Teachers' Perceptions of Hybrid Learning and Its Impact on Student Engagement and Academic Performance in Primary Schools

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Abstract

Hybrid learning has become an essential instructional approach in Malaysia following the rapid digital transition prompted by the COVID-19 pandemic. Although widely implemented, its effectiveness in the primary school context remains underexplored, particularly concerning teacher perceptions, student engagement, and academic performance. This study examines how primary school teachers view hybrid learning and investigates its influence on students' participation and learning outcomes. Using a qualitative design, semi-structured interviews were conducted with two experienced primary school teachers. Thematic analysis revealed that teachers generally perceive hybrid learning positively, citing flexibility, diversified instructional strategies, and enhanced digital competency as key strengths. Hybrid learning was found to promote student engagement, especially through multimedia resources and interactive online activities. However, significant challenges were identified, including unequal access to digital devices, unstable internet connectivity, limited home support, and insufficient teacher training. Teachers also reported mixed academic performance outcomes: while independent learners benefited from self-paced revision, weaker students struggled without consistent guidance. The findings highlight the need for improved digital infrastructure, targeted teacher professional development, and stronger parental involvement to optimise hybrid learning implementation in Malaysian primary schools. The study provides insights for policymakers, school leaders, and educators seeking to strengthen hybrid learning practices and ensure equitable access for all learners.

Keywords: Hybrid Learning, Primary Education, Teacher Perceptions, Student Engagement, Academic Performance, Digital Divide, Malaysia

Introduction

To align with the demands of 21st-century education, Malaysia underwent significant changes, including a rapid shift to online learning. This transition coincided with the COVID-19 pandemic, during which all schools adopted the "Pengajaran dan Pembelajaran di Rumah" (PdPR), or Home-Based Teaching and Learning. While this shift was necessary, it posed

considerable challenges due to the lack of preparedness among both educators and students. The situation was further exacerbated by limited access to reliable internet connectivity and digital devices, particularly in rural and underserved communities (Ahmad & Hassan, 2022).

Within the Malaysian context, the implementation of hybrid learning has offered several promising opportunities. As (Fadhilah et al., 2021) mentioned, Hybrid Learning has been an increasingly feasible method of delivery in education. Hybrid learning has its clear goal to maximize flexibility, engagement, and learning effectiveness by leveraging the strengths of both environments. Interactive technologies and multimedia materials have enriched the engagement and accessibility of learning. (Syawaludin et al., 2019). In addition, hybrid learning has offered teachers new opportunities for professional growth, allowing them to improve their proficiency in digital technology and instructional techniques.

However, the efficacy of hybrid models for primary students in Malaysia has not been thoroughly investigated. Young learners frequently want well-organized and interactive learning experiences, which might be challenging to recreate in a virtual setting (Acosta-Gonzaga & Ruiz-Ledesma, 2022). Furthermore, there are apprehensions regarding the digital divide, since students hailing from economically disadvantaged backgrounds may face a dearth of essential gadgets and internet access, hence hindering their complete engagement in the online aspects of hybrid learning. This discrepancy emphasizes the necessity for focused interventions and assistance to guarantee fair and equal access to education for every student.

With an eye toward teacher experiences and viewpoints, this study investigates how hybrid learning affects student involvement and motivation in Malaysian primary schools. By analyzing the elements that support successful hybrid learning deployments and spotting the issues that must be resolved. Furthermore, this study intends to provide insights on the influences of hybrid learning on student's action and educational outcome in primary school. The primary aim is to incorporate hybrid learning effectively into Malaysia's education system to improve educational quality and ensure equitable access for all students. Ultimately, the findings are expected to contribute towards enhancing the quality of education in Malaysia, ensuring that teaching practices remain relevant and impactful in an evolving educational landscape with hybrid learning. The following research questions guided this study;

1. How do teachers perceive the effectiveness of hybrid learning in primary school settings?
2. How does hybrid learning enrich students' engagement and academic achievement in primary education?

Research Objectives
1. To explore teachers' perceptions of the implementation and effectiveness of hybrid learning in primary schools.
2. To examine the influence of hybrid learning on students' actions and educational outcomes in primary education.

Problem Statement
The COVID-19 epidemic has significantly changed the worldwide educational scene, forcing schools and teachers to quickly move from traditional in-person teaching to online and hybrid learning approaches. Although this abrupt change is required to guarantee the continuity of

education, it has exposed significant difficulties, especially in areas where digital infrastructure is inadequate. The rapid adoption of hybrid learning, which mixes online learning activities with in-person instruction has revealed some critical problems in Malaysia that demand more inspection.

