Harmonising Face-to-face and Online Instruction in Hybrid Learning

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ABSTRACT

Massive school closures cause learning loss across the student cohort, exacerbating issues of inclusivity in education and highlighting inequities in learning. This warranted serious research as it often revealed deeper structural issues within the education system. COVID-19 presented a golden opportunity to research this learning loss. During the COVID-19 pandemic, schools worldwide were abruptly closed to safeguard students' safety and curb the spread of the disease within communities. Due to the fear of severe learning losses, an alternative approach called Hybrid-Learning was proposed. In this model, students could attend class either physically or online. This study seeks to understand teachers' perspectives and to explore the challenges and readiness for harmonizing face-to-face and online teaching within the hybrid learning strategy. A qualitative study was conducted to explore the challenges faced by teachers in 23 Malaysian primary schools and discover how they overcame them. Data were obtained from semi-structured interviews and focus group discussions with teachers and school principals from the Ministry of Education, Malaysia, and from the open-ended section of a questionnaire. The 23 sets of interview transcripts, as well as the 184 open-ended surveys collected, were thematically analysed using NVivo 12, and the themes unique to the Malaysian context were generated and supported by the literature. Findings from this study have added technical and parental presence, expanding the Theory of Community Inquiry to help explain the role of cognitive, teaching, and social presence in students' learning. In conclusion, this study found that Malaysian schools were not ready to implement Hybrid-Learning, which could have led to subsequent learning loss.

Keywords: Challenges faced by teachers during the COVID-19 pandemic, face-to-face, Hybrid Learning, learning loss, Malaysian schools, online, readiness to implement hybrid learning

INTRODUCTION

The emergence of mass public schooling after the Second Industrial Revolution has expanded education access and entrenched schooling as a social right for all children. However, the historical trajectory of education reveals its vulnerability: war, natural disaster, and epidemic have repeatedly disrupted schooling and exposed systemic inequities. Learning loss during crises is not a temporary decline in academic performance but a manifestation of a deeper structural phenomenon that reveals digital divides, fragile support systems, variations in school and teacher readiness, and educational inequity (UNESCO, 2021; Zhao, 2022). These disruptions challenge the global commitment to inclusive and equitable quality education, as articulated in UNESCO's SDG 4, by revealing that "education for all" becomes fragile when systems lack resilience. Understanding learning loss in crisis contexts must therefore be embedded within a broader conceptual framework that links systemic vulnerability, equity, and rights-based perspectives. The COVID-19 pandemic offers a good case study for learning disruption during a crisis and learning loss.

During the COVID-19 pandemic, many schools worldwide were temporarily closed due to movement control orders (MCOs) issued by their respective governments. Physical classrooms were prohibited, and conventional

learning activities were greatly restricted. However, around mid-2020, students were allowed to return to physical classes at certain times, while at other times they stayed home and attended classes online. This cycle of school openings and closings continued until the end of 2023. During this time, many countries adopted hybrid learning (HL, hereafter). According to a UNICEF Report (2020), a "hybrid" mode of learning predominated during the COVID-19 pandemic, with the entire cohort of learners attending face-to-face and/or online classes (UNICEF, 2020). HL has attracted significant attention from researchers and educational practitioners during and after the COVID-19 pandemic (Moore, 2022; Lee, 2023; Rajamanikam, 2023; Ng et al., 2024a; Ng et al., 2024b; Shanmugam et al., 2025).

Hl, defined as the purposeful integration of face-to-face and online instructional models, has since taken root as an alternative pedagogical approach and continues to capture attention as educators explore inclusivity in education to expand learning opportunities at all times. HL is also being kept alive lest the world be hit with another catastrophe that would once again restrict physical presence in the classroom. Research on HL has become increasingly important in the post-COVID period, as the pandemic fundamentally reshaped the ecology of teaching and learning worldwide. It revealed enduring insights into how digital tools, flexible modalities, and diversified learning environments can support or hinder educational quality.

Thus, the main objective of this study is to explore the challenges and readiness for harmonising face-to-face and online teaching in HL in Malaysian primary schools. The following are the three main research questions that guided this qualitative study:

RQ1: What were the challenges faced by teachers in harmonising face-to-face and online teaching during Hybrid Learning?
RQ2: How did the primary school teachers attempt to overcome the challenges?
RQ3: In what ways does the current form of hybrid learning reflect the readiness of Malaysian primary schools to implement and harmonize the blend of face-to-face and online learning?

