

## Classrooms Without Walls: The Dynamics of Virtual and Hybrid Learning

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### ABSTRAK

This study aims to explore the dynamics of wall-less learning, particularly in the context of virtual and hybrid learning during the post-COVID-19 pandemic period. Using a qualitative approach, this research examines how teachers and students adapt to digital learning technologies, the challenges related to infrastructure and access, and the impact of changes in social interaction within the hybrid learning model. Data were collected through in-depth interviews, participatory observations, and document studies conducted in several schools implementing such learning models. The results reveal that the success of virtual and hybrid learning largely depends on technological adaptability, supportive home learning environments, and the active involvement of parents. However, limitations in technological access and reduced social interaction remain significant challenges. This study recommends strengthening collaboration among stakeholders and developing digital infrastructure to support inclusive and quality education in the digital transformation era.

### INTRODUCTION

Over the past five years, Indonesia's education system has undergone significant transformation in response to the COVID-19 pandemic. The mass closure of schools beginning in March 2020 forced the government and educational institutions to adopt online learning systems comprehensively. This sudden change was not merely a shift in method but a paradigm shift from education based on physical spaces to learning that transcends geographical and temporal boundaries. This development gave rise to the term “*wall-less classroom*”, symbolizing a teaching and learning process that occurs across spaces, platforms, and often social boundaries as well. According to a UNESCO (2021) report, more than 1.5 billion learners in 188 countries were affected by school closures due to the pandemic. In Indonesia, the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) recorded that during the 2020–2021 academic year, nearly 68 million students across all levels of education were forced to study from home. This transition brought substantial implications not only for students and parents but also for teachers, who are central to the education process. Online learning depends on internet connectivity, electronic devices, and the ability to adapt to technology all of which are not evenly distributed among the Indonesian population.



As the country entered the post-pandemic transition period, the education system did not immediately revert to its traditional model. Instead, a growing need emerged to establish a more flexible, adaptive, and resilient learning model. This is where *hybrid learning*—a combination of face-to-face and online instruction began to be introduced and promoted for widespread adoption. This model is seen as a long-term solution to meet the challenges of education in the digital era. According to data from the Curriculum and Book Center of the Ministry of Education (2023), 52.4% of schools in Indonesia reported interest in or had started implementing hybrid learning, albeit with varying levels of readiness. However, behind this optimism, the reality on the ground reveals that the implementation of hybrid learning still faces various challenges, especially at the secondary school level. Teachers, as key actors in the learning process, face new pressures: they must design two versions of lessons (in-person and online), manage two types of interactions simultaneously, and ensure fair assessments for all students, whether physically or virtually present. A study by the SMERU Research Institute (2022) showed that more than 60% of teachers found it difficult to design hybrid learning due to a lack of training and supporting facilities.

Another ongoing issue is the digital divide. Data from the Central Statistics Agency (BPS, 2022) shows that only 44.9% of households in rural areas have internet access far below the 83.9% in urban areas. Limited access to devices, unstable internet connections, and low digital literacy among students and parents further widen the gap in the implementation of wall-less classrooms. As a result, hybrid learning tends to be more successful in schools with adequate resources, while schools with limited resources often implement it only partially or as a formality.

In this context, teachers are required to adapt across multiple dimensions: mastering technology, modifying teaching methods, and managing students' psychological well-being. However, this adaptation process is not always smooth. Many teachers experience psychological stress such as anxiety, fatigue, and even burnout due to increased workloads and insufficient institutional support. This is supported by findings from the Central Java Education Quality Assurance Agency (LPMP, 2022), which revealed that 48% of teachers in the region experienced mental exhaustion due to work pressure during the transition to hybrid learning. Although various quantitative studies have discussed the effectiveness of the hybrid model in improving learning outcomes or time efficiency, there is still limited research on the personal experiences of teachers—particularly regarding their challenges, adaptation strategies, and perceptions of the sustainability of this model. Yet, a qualitative approach is essential to explore the social, psychological, and professional dynamics teachers face within this educational transformation.