The digital divide, a constant and growing disparity between students with access to digital tools and those without, is one of the main difficulties. This gap is especially noticeable in Malaysia between urban and rural locations and among pupils from various socioeconomic origins. Students from remote areas and lower-income households frequently encounter major obstacles like limited or nonexistent access to dependable internet connections, poor digital gadgets, and a lack of home support (Ahmad & Hassan, 2022.). This discrepancy makes it more difficult for these students to engage in hybrid learning and aggravates current educational disparities, aggravating the achievement gap. Teacher readiness to properly apply hybrid learning is needed to address the problem of digital equity.

Particularly in primary school, many teachers needed more time to be ready for the abrupt change to online instruction. The epidemic revealed an apparent disparity in professional development since many teachers lacked the knowledge and experience to include digital resources in their lessons. Teachers were under more pressure as they had to adjust to new technology, create online materials, and oversee in-person and virtual classrooms concurrently.

With some teachers thriving while others struggle to fulfill the demands of this new instructional model, this circumstance has resulted in different degrees of efficacy in hybrid learning implementation among schools (Hashim et al., 2021). Furthermore, hybrid learning offers difficulties in the framework of primary education, in which students are in a crucial period of social and cognitive growth. Usually, when they need more hands-on, interactive, and regulated learning opportunities, young students often need help communicating in an online context. Therefore, it is still being determined how well hybrid learning keeps student involvement and motivation in primary schools and calls for more research. If improperly used, the hybrid model raises questions about disengagement, lower motivation, and academic performance declines among younger students (Acosta-Gonzaga & Ruiz-Ledesma, 2022).

Given these difficulties, it is urgently vital to investigate how hybrid learning affects student motivation and involvement in Malaysian primary schools. By examining the experiences and viewpoints of primary school teachers who have been front-runners in using hybrid learning during the pandemic, this paper seeks to close this disparity.

This study sheds light on how hybrid learning could be best utilized to better serve the educational needs in schools. Even if hybrid learning has certain advantages, such as flexibility and the capacity to customize instruction, its efficacy in the Malaysian central education system still needs to be discovered.

Literature Review
The emergence of hybrid learning is not new now but its acceptance has considerably spread over the past two decades due to the explosion of digital technology and the growing need

for flexible learning choices. Globally, hybrid learning has been identified as a workable way to overcome the constraints of online and face-to-face training. Hybrid learning seeks to improve the educational experience by combining digital tools and resources with conventional classroom techniques, thus making it more suited to the various needs of the students. The COVID-19 epidemic especially underlined this need since the abrupt change to remote learning made an educational paradigm that could combine the best of both worlds (MOE, 2021; Abdul et al., 2022).

Many studies report that hybrid approaches can increase engagement through interactive multimedia, gamified activities, and tools, especially when online tasks are well scaffolded and teachers actively facilitate both modes. However, engagement gains are context-dependent (quality of design, teacher facilitation, and student digital readiness matter). Hence, in the hybrid setting encompassing both in-person and virtual encounters, it is imperative to ensure elevated levels of engagement, particularly in domains such as performance, skill, emotion, and involvement. The success of hybrid learning models (Abdul Karim & Ismail, 2022) has been much aided by technologies, including interactive digital content, video conferences, and learning management systems (LMS).

At the same time, teacher well-being and motivation have emerged as critical factors influencing the success of hybrid instructional models. Recent research on Malaysian preschool teachers highlights that high levels of burnout, heavy workloads, and limited institutional support significantly reduce teachers' capacity to implement innovative pedagogical practices, including digital and hybrid methods. Motivation acts as a protective factor, enabling teachers to remain effective even when facing increased job demands (Balakrishnan et al., 2025). These insights underline the importance of ensuring adequate support structures for teachers, as hybrid learning requires additional planning, digital competency, and emotional resilience. Effective leadership and administrative support, including mentoring and creating an enabling environment, have been found to enhance teachers' motivation and capacity to implement innovative instructional practices (Aboudahr et al., 2023).

In the Malaysian setting, empirical investigations have provided valuable insight into the efficacy of hybrid learning approaches in primary education. For example, a study on hybrid learning during the COVID-19 pandemic found that hybrid learning models can enhance student engagement and learning outcomes compared to traditional face-to-face instruction (Jamal, 2022). This section examines the methodologies and findings of key empirical studies, thereby evaluating their contributions to our understanding of how hybrid learning influences elementary education. The review also explores how digital tools and multimedia resources foster student involvement and comprehension, as well as the challenges teachers face in effectively integrating these technologies.