BACKGROUND OF THE STUDY

It would be a misconception to view HL as a dichotomy between face-to-face and remote or online learning; rather, it should be understood as a whole, with the same learner engaged in learning across both modes. The effectiveness of HL depends on how its blend of face-to-face and remote learning is implemented and on its alignment with students' needs (Ng et al., 2024). HL is thus about harmonising face-to-face and remote learning.

Just as harmonisation in music brings different notes or sounds into balance and accord, harmonising the two modes of teaching and learning presents challenges and demands careful attention. In a bid to support various levels of academic activity, most higher education institutions in the post-pandemic era have implemented a flexible hybrid learning model (Kasinathan, 2023; Iskandar & Chan, 2023; Jeevita, 2024). In tertiary education, the harmonising of these two modes of learning, online and face-to-face, comes together more readily. This is likely because there is a better conceptual knowledge of HL, which is made possible by their relative technological readiness. However, in primary schools, preparedness for HL is far less evident, as school management typically waits for directives from higher authorities, and many teachers and parents remain insufficiently prepared for the digital mode of instruction required in a hybrid approach (Chan, 2020; Jeevith, 2024).

In their systematic literature review of 47 studies using a PRISMA meta-analysis, Raes et al. (2020) found that existing research suggested cautious optimism about synchronous HL, which creates a more flexible, engaging learning environment compared to fully online or entirely on-site instruction. However, the Malaysian educational institutions were generally not included in their study. In response to this exclusion, Ng et al. (2024) conducted a large-scale nationwide data collection exercise across Malaysian schools in 2023 to gain deeper insights into the implementation of HL. One of the initial findings was that synchronous online learning has been conducted more frequently than asynchronous online learning, and engagement was a prominent issue (Ng et al., 2024). Despite the study's findings, recent discourse on HL in Malaysia suggests that the readiness of learning institutions remains largely unassessed or is generally perceived as low (Jeevita, 2024; Rajamanikam, 2023).

At the same time, discussions within the Malaysian educational sphere have primarily focused on the implementation of HL in higher education, particularly on the effectiveness of the approach and the balance between its two components - physical and online learning (Azizi Ahmad, 2020; Iskandar, 2023; Jeevita, 2024; Kasinathan, 2023). However, questions remain regarding the readiness and challenges of harmonising face-to-face and online instruction at a more delicate level, namely within Malaysian primary schools, which collectively serve an estimated 2.8 million young children (Siddharta, 2025).

Theoretical Framework
The Community of Inquiry (CoI) Model Theory (Figure 1), formulated by distance education scholars Randy Gar-

Rison, Terry Anderson, and Walter Archer, among others, is instrumental in understanding HL. CoI theory emphasises the collaborative construction of learning and critical reflective dialogue as the implementation concept. It provides a unique perspective, method, and tool for both online and face-to-face learning. This theoretical model can be a practical guide for online teaching, blended learning, and curriculum development and implementation. The three core elements of cognitive presence, social presence, and teaching presence interact to jointly construct effective collaborative knowledge construction by the learner.

Figure 1: The Community of Inquiry (CoI) Model

Cognitive presence examines how learners construct meaning. Research in HL environments has shown that they foster cognitive development, which, in turn, enhances learners' critical thinking and problem-solving skills. Findings from a study conducted by van der Rijst et al. (2023) revealed that HL enhanced learner motivation and engagement in the learning process. On the other hand, researchers such as Gunawardena and Zittle (2021) highlighted that social presence significantly influenced learner satisfaction online, which is paramount for learning gains. Likewise, there is no denying that teacher presence is crucial to the success of any learning environment, including HL. Li and Wang (2024) investigated teacher presence in students' online learning during the pandemic. They reported that it played a significant role in the learning experience, with facilitating interaction proving an influential factor in effective learning gains. Findings from these studies further revealed that embracing the three core elements of the Community of Inquiry (CoI) Model Theory is pertinent when implementing HL.

METHOD

Qualitative research is a good design to adopt for an in-depth study on a phenomenon of importance. This qualitative study collected data from two sources: (i) open-ended questions of a questionnaire that examined teachers' perspectives on the implementation of HL, and (ii) interviews conducted in a total of 23 primary schools under the Ministry of Education (MoE), Malaysia. The demographics of these 23 schools are shown in Tables 1 and 2; they differ in their medium of instruction and ethnic group composition. A questionnaire (with the open-ended questions) was administered to these school principals and teachers during the school visit; a total of 184 questionnaires were collected.