Therefore, this study is aimed at exploring in depth the experiences of teachers in implementing hybrid learning at the secondary school level. It seeks not only to uncover technical aspects but also to examine the emotional, social, and professional dimensions of the learning transformation process. The findings from this study are expected to provide empirical contributions to the development of digital education policies, the strengthening of teacher capacity, and the formulation of a more contextual, equitable, and sustainable hybrid learning model for the future of education in Indonesia.

This study aims to gain an in-depth understanding of the dynamics of virtual and hybrid learning from the perspective of secondary school teachers. Specifically, it seeks to explore how teachers experience, interpret, and manage the transition from conventional learning to the wall-less classroom model including the challenges they face, the strategies they use to adapt, and their perceptions of the effectiveness and

sustainability of the hybrid learning system. It also aims to investigate the contextual factors, both internal and external, that influence hybrid learning practices so that the results may contribute to the development of digital education policies that are more responsive to teachers' needs and field realities.

## **METHODOLOGY**

This study employs a descriptive qualitative approach aimed at exploring and thoroughly describing the experiences of teachers in implementing virtual and hybrid learning at the secondary school level. A qualitative approach was chosen because it is capable of capturing complex and multilayered social phenomena including teachers' perceptions, attitudes, and adaptation strategies which cannot be fully uncovered through quantitative methods. This approach also allows the researcher to delve into the cultural and school environment contexts that significantly influence the dynamics of learning in the field.

The research subjects consist of teachers actively teaching at junior high schools (SMP), senior high schools (SMA), and vocational schools (SMK) who have implemented online or hybrid learning since the onset of the COVID-19 pandemic up to the post-pandemic period. Participants were selected purposively using purposive sampling techniques, based on several important criteria to ensure that the data obtained would be relevant and information-rich. These criteria include: having at least two years of teaching experience, actively implementing a hybrid learning system, and being willing to provide in-depth and reflective information through the interview process. In addition, diversity in school backgrounds from urban to peripheral areas was also considered to obtain a more comprehensive picture. The estimated number of participants is five, based on the principle of data saturation. Data saturation refers to the point at which data collection is stopped because the information being gathered becomes repetitive and no longer adds new insights about the phenomenon being studied. This approach ensures both the quality of the data and time efficiency.

Data collection was conducted using several main techniques. In-depth interviews were the primary method for obtaining information on how teachers experienced hybrid learning, including the various challenges, obstacles, and strategies they employed to navigate change. Interviews were conducted either face-to-face or online, depending on the conditions and applicable health protocols. If possible, non-participant observation was also conducted to directly observe the practices of hybrid learning in classrooms, interactions between teachers and students, and the use of educational technology. This observation helped validate and enrich the data obtained from interviews. Data collection was further supported by documentation, such as Lesson Plans (RPP), digital teaching materials, video recordings of online lessons, and teachers' daily journals, which provided a comprehensive overview of the learning process.

The research instrument was a semi-structured interview guide developed based on the focus of the research namely, teachers' experiences in hybrid learning. The guide was designed with open-ended questions to allow flexibility in exploration, enabling the researcher to adjust the direction of the interview based on participants' responses. Questions were designed to probe into technical aspects (e.g., use of devices and digital platforms), psychological aspects (e.g., stress, motivation, and teachers' mental readiness), and social aspects (e.g., support from schools and students' parents).

The collected data were then analyzed using thematic analysis following the Miles and Huberman approach. The analysis began with data reduction, which involved

filtering, categorizing, and focusing information relevant to the research objectives. The data were then organized into narrative presentations and themes that emerged from interviews and observations, allowing patterns in teacher behavior and perceptions to be identified systematically. The final stage involved drawing conclusions and conducting verification through an iterative process to ensure the accuracy of interpretations.

