doctoral level (Sukiman, Sri Haningsih, 2022). Because hybrid learning supports independent learning, a larger number of students is not a problem, so this model can accommodate various student numbers, as shown in research conducted by Hapke et al. Hybrid learning has the ability to overcome various limitations in classroom space and infrastructure, as well as overcome the distance between a student's home and school. Additionally, hybrid learning allows for grouping students into collaborative groups more easily (Moreno et al., 2021). Hybrid learning can also increase the level of student involvement and interaction in the classroom, compared to traditional face-to-face classes (Jusuf et al., 2019; (Hediansah & Surjono, 2020). The integration of information and communication technology with face-to-face learning allows flexibility and variety of interactions in the learning process, and can adapt to students' individual learning styles to increase learning efficiency and effectiveness (Chan, 2010). It is important to remember that hybrid learning is closely related to student characteristics and conditions. Students' attitudes towards hybrid learning can influence the learning process, as well as previous experiences in using similar learning, technological

capabilities, and factors such as gender that can influence the effectiveness of using hybrid learning (Sanpanich, 2021). Computer literacy skills in adult learners also play a role in increasing students' self-confidence in using hybrid learning that involves technology in the learning process (Johnson et al., 2018). While hybrid learning offers numerous advantages, as mentioned earlier, it also comes with several disadvantages, including the costs incurred by educational institutions and students' parents. Furthermore, students need to actively engage in the learning process (Xiao et al., 2020).

To fully capitalize on hybrid learning, the support of various stakeholders is essential. Educational institution leaders need to establish an integrated Learning Management System (LMS) that can be monitored by leadership. The role of lecturers is also pivotal for the successful implementation of hybrid learning since they are responsible for designing and providing materials specifically tailored to this mode, which differs from traditional face-to-face learning. When lecturers can effectively utilize online technology and engage all students, learning success can be achieved (Syam, 2019; Abdelrahman & Irby, 2016).

Participants

This study was conducted on postgraduate students at Sultan Syarif Kasim State Islamic University, Riau. A sample of 17% was taken from the total population of 1,221 individuals, resulting in a total sample size of 208 people. However, out of the 208 questionnaires distributed, only 204 respondents returned them for analysis in this research. The sampling technique employed was quota random sampling, where samples were randomly selected to achieve the desired sample size.

Research Design

This research is a quantitative descriptive study aimed at examining postgraduate students' preferences for hybrid learning and the factors influencing their choice of hybrid learning. The instrument used was a closed questionnaire with five options. Preferences were measured using a set of criteria, including perception, interest, program satisfaction, readiness to use hybrid learning, and interest. Data analysis was conducted using descriptive statistics in the form of tables and diagrams.

Results

Postgraduate students' preferences for hybrid learning

From the analysis of postgraduate students' preferences for hybrid learning, it was found that only 8 people (4%) had a very strong preference for hybrid learning, 165 people (81%) had a strong preference, 13 people (6%) had a weak preference, 15 people (7%) had an unfavorable preference, and 3 (2%) had a very unfavorable preference. A summary of postgraduate students' preferences for hybrid learning is provided in Table and Graph below.

Table 1. Postgraduate students' preferences for hybrid learning

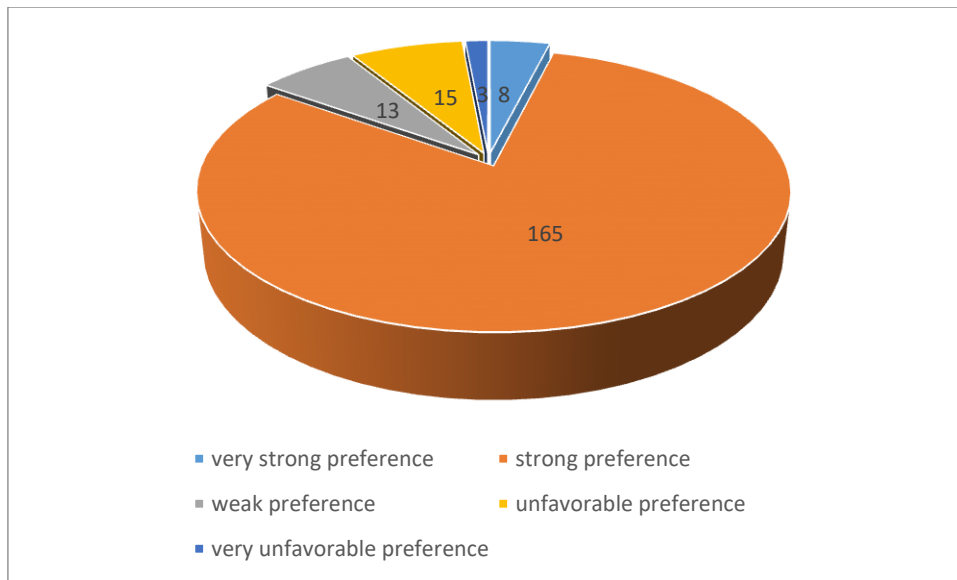| No	Respondents' Answers	Amount	Percentage
1	very strong preference	**8**	4%
2	strong preference	**165**	81%
3	weak preference	**13**	6%
4	unfavorable preference	**15**	7%
5	very unfavorable preference	**3**	1%
	Amount	204	100%