The study's validity and reliability were established through member checking, triangulation, peer review, and the systematic collection and interpretation of data. In line with research ethics, prior permission was obtained from the MoE Malaysia. Respondents in the study were also informed of the study's aim and given the option to withdraw at any time. Furthermore, anonymity was ensured by assigning all respondents pseudonyms to maintain confidentiality.

Table 1: Demographics of the schools

Type of School	No. of Participating Schools	No. of principal and teachers interviewed*	Medium of Instruction	Major Ethnic Group in the School
National Type public schools (*Sekolah Kebansaan, SK*)	12	60	Malay Language	Malay
National Indigenous Children (*Sekolah Kebangsaan Orang Asli, SKOA*)	3	10	Malay Language	Indigenous people
National Type Chinese vernacular schools (*Sekolah Jenis Kebangsaan Cina, SJKC*)	4	24	Chinese Language	Chinese
National Type Tamil vernacular schools (*Sekolah Jenis Kebangsaan Tamil, SJKT*).	4	24	Tamil Language	Tamil

Note: (i) Population of primary schools in Malaysia: total =7780, SK=5846, SJKC=1304, SJKT=528, SKOA=(official data as of 2024 December).

(ii) *Group interviews were conducted with teachers, while school principal were interviewed separately, in each of these schools, at least the school principal or the senior assistant was interviewed. The number of interviewees refer to both school principal, senior assistants and teachers. All being interviewed have at least 5 years of teaching experience.

Table 2: Geographical Location of Participating Schools

Location of Schools	No. of Participating Schools
Urban area	12
Rural area	11
TOTAL	23
Northern Zone of Peninsula Malaysia	6
Central Zone of Peninsula Malaysia	9
Southern Zone of Peninsula Malaysia	4
East Malaysia (state of Sarawak)	3
TOTAL	23

FINDINGS AND DISCUSSION

Data collected from two sources: (i) from the 184 teachers and principals who responded to the open-ended questions in the questionnaire, and (ii) from interviews conducted with school principals and teachers from the 23 schools. These data were analysed, yielding seven (7) primary themes (Table 3) that indicate the different challenges and limitations teachers faced in conducting HL.

Table 3: Challenges and limitations of HL

Main Themes	Number of responses (%)
Poor or no internet connectivity	69 (37.50%)
Students not responsive	16 (8.69%)
Absent from class (face-to-face and online)	11 (5.97%)
Lack of focus among students	7 (3.80%)
Lack of ICT skills	6 (3.26%)
Cannot / limitation in handling a hybrid learning environment	4 (2.17%)

The findings from Table 3 were further corroborated by those from the Focus Group Interview (FGD) sessions, as illustrated in the following sections. The constant comparative method and thematic analysis procedure were adopted in data analysis. Interview transcripts were closely examined to identify patterns, and initial codes were developed. The initial codes were subsequently re-examined, and additional conceptual themes emerged. These data and themes were provided to the interviewees and experts to validate the analysis further.

In this study, the first research question is to explore the challenges teachers face in harmonising face-to-face and online teaching during HL. Analysis of data revealed five challenges. They are: Connectivity, Devices and Resources, Student Engagement During Online Teaching & Learning Process, Planning and Setting Expectations for Students, Problem with Handling Both Physical and Online Students Simultaneously and Parental Involvement. The following discussion expands on each of these challenges.

First challenge: Connectivity, Devices and Resources
Complementing findings from Table 3 are the following excerpts from the FGD interview sessions, which illustrate these concerns:

> *"Our internet was very bad…. Like in this school, only this block [building] can receive…. Sometimes we have to use teachers' personal hotspots… Many a time, we have to download what we want to use first…. then we resort to using WhatsApp."* (School CCR)

> *"There is really a problem with the internet; students jump here and jump there, come in and go out [of the virtual classroom]. When we stay at home during MCO, there is an internet problem, we have to find an alternative, use Streamix [a local internet provider] [or use Google Meet."* (School SCR)

> *"Challenge, some [students] use their mother's handphone, 'clash' [cannot get in online], so we [teachers] wait for students [in the virtual classroom], because they cannot come in, or maybe they wake up late, 2 or 3 students will be like that. Students said the line was not good."* (School SCR)

Since Malaysian families are generally large, the authorities could have anticipated the connectivity and device shortage during the planning of HL. Most of the time, internet connectivity was inconsistent. In addition, the majority of these families belong to the middle and low-income groups, so there are insufficient devices to be shared among the school-going children at any one time. Despite the government's best efforts to address hardware and software issues, both connectivity problems and insufficient device supply remained largely unresolved until the end of the pandemic. There was a general sense of relief amongst parents and teachers when students were allowed to return to physical attendance in schools after the pandemic.