To ensure the validity and credibility of the data, the study applied several validation techniques. One such method was triangulation, including both source triangulation (data from various teachers and schools) and methodological triangulation (combining interviews, observations, and documentation). Additionally, member checking was conducted by reconfirming findings with participants to ensure accurate and representative interpretations. The researcher also documented the research process and reflections during data collection and analysis as part of an audit trail, allowing the research to be reviewed and traced for transparency and accountability.

The research locations were strategically selected from several public and private secondary schools that actively implemented hybrid learning. These locations were chosen based on accessibility, school readiness, and their ability to represent learning conditions in both urban and suburban areas. For example, the research could be conducted in metropolitan areas such as Jakarta and Yogyakarta, as well as in more marginalized areas such as Jambi, to obtain a more balanced and realistic portrayal of hybrid learning practices in Indonesia. With this research method, it is expected that a holistic understanding of the complexities of wall-less learning can be obtained one that not only involves technical aspects but also the social and psychological dynamics that influence the success of sustained virtual and hybrid learning implementation.

## RESULTS AND DISCUSSION

To gain a deeper understanding of the real experiences and perceptions of stakeholders involved in virtual and hybrid learning environments, this study conducted in-depth interviews with selected respondents. These participants, representing diverse roles such as teachers, students, parents, and school administrators, provided rich and varied insights into how the implementation of digital-based learning has influenced daily educational activities. The interviews explored themes including adaptation strategies, emotional and cognitive responses, as well as challenges and innovations emerging from the shift to technology-mediated instruction. The following are excerpts and summaries from the interviews, which serve to illustrate the qualitative dimensions of the study's findings.

### **Mrs. Ratna (Junior High School Teacher)**

*"At first, it was quite difficult because I wasn't used to teaching with digital technology. I had to learn how to use Zoom, Google Classroom, and even create my own instructional videos. Another challenge was maintaining students' attention while they were learning from home some of them didn't even turn on their cameras. I also had to adjust the teaching material so it could be understood by both in-person and online students. But after a few months, I started to get used to it and even saw a lot of potential in this method."*

Based on the interview with Mrs. Ratna, a social studies teacher at the junior high school level, it can be concluded that the transition to hybrid learning presented significant challenges during its initial implementation. The main obstacles stemmed from her lack

of experience in using technology, as well as the need to adapt to digital platforms like Zoom and Google Classroom. Additionally, keeping students engaged during online learning posed a major issue, especially when students didn't actively participate—such as by turning off their cameras. However, over time, the respondent demonstrated an improvement in digital competence and discovered new opportunities to deliver more creative and flexible lesson materials. This reflects that, with proper training and adaptation time, teachers can overcome the challenges of "classrooms without walls" and use them to enhance the quality of teaching and learning.

**Rizky (Senior High School Student)**

*"When learning online, I often find it hard to focus. There are many distractions at home, like the TV or my noisy younger siblings. Sometimes the internet connection is bad, so I miss parts of the lesson. With hybrid learning, I like being able to meet my friends during in-person classes, but during the online sessions, it still feels confusing because I can't ask questions directly."*

Rizky's experience reflects the reality faced by many students in virtual and hybrid learning systems. The learning environment at home often filled with distractions like the television and family members leads to reduced concentration. Moreover, technical problems such as unstable internet connections worsen students' understanding of the material. While the hybrid model offers some opportunity for in-person interaction and more effective learning, the online components still feel insufficient due to the lack of direct communication. This highlights the importance of a supportive home environment and the need to strengthen interaction during online sessions.

**Mrs. Leni (Parent of an Elementary School Student)**

*"At first, I helped my child sit down to study, open apps, and submit assignments. But over time, my child got bored and became reluctant. I was also confused because I didn't understand all the lessons. Sometimes I had to put off homework just to help. It felt more exhausting than usual."*

The interview with Mrs. Leni illustrates how virtual learning systems place a high demand on parental involvement, especially for younger children in elementary school. In practice, parents become "assistant teachers" at home, while also handling other household responsibilities. The lack of academic and digital skills among parents increases their psychological and physical burden. In addition, children's boredom worsens the challenge. This underscores that the success of online learning at the elementary level depends not only on students and teachers, but also on the preparedness and capability of parents to provide support.