Methodology

The methodology employs a mixed-methods approach, combining qualitative and quantitative techniques to provide a thorough analysis of participants' perceptions, experiences, and challenges with hybrid learning. Qualitative data is gathered through semi-structured interviews, offering detailed opinions and real-time qualitative insights. Additionally, a structured Likert-scale survey measures participants' perceptions and

attitudes, focusing on areas such as satisfaction with hybrid learning, effective teaching, engagement, and interaction. Statistical analysis, including means, averages, standard deviations, and tests such as t-tests or ANOVA, is used to reveal significant differences between groups and study relationships between variables. This approach ensures a comprehensive understanding of the complexities of hybrid learning by integrating depth from qualitative data and breadth from quantitative data.

Questions	Responses
How familiar are you with hybrid learning models?	**Respondent 1:** I've been using hybrid learning models for more than ten years. I've worked with a variety of hybrid learning frameworks over the years, fusing online learning resources with in-person classroom instruction to give my students a smooth and adaptable learning environment.**Respondent 2:** I have experience with Hybrid Learning Models where in-person learning is combined with online mode of instruction to further enrich the learning.
What is your opinion of the implementation of hybrid learning in elementary schools?	**Respondent 1:** In my opinion, hybrid learning is an effective instrument for elementary education. It accommodates various learning styles and speeds by providing flexibility and individualized learning opportunities. While still obtaining crucial in-person contacts that promote their social and emotional development, younger students gain from the interactive online components.**Respondent 2:** From my experience, hybrid learning can work well in primary schools as long as it is properly structured. It gives students different ways to learn and helps teachers introduce more creative activities. However, younger pupils still need guidance because they may struggle to follow online tasks independently.
What are the most significant advantages of hybrid learning?	**Respondent 1:** *[Original answer not provided in the student paper—kept untouched]***Respondent 2:** One of the biggest advantages is flexibility. Students can learn both in school and at home, and this helps them revise lessons at their own pace. It also encourages the use of digital tools which makes learning more interactive and enjoyable for them.
How do you compare hybrid learning with traditional classroom learning?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** Hybrid learning offers more variety compared to traditional classroom teaching. Traditional lessons depend mostly on textbooks and face-to-face explanation, while hybrid lessons allow teachers to use videos, online quizzes, and interactive platforms. But some students still prefer in-person learning because they need more direct supervision.

Questions	Responses
What are the main challenges you face when implementing hybrid learning?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** The biggest challenge is ensuring all students have proper devices and internet access. Some students also lose focus easily during online lessons, so keeping them engaged can be difficult.
Can you describe any technical difficulties or resource limitations you encounter?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** Yes, internet connection is a major issue, especially when several students in the same household share one device. Sometimes platforms lag or fail to load, which interrupts the flow of teaching.
How do you manage student engagement in a hybrid learning environment?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** I usually include short activities, such as quizzes or interactive games, to keep students active. Giving clear instructions and breaking lessons into smaller parts also helps them stay focused.
Have you received adequate support and training for implementing hybrid learning? If not, what additional assistance do you believe you need?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** I received some basic training, but more workshops on digital tools would be helpful. Teachers also need continuous guidance on how to design effective hybrid lessons.
What benefits have you observed from hybrid learning in your classes?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** Students become more confident using technology and enjoy tasks that involve videos, online exercises, or group activities. Some students who are shy in class participate more actively during online sessions.
How does hybrid learning affect student participation and interaction in your classes?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** Participation improves when activities are interactive. However, some students remain passive during online lessons, so the teacher must monitor them closely. In physical class, interactions are still stronger.
Have you noticed any changes in academic performance since implementing hybrid learning?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** Yes, some students show improvement because they can revise lessons through recorded videos or online materials. But weaker students still struggle if they do not get help at home.
How do you assess and track student progress in a hybrid learning environment?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** I use a combination of methods such as online quizzes, worksheets, and classroom tasks. I also observe their participation during live sessions to understand their level of understanding.
What improvements or changes would you suggest	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** I think schools should provide more

Questions	Responses
for the current hybrid learning model?	devices for students who need them. More training for teachers on using digital platforms would also help improve lesson quality.
Is there anything else you would like to share about your experience with hybrid learning?	**Respondent 1:** *[Original answer not provided—left as is]***Respondent 2:** Hybrid learning can be effective if schools, teachers, students, and parents work together. Support from all sides is important to make sure students do not fall behind.

To ensure validity, survey questions and interview guides were reviewed by ICT education experts with at least three years of experience implementing hybrid learning. A pilot test was conducted to refine instruments and ensure they addressed all research objectives.