Many studies have shown that a lack of internet connectivity and insufficient devices are often significant hindrances to learning, especially for disadvantaged children (Charland et al., 2021; Ng et al., 2024b). Ensuring that students have access to sufficient learning resources can be a complex undertaking. As teachers and students navigated HL, it was a significant source of stress for the school since a lot of teachers' effort and time were needed to identify each student's technical and resource requirements, addressed those needs, and provide a meaningful and feasible learning plan (Arvisais et al., 2020), taking them (teachers) away from their actual task of teaching.

Second challenge: Student Engagement During Online Teaching & Learning Process
Most of the teachers expressed their frustration because they lacked sufficient experience in online teaching and learning (T&L). The following interview excerpts demonstrated the lack of support, engagement, and occasional interference from parents that teachers faced when implementing HL:

> *"When they were online, they might go missing, a lot of cases of bluffing teachers that they went to the toilet, but their friend said this student is playing games or streaming."* (School CCR)

> *"During online learning, students were not active; they did not answer questions. To us, online learning was not successful; the line was bad. When they [students] return to school for face-to-face sessions, they cannot read or write because during online learning, there was no writing, and they are also poor readers."* (School CTR)

> *"Sometimes parents disturb, they keep passing by the students, so students turn their heads here and there. Some [parents] watch TV [in the same room where the child is doing an online lesson], which disturbs students."* (School STR)

Most of the teachers who participated in the Focus Group Discussions (interviews) lamented that student involvement was poor during the online T&L process, echoing the findings from the open-ended questionnaire shown in Table 3. Additionally, many students were unresponsive and paid little attention. Thus, most teachers believed that learning gains were minimal, and they were pessimistic about whether they had met the day's learning objective. Since the learning gap was not filled, this lack of participation extended to face-to-face sessions.

Similar engagement challenges were documented by Indonesian researchers Ida Ayu and Kusuma Yanti (2022), who noted that the primary school students in their study were easily distracted and had difficulty maintaining their attention. They attributed this phenomenon to a lack of motivation for online learning and to limited communication and social skills. Similar phenomena of students' lack of motivation for online learning were also highlighted by Ng et al. (2024a, b), in a UNESCO IBE study involving six (6) countries on HL during the COVID-19 pandemic. Lakhal et al. (2020) found that technical difficulties, such as "the PowerPoint slide will not turn" and "cannot hear clearly," were examples of problems with online learning platforms that affect engagement. Such glitches lead to frustration, loss of interest, and reduced focus on learning (Lakhal et al., 2020). Subsequently, synchronous HL environments that deliver lessons to students in both online and face-to-face learning scenarios simultaneously complicate learning. This is particularly problematic when online learning platforms experience connectivity or technical issues that force the lesson to be paused or stopped (Wang et al., 2017).

Third challenge: Planning and Setting Expectations for Students
Since the COVID-19-induced school lockdown was not planned, teachers were caught off guard and unprepared for the new 'normal' of online and hybrid learning environments. Following the initial phase of shifting their regular teaching methods to online or remote learning, schools began asking parents to pick up their children's schoolwork so they could continue learning. After realising the initial setback and the teachers' and school administration's lack of readiness, MoE, through its circular, directed schools to prioritise specific subjects and choose topics appropriate for online learning. Many teachers in this study expressed their frustration and complained that the MoE did not help them create realistic learning goals, despite the MoE's realisation of this necessity. In a related study conducted in Canada, it was reported that there was a lack of this practice of scaffolding teachers in identifying curricular content and specific elements that students can work on, ideally at their own pace and according to their own interests and abilities during HL (Arvisais et al., 2020; Reimers & Schleicher, 2020).

Lesson planning was a challenge since teachers were not trained or prepared to teach via HL mode. In addition to limited time and resources, teachers felt that they could not provide effective online T&L suitable for HL (2024). Moreover, for students to understand learning, they need to view it as a seamless endeavour. In other words, it was crucial to harmonise face-to-face and online learning. A student aptly expressed this in this study, as illustrated below:

> *"I am very anxious because I do not know if I am coming to school tomorrow, I am afraid
> I will miss out on learning."* (School CKU)

This excerpt indicated that the student equated learning solely with coming to school. Researchers such as Chardland et al. (2021) and Ida Ayu & Kusuma Yanti (2022) have also noted that teachers in their countries have expressed dissatisfaction with their lack of expertise in conducting effective HL. These teachers complained that they had difficulty balancing T&L, as some students were in class virtually while others were in class physically.