**Mr. Herman (School Principal)**

*"We created a student rotation schedule to avoid overcrowding in classrooms and provided teacher training on using digital applications. We also partnered with third parties to provide internet data support for underprivileged students. But of course, not*

*all problems could be solved especially issues like limited gadgets and poor network access in certain areas."*

From a managerial perspective, Principal Mr. Herman explained his institution's strategic approach to facing the challenges of hybrid learning. Measures such as class rotation and teacher training reflect the school's awareness of the need for structural adaptation and increased teacher capacity. Collaborative efforts with external parties to provide internet support to disadvantaged students are also a positive form of intervention. However, structural barriers such as device shortages and inadequate internet infrastructure remain the major challenges that require broader solutions from government and community stakeholders.

#### **Mrs. Sari (Elementary School Honorary Teacher)**

*"When I teach in the classroom, I can see students' expressions right away and know who doesn't understand. But during online classes, I feel like I'm just talking to myself. Many students are passive and rarely turn on their cameras. Sometimes I worry they're not really paying attention. But I still try to make the lessons engaging using pictures or stories."*

Mrs. Sari's experience illustrates the loss of emotional connection and direct interaction that is often the strength of in-person teaching. In online learning, the students' passivity and lack of visual feedback present major challenges for teachers, who struggle to assess real-time comprehension. Nonetheless, she continues to demonstrate creativity by using visual and narrative approaches to make learning more engaging. This shows that emotional engagement and two-way communication are crucial elements of basic education that are difficult to fully replicate through technology alone.

**Table 1. Respondent Profile**

| <b>Respondent Code</b> | <b>Name</b> | <b>Age</b> | <b>Role</b>        | <b>Institution Level</b> | <b>Digital Experience</b>        |
|------------------------|-------------|------------|--------------------|--------------------------|----------------------------------|
| R1                     | Ratna       | 42         | IPS Teacher        | Junior High School       | Basic (learned during pandemic)  |
| R2                     | Rizky       | 17         | Student            | Senior High School       | Intermediate (frequent user)     |
| R3                     | Leni        | 35         | Parent (Housewife) | Elementary School        | Low (non-user before pandemic)   |
| R4                     | Herman      | 50         | Principal          | Senior High School       | High (frequent training user)    |
| R5                     | Sari        | 29         | Homeroom Teacher   | Elementary School        | Intermediate (learning by doing) |

*Source : Data Processed in 2025*

Table 1 outlines the demographic and background profiles of the five interview respondents involved in the study. The participants represent various roles in the education ecosystem, including teachers, students, parents, and school leadership. The diversity of roles allows for a more comprehensive understanding of virtual and hybrid learning dynamics. The respondents’ digital experience levels vary significantly, ranging from low to high. For instance, while the principal (R4) is highly experienced due to frequent involvement in training, the parent (R3) had little to no exposure to digital tools before the pandemic. This variation highlights the differing capacities to adapt to virtual learning environments based on prior exposure and role within the educational setting.

Table 2. Key Categories of Findings

| Category               | Description                                                                | Examples from Respondents |
|------------------------|----------------------------------------------------------------------------|---------------------------|
| Technical Challenges   | Limited internet, poor device quality, lack of platform mastery            | R2, R3, R5                |
| Pedagogical Adjustment | Shifting materials to digital, combining online & offline teaching methods | R1, R5                    |
| Student Engagement     | Difficulties in maintaining focus, passive behavior during online sessions | R2, R5                    |
| Parental Involvement   | Parents acting as assistants, dealing with double burden at home           | R3                        |
| Institutional Response | Rotating classes, teacher training, quota assistance                       | R4                        |

Source : Data Processed in 2025

Table 2 categorizes the primary challenges and responses observed in the implementation of virtual and hybrid learning. Technical challenges, such as poor internet connectivity and lack of device access, were commonly reported, particularly by students and parents. Pedagogical adjustments were necessary, as teachers needed to reformat lesson plans and adapt to digital teaching tools. Engagement issues also emerged, as students often displayed passive behavior and struggled with focus. Parental involvement surfaced as both a necessity and a burden, especially for younger students who needed close supervision. On an institutional level, schools introduced support mechanisms such as teacher training and internet quota assistance, indicating proactive strategies to ease the transition.