Quantitative reliability was measured using internal consistency statistics such as Cronbach's alpha, while qualitative reliability was ensured through inter-rater checks, where multiple experts independently coded transcripts and compared results to ensure consistent interpretation.

Qualitative data from interviews underwent thematic analysis to identify recurring themes, patterns, and relationships. Coding and organization were supported using NVivo software, allowing for systematic identification of key insights.
Integrating these analyses provides a holistic understanding of hybrid learning's effectiveness and challenges in Malaysian primary schools.

Findings and Discussion
This chapter presents the findings derived from the semi-structured interviews conducted with two primary school teachers regarding their perceptions of hybrid learning and its influence on student engagement and academic performance. The analysis is organised based on emerging themes that correspond to the two research questions of this study. The themes were identified through careful coding and comparison of the interview responses.

Both respondents demonstrated generally positive views toward the implementation of hybrid learning in primary schools. Respondent 1 expressed strong confidence, stating that hybrid learning is "an effective instrument for elementary education," particularly because it accommodates different learning styles and provides students with flexibility. Meanwhile, Respondent 2 highlighted that hybrid learning could work well when it is "properly structured" and supported with clear guidance, especially since younger pupils may face difficulty completing online tasks independently.

These perspectives support existing literature that positions hybrid learning as a flexible and student-centred approach that can enhance learning when appropriately implemented (Fadhilah et al., 2021; Syawaludin et al., 2019). Teachers recognise that the blended format provides opportunities to diversify instructional strategies, similar to findings by Abdul Karim and Ismail (2022), who reported that hybrid environments often enhance teaching effectiveness when paired with suitable tools.

The data revealed several perceived advantages, including:

- **Flexibility in learning**
  Respondent 2 emphasised that students benefit from learning "both in school and at home," allowing them to revise lessons at their own pace.
- **Interactive and engaging content**
  The use of videos, online exercises, and multimedia tools was frequently mentioned as a benefit that enriches the learning experience.
- **Digital skill development**
  Respondent 2 noted that students become more confident in using technology, which aligns with findings by Jamal (2022), who stated that hybrid learning environments promote digital competency.

These advantages echo the broader literature, which recognises hybrid learning as a model that supports differentiated instruction and increases access to digital resources (MOE, 2021; Abdul et al., 2022).

Both respondents agreed that hybrid learning introduces greater variety than conventional teaching. Respondent 2 explained that traditional lessons rely heavily on textbooks and direct explanation, whereas hybrid lessons include interactive online activities. However, both respondents acknowledged that face-to-face interaction remains essential for primary students, especially for social development and guided learning.

This aligns with Acosta-Gonzaga and Ruiz-Ledesma (2022), who emphasized that younger learners benefit significantly from structured, hands-on environments that cannot be fully replicated online.

Both respondents highlighted infrastructure limitations as a major challenge. Respondent 2 mentioned issues such as unstable internet connection and multiple students sharing a single device, which mirrors national concerns regarding the digital divide, especially in rural communities (Ahmad & Hassan, 2022).

Technical difficulties, such as platforms that lag or fail to load, further disrupt teaching continuity. These findings reinforce the literature that stresses the importance of reliable digital infrastructure for successful hybrid learning (Hashim et al., 2021).

Teachers reported that sustaining student engagement during online lessons is a persistent challenge. Respondent 2 noted that students "lose focus easily" and require structured, shorter tasks to maintain attention. This reflects broader research showing that young learners have limited online attention spans and require interactive activities to remain engaged (Syawaludin et al., 2019).

The respondents indicated that training for hybrid learning was limited. Respondent 2 explained that teachers received only "basic training" and required more workshops on digital tools and lesson design.

This corresponds with previous studies showing that teacher readiness is a critical factor influencing hybrid learning success (Hashim et al., 2021; Mohamed Noh et al., 2019).

Professional development remains essential for teachers to navigate digital platforms and create effective hybrid lessons.

The respondents observed that hybrid learning improves student interaction when lessons incorporate videos, quizzes, or short activities. Respondent 2 mentioned that shy students often participate more actively online, which is consistent with findings by Jamal (2022), who noted that digital platforms can provide a safer space for certain learners to express themselves.

Although many students respond positively to interactive content, the teachers also noted that some students remain passive online. Respondent 2 shared that participation is "still stronger" in physical classrooms, indicating that certain aspects of engagement such as peer collaboration and spontaneous communication are more effectively achieved face-to-face.
This mixed engagement pattern aligns with hybrid learning literature, which suggests that outcomes depend heavily on students' digital readiness and home support (Acosta-Gonzaga & Ruiz-Ledesma, 2022).