Teachers in Quebec faced a similar difficult situation, in which they realised the need to strategically "reduce their expectations for all students and identify a few specific areas they want students to focus on while ensuring that expectations are clear on both sides" (Arvisais et al., 2020). This means that the choices of activities for groups of students can differ; some may be allowed to work at their own pace, while others may need more assistance with resources, devices, and motivation (2024).

Teachers in this Malaysian study admitted that they were more occupied with creating lesson plans and resources for the online platform and paid little attention to what they should be teaching. In his study, Dede (2020) also reaffirmed that teachers typically follow the curriculum content and focus less on incorporating pandemic-related topics into their lessons and optimising current challenges. Additionally, the teachers' responses did not provide evidence that HL gave students the freedom to incorporate their interests and concerns into their education. As a result, students found the lessons dull because the new learning opportunities were not taken advantage of (e.g., capitalising on data and information about the COVID-19 virus and the pandemic's spread). Furthermore, there was a lack of participation in learning, such as inviting others through online sharing. At the same time, since

primary school students are still relatively young and need peer social presence for learning, there have not been enough attempts to integrate it into teaching and learning.

Fourth challenge: Problem with Handling Both Physical and Online Students Simultaneously
During the school lockdown, schooling in Malaysia was conducted in a hybrid mode to avoid close social contact, as class enrolments in Malaysian schools typically average 40 or more students per class. Teachers encountered fewer challenges when the entire class was conducted online or in person, but they encountered significant challenges when a portion of the class was conducted online, and the remainder was conducted in person, as the following extract illustrates:

> *"Sometimes I ask teachers in the staff room to help me with technical issues, but when I go to the classroom, why this cannot connect, then I have to ask the teacher next door, so I am wasting his time and my time and students in both classes [physical and online], just because of one student at home [this student is either sick or have contact with other Covid-19 patients]."* (School CCR)

Technical issues, such as not connecting, not hearing, and students dropping out of the virtual screen, occurred partly because schools were operating HL with limited devices and connectivity; in many cases, there were no extra cameras or microphones. Teachers had to sit at their laptops; otherwise, those online could not hear or see them if they wrote on the blackboard or walked around the physical classroom. Since technical problems were a common occurrence at schools, several of the teachers came up with their own solutions, such as "give homework to those who could not come but stayed at home because of Covid, then from their homework we know their understanding and asked them to call the teachers or teachers call them to explain to them (School CCR).

In their study, Ida Ayu and Kusuma Yanti (2022) reported that all participating teachers preferred either fully face-to-face or fully online classrooms, rather than a hybrid model. These findings concur with another study by Ng et al. (2024b), which examined teachers and school principals in Malaysian schools and in six other countries. Both studies concluded that a hybrid classroom should not be considered an option at the primary level because it does not support the characteristics of young learners' learning. In addition, the challenge of ensuring that both in-school and online students receive the same treatment during T&L was difficult to manage (Ida Ayu & Kusuma Yanti, 2022). Teachers experienced significant stress when their time and attention were split between online and in-person students. Proper preparation, as well as administrative and technical support, was needed, but many teachers did not receive it.

Fifth challenge: Parental Involvement
Harmonising learning spaces between physical classrooms at school and at home requires parental involvement. The home was often not the ideal learning space, not only in its physical set-up but also in the support provided. During the initial stage of the COVID-19 lockdown, when Malaysian schools were closed, parents had to travel to the schools to collect homework or notes for their children to study at home and continue learning. They also had to guide the younger children in handling the computer and the handphone during online teaching. However, some parents were either not well-versed in or ignorant of online learning and therefore offered little guidance to their younger children. On the other hand, some parents often interrupt or intervene during their children's online lessons, disrupting the learning process. Nevertheless, there were also cases in which children were left with their grandparents while their parents worked elsewhere and could not come home every day due to the COVID-19 movement control measures. Some positive and some negative comments on parental involvement are shown in the following excerpts:

> *"Teachers felt disturbed when there was the presence of parents, when parents 'sibuk nak jawab' [parents answered on behalf of students]."* (School SKU)

> *"Some parents call and tell us, 'My child is stressed out', and 'Cannot join the class". Every day we teach one subject for one hour. Five subjects or four subjects each day, we don't know how students can be stressed out. They said there was a lot of homework. But we don't always give homework."* (School NTU)