Table 3. Thematic Summary of Interview Results

| Theme                | Sub-Themes                           | Insights                                               |
|----------------------|--------------------------------------|--------------------------------------------------------|
| Adaptation Process   | Learning curve, trial-and-error      | Teachers gradually develop digital confidence (R1, R5) |
| Learning Environment | Distractions at home, unequal access | Home conditions impact learning quality (R2, R3)       |

| Theme                  | Sub-Themes                                   | Insights                                          |
|------------------------|----------------------------------------------|---------------------------------------------------|
| Digital Inequality     | Limited devices and internet in remote areas | Still a barrier despite support (R3, R4)          |
| Emotional Interaction  | Loss of direct feedback, feeling isolated    | Teachers feel disconnected in online setting (R5) |
| Creativity in Teaching | Using visuals, storytelling                  | Teachers innovate to retain student interest (R5) |

*Source : Data Processed in 2025*

Table 3 presents a thematic synthesis of interview data, showcasing deeper insights into the lived experiences of participants. Adaptation to new teaching methods was described as a gradual and sometimes frustrating process, characterized by trial-and-error. The learning environment at home often full of distractions was shown to significantly influence student engagement and performance. Digital inequality remains a pressing issue, with respondents noting disparities in access to technology, especially in rural areas. The shift to online learning also disrupted the emotional dynamics of the classroom, as teachers reported feeling disconnected from students. Nonetheless, many educators displayed resilience and creativity, using storytelling, visual aids, and interactive methods to enhance student interest and maintain motivation in a virtual format.

### **Teachers' Experience in Virtual and Hybrid Learning**

Teachers expressed that the sudden shift from face-to-face to virtual and hybrid learning brought both challenges and opportunities. At the beginning of the pandemic, many teachers felt overwhelmed as they had to quickly master new technologies without adequate training. For example, some teachers initially struggled to operate video conferencing applications like Zoom or Google Meet and encountered difficulties uploading learning materials digitally. However, over time, teachers began to take the initiative to learn independently through online tutorials and share experiences with colleagues. This experience made them more confident and creative in designing engaging learning strategies. Some even found that hybrid learning offered greater flexibility, allowing them to accommodate students with different learning paces. Nevertheless, many teachers still felt dissatisfied because they were unable to build strong emotional connections with students something more easily achieved in face-to-face interactions.

### **Technical and Non-Technical Challenges Faced by Teachers**

Teachers and students faced a wide range of technical issues, from slow and unstable internet connections to inadequate devices such as laptops or smartphones. In remote areas, this significantly hindered the learning process and caused educational access disparities. Besides technical problems, teachers also experienced psychological pressure due to increased workloads. They had to prepare digital materials, manage virtual classrooms, and conduct online assessments within limited timeframes. Moreover, many teachers complained about the lack of support from their home environment, where they had to manage their families while teaching. These factors caused considerable mental fatigue and stress. On the student side, the lack of social interaction and feelings of isolation also negatively impacted learning motivation, which often declined during online learning. This situation required teachers to be more patient and creative in keeping students motivated and actively engaged.

### **Adaptation and Innovation Strategies in Learning**

To overcome these challenges, teachers implemented various innovative efforts to ensure learning remained effective. They began using multimedia technologies, such as creating engaging learning videos with animations and illustrations to make content easier to understand. Some integrated interactive quizzes and educational games to increase student participation and make the learning atmosphere more enjoyable. Additionally, teachers used online discussion forums and small study groups to foster virtual interaction and peer support. Teachers reported that collaboration with colleagues became crucial, as they shared tips and tricks for tackling both technical and pedagogical challenges. School support also played a vital role, especially through technology training and the provision of learning tools. Teachers' improved digital skills during the pandemic were seen as a key achievement in supporting the modern and adaptive transformation of education.