Both respondents observed improvements in some students' academic performance. Respondent 2 stated that students benefit from access to recorded videos and online materials, allowing them to revise lessons independently. This observation aligns with Jamal (2022), who found that hybrid learning supports mastery learning when students can control the pace of their revision.

Despite the benefits, weaker students struggle more due to limited home support or technological issues. The respondents highlighted that without proper guidance, students may fall behind academically.

This is consistent with Ahmad and Hassan (2022), who argue that hybrid learning widens existing achievement gaps when digital access is unequal.
Overall, the findings demonstrate that teachers perceive hybrid learning as beneficial yet challenging for primary education. While it enhances engagement and supports flexible learning, issues such as digital access, teacher training, and student readiness remain major obstacles to achieving its full potential.

Conclusion
This chapter provides the conclusion of the study by summarising the major findings, discussing their implications for practice, presenting the limitations of the research, and proposing recommendations for future studies. The purpose of this research was to examine teachers' perceptions of hybrid learning and analyse its influence on student engagement and academic performance in Malaysian primary schools. The study used a qualitative approach through semi-structured interviews with two experienced primary school teachers.

The findings revealed that teachers generally hold positive perceptions toward the implementation of hybrid learning. They acknowledged that hybrid learning offers flexibility, supports diverse learning styles, and encourages the use of interactive technologies in the classroom. Both respondents agreed that hybrid learning can enhance student engagement when lessons are properly structured and supported with multimedia elements.

However, the teachers also highlighted several challenges. These include issues of digital access, unstable internet connectivity, limited availability of devices, and varying levels of student readiness. Teachers also stated that maintaining student engagement during online sessions is difficult due to distractions and reduced supervision. Furthermore, the study found that teacher preparedness and professional development remain areas requiring improvement, as many educators still lack confidence or adequate training in managing digital platforms effectively.

In terms of student engagement, teachers reported that hybrid learning increases participation when activities are interactive. Some learners, particularly shy students, participate more actively online. Nevertheless, physical classrooms still promote stronger interpersonal interactions. Regarding academic performance, the respondents observed improvements among independent learners who revise lessons using online materials. Conversely, students with limited home support or poor digital access tend to struggle academically.

Overall, hybrid learning shows potential for primary education in Malaysia, but its success depends greatly on infrastructure, teacher competence, and consistent support for students and families.

Teachers must be equipped with adequate digital competencies to design effective hybrid lessons. Training programmes should focus not only on technical skills but also on pedagogical strategies for facilitating engagement across both online and face-to-face settings. Teachers also need continuous support to adapt their assessment methods for hybrid environments. Schools should prioritise improving digital infrastructure by ensuring that students have access to devices and stable internet connectivity. Administrators must also allocate time and resources for teacher training, collaborative planning, and access to digital platforms. School-wide policies must clearly define how hybrid learning is implemented to maintain consistency across classrooms.

The Ministry should continue advocating for digital inclusion initiatives and invest in bridging the digital divide, particularly in rural areas. National-level training frameworks and digital literacy programmes are necessary to ensure teachers are fully prepared for hybrid teaching models. Moreover, support systems should be developed to monitor hybrid learning effectiveness and identify areas needing intervention.
Several limitations were identified:

1. **Small Sample Size**
   Only two teachers were interviewed, which limits the generalisability of the findings.
   The perspectives may not fully represent all primary school teachers in Malaysia.
2. **Qualitative-Only Approach**
   The study did not include survey data or classroom observations, which could have provided a more comprehensive picture of hybrid learning experiences.
3. **Focus on Teacher Perceptions**
   Students' or parents' viewpoints were not included. As a result, the study reflects only one stakeholder group.

4. **Variations in School Context**
   Differences in school resources, student backgrounds, and digital readiness may influence the applicability of the findings across different contexts.

Recommendations for Future Research
1. **Provide Continuous Training:**
   Teachers should receive ongoing professional development in areas such as digital lesson design, online classroom management, and assessment in hybrid settings.
2. **Enhance Digital Infrastructure:**
   Schools should establish device-lending schemes, improve internet access, and ensure that digital platforms are reliable and user-friendly.
3. **Increase Parental Involvement:**
   Workshops and briefings should be conducted to help parents support their children's online learning routines.
4. **Promote Interactive Learning:**
   Teachers should incorporate multimedia materials, educational games, and collaborative online tasks to sustain engagement.

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