> *"Unlike students in the town, in the village, we need to prepare more material, no learning atmosphere at home. In this village, many students live with grandparents, their parents work elsewhere. Grandparents do not know how to see the students' homework, unlike*

> *parents who might be more serious with their children's homework. Grandparents*
> *only see if the grandchildren take out their homework to do only, they do not check,*
> *they pamper them and 'layan' [entertain] them.* '(School SCR1)

According to Charland et al. (2021), parental support and guidance played a pivotal role in supporting teaching and learning during the COVID pandemic. A study conducted by Moore (2022) indicated that the dilemma of setting instructional expectations for adults at home creates pressure, as the adult stakeholders have not been trained in what to teach or how to guide the children. A study by Garbe et al. (2020) also found that parental involvement was a positive factor that significantly contributed to students' online learning success during the pandemic. They, however, stressed that parents need training to achieve successful learning gains and that parents also need to be made aware of cyberbullying and misuse of social media.

Next, the second research question was to explore how primary school teachers overcome these challenges. The analysis of the data reveals two main strategies used by the teachers and schools in this study to overcome the challenges: Collegiality among Teachers and Supportive and Efficient Leadership.

First strategy: Collegiality among Teachers
To overcome resource constraints, collegiality among teachers was found to be one pillar that sustained HL during the school lockdown. After the initial hiccups and uncertainty, teachers soon began seeking ways to help themselves harmonise face-to-face and online learning. There were many examples of how teachers engaged in 'self-help' by creating learning communities within schools, across schools, within subjects, and across subjects. This collegiality among teachers helped them survive this crisis. Given below are some excerpts that highlight aspects of collegiality that teachers embraced:

> *"The senior assistant was instrumental in managing the school during the movement control*
> *order. She is an elderly lady who talked about her initial inability to handle the digital challenge*
> *of teaching online; however, things changed after a little while. Much learning takes place*
> *between teachers; it is like the creation of a learning community among teachers."*
> **(**School CCR_RN**)**

> *"The collegiality between the teachers is strong. The key person is a science teacher who has*
> *won many prizes for environmental projects. He is a leading figure there; he told us about how*
> *he used his innovative ideas to teach during the school lockdown and how he shared his ideas*
> *with other teachers, which the other teachers concurred."* (School CTU_RN)

> *"I follow some teachers' video clips [of their own teaching] which they uploaded on YouTube.*
> *Throughout the country, many teachers shared their teaching. I googled a lot and spent*
> *much time looking at them. I don't use them to teach; I mainly use them as a reference."*
> (School CCR)

In this study, some of the teachers' descriptions of their experiences during the COVID-19 pandemic were profoundly inspiring. Despite the initial chaos and uncertainty, there was a lot of positive energy among the teachers. Teachers' self-help, resource sharing, and collective action were decisive in bringing about change during COVID-19. Regardless of their school principal's leadership quality, some teachers stood out as leaders in seeking innovative digital tools to support teaching. In contrast, others guided the rest in sourcing online materials or YouTube video clips on effective online teaching.

During the pandemic, many WhatsApp and Telegram groups were set up by teachers across the country, helping both motivate and provide a platform for them to share their initial 'grouses' and later their 'innovative ideas'. Teachers discovered that they were more adept at solving their problems than the administrators in the education offices. "They felt that they could manage even without instruction or support from education departments" (School CKR). Teachers were the 'architect' and 'manager' orchestrating the connection between the physical and online spaces during HL. They set the scene for HL with the support of school leaders, and many effective instructional strategies emerged from individual teachers' creativity during the COVID-19 school lockdown (Dede, 2020; Reimers, 2022). Dede (2020) candidly used 'to describe his tale of "*a community coming together to add tasty offerings to what began as a pot of stones and hot water, resulting in innovative and delicious nourishment for all".* The essence of 'stone soup' aptly describes what has happened in some of the sample schools visited in this study in Malaysia as well.

Second strategy: Supportive and Efficient Leadership

The schools in this study can be categorised into two: those that adopt a positive attitude and those that adopt a negative attitude. The latter are those who waited for instructions and assistance from the authorities. Those embracing positive attitudes were seen putting in place a systematic, targeted approach, as exemplified by the following school, NCU.