### **Teachers' Perception of Hybrid Learning Effectiveness**

In general, teachers viewed hybrid learning as an effective model when supported by adequate facilities and readiness. Its main advantage is the flexibility of time and place, allowing students to study independently and access materials anytime. However, teachers also pointed out several drawbacks, particularly in monitoring and assessment. Difficulties in tracking student engagement in real-time made teachers uncertain about actual learning outcomes. Additionally, reduced peer interaction might hinder students' collaboration and communication skills. Teachers hoped hybrid learning could continue to be developed and refined to become a sustainable and high-quality educational alternative—not just a temporary solution.

### **Impact of Hybrid Learning on Student Engagement and Achievement**

Hybrid learning has had varied impacts on student engagement and achievement. Students with adequate access to technology and supportive home environments tended to show higher learning motivation and achieved satisfying academic results. Conversely, students with limited access or less conducive home conditions often experienced reduced motivation and difficulty keeping up with lessons. Furthermore, distractions at home significantly affected students' focus. This highlights that the home learning environment is a critical variable in determining hybrid learning success. The study emphasizes the importance of parental roles in guiding and supporting children's learning during borderless education.

### **Support and Facilities Needed to Optimize Hybrid Learning**

From interviews and observations, it was revealed that teachers greatly need continuous support to ensure effective hybrid learning. Systematic and regular technology training is a primary requirement to enhance teachers' digital competencies. Moreover, adequate technological infrastructure—such as fast internet and proper devices is crucial, especially in underdeveloped areas. Teachers also hoped for more flexible policies from schools and the government regarding workload and teaching hours so they could manage their tasks more effectively without becoming exhausted. Support from parents and the community is also essential to create a healthy and productive hybrid learning ecosystem. Overall, synergy among education stakeholders is key to delivering sustainable and high-quality borderless learning.

### **The Role of Technological Adaptation in Learning Transformation**

Teachers' adaptation to technology is a fundamental factor in the successful implementation of virtual and hybrid learning. At the start of the COVID-19 pandemic, many teachers faced major challenges due to a lack of technical skills and experience in using digital platforms such as Zoom, Google Classroom, and Microsoft Teams. However, over time, through formal training and self-learning, teachers' digital

competencies improved significantly. A 2021 survey by the Ministry of Education and Culture revealed that around 75% of teachers felt more confident using educational technology compared to before the pandemic. This increase in digital literacy opened opportunities for teachers to be more creative and innovative in delivering materials, such as using interactive videos, online quizzes, and virtual discussion forums, which significantly improved student engagement. Research by Brown & Green (2020) also supported that teachers' ability to integrate technology had a positive impact on student learning outcomes, especially in enhancing motivation and understanding.

### **Infrastructure Challenges and Technology Access Gaps**

Despite the benefits of technology, infrastructure challenges remain a significant barrier, especially for students in remote areas or from low-income families. According to the Indonesian Internet Service Providers Association (2022), about 30% of rural areas still lack sufficient broadband internet access, making it difficult for students to consistently participate in virtual classes. This access disparity widens the educational gap, as urban students have much better learning opportunities. Additionally, the availability of devices like laptops or tablets is also an issue. Many students had to share one device with family members, affecting their concentration and learning quality. Therefore, governments and schools must address this issue seriously through device subsidy programs, free Wi-Fi hotspots, and equitable network infrastructure development to ensure equal educational access for all students.

### **Social Interaction Dynamics in Hybrid Learning**

Hybrid learning offers flexibility through a combination of in-person and online formats but has a significant impact on social interaction. The lack of face-to-face contact reduces non-verbal communication that is essential for building trust and emotional closeness between teachers and students. This affects students' learning motivation and active participation. A study by Järvelä et al. (2021) found that students who interacted more frequently with teachers and classmates tended to be more engaged and achieved better academic outcomes. To address this issue, teachers need to develop teaching methods that maximize virtual interaction, such as forming small online discussion groups, collaborative activities, or interactive Q&A sessions that foster a sense of community. Additionally, using social features in learning platforms like chat and discussion forums can help maintain interpersonal communication.