Figure 1. Respondents' preferences of hybrid learning

The description of postgraduate student preferences above shows that in general, postgraduate students have a positive view of hybrid learning, namely 85%, while only 15% of students have a negative view of hybrid learning.

Factors influencing the decision to use hybrid learning
The main factor influencing the decision to use hybrid learning is the availability of resources for online learning, as well as the provision of complete and varied online learning resources. This answer was chosen by 200 respondents, so it can be said that these two factors are the main factors for postgraduate students in choosing whether to use hybrid learning or not.

Discussion
The results of this research indicate that postgraduate students' preferences for hybrid learning at the Sultan Syarif Kasim Riau State Islamic University Postgraduate School are generally good, although only a small percentage have very strong preferences. Overall, their preferences are positive. This may be attributed to their good understanding of hybrid learning, but their busy schedules and limited facilities at their study institutions may hinder the effectiveness of hybrid learning. Nonetheless, hybrid learning offers a viable solution to the challenges of distance and location-related learning issues.
When considering the primary factors influencing respondents' preferences for hybrid learning, such as the availability of online learning resources and the provision of comprehensive and diverse online learning materials, it becomes apparent that postgraduate students' preferences for hybrid learning can potentially be very strong. It's worth noting that effective hybrid learning necessitates significant investment, starting with ensuring adequate bandwidth, providing essential equipment, and ensuring that the necessary human resources are proficient in the relevant technology.
The research results on postgraduate students' preferences for hybrid learning provide valuable insights for the development of postgraduate education. The findings demonstrate that postgraduate students at the Sultan Syarif Kasim State Islamic University Postgraduate Program in Riau generally have a good level of preference for hybrid learning. Although only a small percentage exhibit very strong preferences, their overall inclination is positive. This may be attributed to their reasonably good knowledge of hybrid learning. However, the demands of their busy lives and the insufficient facilities at their study institutions can potentially limit the effectiveness of hybrid learning. Nonetheless, hybrid learning serves as a solution to address the challenges posed by distance and location constraints.
Considering the key factors that influence respondents' preferences for hybrid learning, specifically the availability of online learning resources and the provision of comprehensive and diverse online learning materials, it is evident that postgraduate students' preferences for hybrid learning can improve. It's important to note that effective hybrid learning requires a substantial investment, which encompasses ensuring

adequate bandwidth, providing essential devices, and equipping human resources with the necessary technological skills.

The research findings concerning postgraduate students' preferences for hybrid learning offer valuable insights that should be taken into account in the context of postgraduate education development, that is:

Level of Preference for Hybrid Learning

From the data obtained, it appears that the majority of postgraduate students have a favorable preference (81%) for hybrid learning. This indicates that the majority of postgraduate students see hybrid learning as an effective learning model that suits their needs. This could be a strong basis for continuing or increasing the use of hybrid learning in postgraduate programs, considering their busy lives as workers who do not have enough time to attend face-to-face lectures with a rigid schedule. Apart from that, the distance between where they live and the campus where they study is a major factor in their preference for hybrid learning. Of course, this requires complete supporting facilities and infrastructure for hybrid learning. (Shimkovich et al., 2022).