> *"The announcement of MCO was very sudden. Through the media, we knew about the lockdown, but at that time, no official letters from the education department. We waited for a few days, and then letters came down, and then we informed the parents. Then we follow the procedure stated [to do online]. Then we have to decide what to do with the students. The problem at that time was that parents and children did not know how to log in to the account (Google account), especially those with problem devices and connectivity. We tried to find people to sponsor devices, etc., but finally we got a second-hand computer that was being reconditioned and gave it to a student. We organize an online class timetable."* (School NCU)

The school leadership at NCU immediately provided a supportive environment and an effective communication channel for teachers, students, and parents to enable continuous learning. This support is an example of a good characteristic found in other schools that showed a positive attitude. Studies showed that a supportive environment is crucial for fostering open communication and collaboration, encouraging school management, teachers, and parents to have constructive discussions to address their concerns about children's academic progress, especially in rural schools (Jerry & Md Yunus, 2021). In their study, Raghunathan et al. (2022) found that teachers exhibited high resilience and served as leaders of children in the classroom when they received trust and support from the school, family, colleagues, and students. Similarly, cognitive reappraisal and social support motivated both teachers and students to cope with the pandemic (Kaye-Kauderer et al., 2021).

According to Appolloni et al. (2021), the following three aspects are crucial to preserve and maintain during the pandemic experience: (i) strong leadership that can transmit a sense of management for the entire situation; (ii) effective communication with stakeholders; (iii) a sense of community within the school and among teachers. These three dimensions were found in the sample schools that showed positive vibes during HL, accounting for about one-third of the schools examined in this study.

Finally, the third research question was to investigate the readiness of Malaysian primary schools to implement hybrid learning. During FGD interviews, teachers recalled moments of uncertainty during the school lockdown, which lasted from the first quarter of 2020 to the beginning of 2023. It was "a period of initial shock and feeling of loss, no one knows what to do". When it became clear that the pandemic was here to stay, approximately two weeks after the first announcement of the school lockdown, the education authorities began rushing to find a solution so that education could continue. The concept of remote learning was proposed to allow schools to continue operating while avoiding close contact with others to reduce the spread of the pandemic.

The shift from face-to-face (f2f) classroom attendance to remote learning, including online learning, appears to be feasible. However, there was a lack of awareness of the differences between f2f and online learning, and insufficient focus on connecting these two learning modalities. When the researchers visited schools to interview teachers, they found that teachers' general comments were: "the authority does not know what they are doing," and "PdPr" (home-based learning, the term used to describe HL in Malaysia) was ineffective. The schools and teachers, on the other hand, have risen from "do not know what to do" to "we can figure out what to do on our own". Findings from this study aligned well with the Theory of Community Inquiry, which emphasised cognitive, teaching, and social presence in developing the community of learning, especially during HL. However, two extra components that can be added are (i) technical and resource support, and (ii) parental presence for this theory to be relevant to HL. Thus, four main conclusions can be drawn from this study concerning the readiness of schools and teachers to conduct HL.

Firstly, the efficacy of HL was greatly hindered by a lack of comprehensive planning. A glaring oversight by the authority is related to technical and resource support - the provision of digital infrastructure, devices, and connectivity. Although most countries, including Malaysia, have made significant investments to level the playing field in digitalizing public education, particularly for the underprivileged and marginalized families, the COVID-19-induced school lockdown exposed the lack of readiness and preparation for schools to transition to digital education. Complicating this challenge is the lack of teachers' digital competence in applying pedagogical approaches with digital tools.

Secondly, the implementation of HL was affected by the pedagogical approach adopted. As teachers seek to harmonise face-to-face and online learning spaces, they must find creative ways to deliver lessons that engage students. Since many teachers were preoccupied with ensuring students attended class, whether in person, remotely, or online, they were unable to fully utilise the teaching presence (as proposed in the Theory of Community Inquiry) or play the role of an innovator in teaching.

Thirdly, although primary school students still require the social presence of their peers in learning, there have been insufficient efforts to incorporate peer social presence into T&L. Ultimately, the cognitive presence was unable to manifest.

Fourthly, parents played an essential role in HL as children learned at home during online learning. Parental presence is important to ensure the success of HL. However, parental support was hampered by their lack of knowledge of learning theories, content, and pedagogy. Thus, due to this ignorance, they sometimes hindered the progress of learning. Thus, in summary, there is a lack of readiness to implement HL during the COVID-19 school lockdown.