### **The Influence of the Home Learning Environment on Learning Effectiveness**

The home environment plays a crucial role in the success of online and hybrid learning. Students with dedicated study spaces, parental support, and a conducive atmosphere were able to focus and be more productive while studying from home. A UNICEF (2020) survey found that about 65% of students with family support and adequate study space were able to maintain or improve their academic performance during remote learning. Conversely, students in noisy homes or with household responsibilities, or lacking supervision, struggled with learning and motivation. This reinforces that successful borderless learning depends not only on technology and teaching methods but also heavily on social support and students' psychological conditions at home. Thus, it is essential for schools and teachers to actively involve parents and educate them on how to support their children's learning at home to ensure optimal outcomes.

### **Workload Management and Teacher Well-Being in New Learning Models**

Hybrid and virtual learning models significantly increased teachers' workloads. In addition to preparing traditional materials, teachers also had to develop digital content, manage online classrooms, and conduct more intensive monitoring and assessments via

digital platforms. This workload often led to stress, mental fatigue, and burnout, affecting teaching quality and overall well-being. A 2021 survey by the International Federation of Teachers reported that 68% of teachers felt their workload had increased during remote learning, contributing to lower job satisfaction. Therefore, it is critical for educational institutions and governments to implement policies that support teacher well-being, such as realistic working hours, stress management training, and access to mental health services. These policies help maintain teachers' motivation and productivity to ensure high-quality teaching.

#### **Potential and Limitations of Hybrid Learning as a Future Education Model**

Hybrid learning has significant potential as a future educational model because it combines the strengths of in-person and online learning. It offers flexible learning times and locations, allowing students to access materials whenever they need. This aligns with 21st-century learning principles that emphasize independence and personalized learning. However, hybrid learning also presents limitations, such as difficulties in supervising students' learning processes directly and reduced social interaction essential for developing soft skills. Evaluations from various schools showed that without proper management, hybrid learning could result in educational inequality. Therefore, continuous development and innovation are required, such as integrating AI technology for learning monitoring and enhancing digital social interaction, so that hybrid learning can function optimally and sustainably.

#### **The Role of Stakeholder Collaboration in Hybrid Learning Development**

The success of hybrid learning heavily relies on synergistic collaboration among stakeholders, including teachers, students, parents, schools, and governments. Teachers need continuous training and technical support to maximize educational technology use. Parents should be actively involved in supporting home learning and understand their role as learning facilitators. Governments and educational institutions must provide infrastructure, supportive policies, and adequate resources. Best practices in several regions show that active stakeholder involvement can create conducive learning environments, enhance hybrid learning effectiveness, and reduce access gaps. Therefore, this collaborative effort must be strengthened through open communication, community engagement, and well-structured empowerment programs.

### **CONCLUSION**

This study emphasizes that wall-less learning through virtual and hybrid models brings significant changes to the world of education, offering both opportunities and challenges. The adaptation of technology by teachers and students plays a crucial role in the successful implementation of this learning model, although limitations in infrastructure and technology access remain serious obstacles, especially in resource-limited areas. The reduced social interaction in hybrid learning also affects students' motivation and engagement, requiring specific strategies to maintain virtual communication and a sense of togetherness. Moreover, the home learning environment and active parental involvement have proven to be critical factors in determining the effectiveness of online learning. The increased workload experienced by teachers during this transition also demands greater attention to their well-being to ensure the quality of instruction. Overall, hybrid learning holds great potential as a future educational model if supported by strong collaboration among stakeholders and the

equitable and sustainable development of technology. This study encourages the formulation of comprehensive policies and innovations to maximize the benefits of wall-less learning in order to create inclusive and high-quality education for all learners.

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