Variability in Preferences

Although the majority of students have either preference, there is variation in their preferences. Some students have very good preferences, while others have poor, not good, or very bad preferences. This variability can be caused by individual factors, such as background, previous experience, and learning style. It is important to understand these factors further to develop a more appropriate approach for each student. This is in line with the results of other research conducted by Meydanlioglu & Arikan, which concluded that hybrid learning in higher education is more effective compared to purely online or face-to-face models (Meydanlioglu & Arikan, 2014). However, there needs to be a special analysis regarding the results and costs incurred for using hybrid learning at all levels of education (Simonova et al., 2017).

Challenges and Expansion of Hybrid Learning

Students with poor, inadequate, or very unfavorable preferences may encounter specific challenges or difficulties with the hybrid learning model. This may be influenced by their negative experiences with hybrid learning, such as unstable internet connections, relatively high costs, and disruptions to their learning focus, which can be attributed to the learning environment where students engage in their studies (Shimkovich et al., 2022). Discussions should center on identifying the issues faced by this group and determining the necessary steps to enhance their hybrid learning experience.

Perception of Learning Quality

In addition to examining the level of preference, it's crucial to understand students' perceptions of the learning quality within the context of hybrid learning. This encompasses their ability to utilize various applications (software) designed to support hybrid learning, their evaluation of the effectiveness of these models in meeting their learning objectives, as well as their experiences with potential challenges like interactions with instructors or fellow students. Furthermore, it's valuable to compare the learning outcomes achieved by students through hybrid learning with those in traditional face-to-face settings.

Implications for Curriculum Design

The findings of this research can be employed to enhance the design of postgraduate program curricula. These programs can be customized to align with student preferences and needs, allowing for flexibility in incorporating more or fewer elements of hybrid learning. Additionally, extra support can be provided to students who require adjustments to class schedules due to their busy work commitments. Educational institutions should ensure the availability of relevant and high-quality online resources, while also investing in the development of diverse learning materials. This approach will contribute to a more engaging and effective learning experience. Establishing a Learning Management System (LMS) is of paramount importance for monitoring and evaluating the ongoing hybrid learning process and ensuring the effectiveness of the learning methods in use.

Technical Considerations in Implementing Hybrid Learning

Before deciding to adopt hybrid learning for graduate students, several technical aspects need to be carefully considered. These factors include:

1. Availability of Online Resources**:** Hybrid learning places a strong emphasis on the accessibility and availability of learning materials in digital format. This signifies a significant shift in learning paradigms that are increasingly driven by technology.
2. Flexibility**:** Graduate students often have work or family commitments that necessitate flexible study options. Online resources enable them to access materials at their convenience, anytime and anywhere, aligning with their schedules.
3. Variety of Resources: The provision of diverse and comprehensive online learning resources indicates that graduate students value a range of learning methods and materials. This reflects their desire for access to various resource types, including videos, e-books, simulations, and others, to enrich their learning experiences.
4. Technology and Infrastructure Considerations: The success of hybrid learning is highly contingent on the technology and infrastructure supporting it. Educational institutions must ensure that their learning management systems and online platforms are accessible, reliable, and responsive. In this context, investment in technology development and technical support is critical.
5. Support for Lecturers and Students: In addition to comprehensive online resources, it's crucial to offer support to both lecturers and students in using technology and online resources. Effective lecturer training and technical support services can significantly enhance the quality of hybrid learning.

Advanced Research

The data in this study can be the basis for further, more in-depth research on graduate students' preferences for hybrid learning. Further research could include in-depth interviews or more detailed surveys to understand the reasons behind preferences and deeper individual differences. Apart from that, studies of various variables that might influence student preferences such as age factors, gender factors, income factors, and so on can also be carried out. The results of this research can also be a basis for further, more in-depth research regarding how the availability of online resources and the variety of learning resources can influence the effectiveness of hybrid learning and the achievement of learning goals.

Conclusion and Limitations

This research concludes that hybrid learning holds significant promise in the context of postgraduate education. However, it also underscores the importance of recognizing variations in student preferences and addressing the challenges that may arise. Ongoing discussions and appropriate actions will be crucial in maximizing the benefits of hybrid learning in graduate education.

The availability of resources for online learning and the provision of diverse and comprehensive online learning materials play a pivotal role in postgraduate students' decisions to embrace hybrid learning. This indicates a shifting trend towards digital and flexible learning approaches in postgraduate education. Educational institutions must continually strive to align with students' needs in terms of online resources and incorporate them into their learning strategies.

Availability of Data and Materials

Access to the research data is only possible with the researcher's permission.

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