CONCLUSION

The hybrid mode, formally designated by MoE Malaysia as "face-to-face and home learning (PdPr)", was used to deliver T&L in Malaysian primary schools during the COVID-19 pandemic. The "home learning' (PdPr) was done online or with printed modules that parents could pick up from the school office. This study revealed that online learning presents the most challenges. It can be concluded that harmonisation between face-to-face and online learning was challenging and not optimised. In other words, readiness to conduct HL among teachers in Malaysian primary schools was found to be lacking, and hence, steps need to be taken to address these limitations.

In terms of theoretical implications, readiness-related challenges can be summarised based on the Theory of Community Inquiry as cognitive presence, teaching presence, and social presence, in addition to technical and resource presence and parental presence identified in this study. Technical and resource presence was problematic and widespread, with issues of connectivity, devices, and resources. Cognitive presence was compromised due to insufficient and incomplete planning and setting of learning expectations during HL. Teaching presence was a significant hindrance when teachers struggled to engage students in learning and to handle both physical and online classes simultaneously.

Social presence was not optimised during HL, as there was insufficient interaction between students and between teachers and students. Parental presence was more negative than supportive of HL. Unless these readiness-related challenges are overcome, any country will not be ready to face another crisis where HL needs to be conducted. HL during this recent pandemic-induced school lockdown cannot be said to be a 'total failure' as there were pockets of resilient schools, teachers, and principals that rose to the occasion and implemented strategies to overcome initial teething problems and challenges. This display of dynamism from schools and teachers further underscored that collegiality among teachers, the establishment of a learning community both within and outside the four walls of the classroom, and supportive, efficient leadership in schools can overcome challenges in HL environments.

To conclude, though this study sampled 23 Malaysian primary schools and considered the views of teachers at all levels across all five types of primary schools in Malaysia, the findings cannot be generalized to the total population of Malaysian public schools. Nonetheless, the findings provide valuable insights into the Malaysian perspective on HL during the pandemic. Lessons learned can serve as stepping stones towards fostering a stronger culture of resilience and growth to address future challenges in education, both in Malaysia and in other countries.

The novelty of this study's findings lies in the authentic voices of educators from various types of Malaysian primary schools, captured through in-depth interviews with stakeholders. It also revealed the suitability of the Malaysian Ministry of Education's initiative through "Learning from home (PdPR)", which has not been much researched. At the same time, previous studies did not delve deeply into the strategies schools and teachers used to overcome the challenges, making the findings of this study meaningful and insightful. Although we are now in the post-COVID era, the scenario described reflects the challenges of harmonising face-to-face and online instruction, which remain relevant as digital tools and AI have proliferated in this early 21st-century era. The study highlighted the need for continued HL study in a post-pandemic Malaysian educational context to maximise its potential benefits in schools, both to keep pace with the demands of the digital age and to ensure educational continuity in the event of future disruptions caused by unforeseen catastrophes or infectious disease outbreaks. While previous studies identified barriers to hybrid learning, this study draws on the most recent data from schools

across different regions and instructional media. It reveals that Malaysian primary schools continue to grapple with a "physical learning only" mindset and limited technology use, even today, highlighting critical challenges that require concerted effort to address.

LIMITATION OF STUDY

The study covered different geographic locations and school types. Due to resource limitations, only 23 schools are covered. The results could be more comprehensive if more schools are included in future studies.

RECOMMENDATIONS AND IMPLICATIONS OF THE STUDY

Henceforth, MoE and school authorities should ensure equitable access to technology for all teachers and students, and provide not only technological devices but also reliable internet connectivity. There should be ongoing training for teachers on the latest emerging digital tools alongside pedagogical strategies that support HL environments. HL environments also call for curriculum adoption and training in adapting curricula to incorporate both in-person and online components, ensuring that learning objectives can be met regardless of the learning environment. At the same time, schools today must foster effective communication with parents/ guardians, providing them with some basic training strategies on how they can support their children's learning at home, and where possible, be willing to share resources with parents who need help.

AUTHOR DECLARATION

NSB was the lead researcher, grant manager and research designer. Data collection, analysis, and writing were performed by NSB and GKS. Both FK and APWL conducted literature search, data collection, data analysis, and writing.

DECLARATION OF STATEMENT

We declare that the manuscript is our original work and that it has not been published before this and is not under consideration for publication elsewhere. This paper is also not a copied or plagiarized version of some other published work. We declare that the paper shall not be submitted for publication in any other journals until the editors of this journal make a decision. The submission of false or incorrect information/undertaking would invite appropriate penal action in accordance with the journal's norms and rules and COPE guidelines.

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CONFLICT OF INTEREST STATEMENT

We declare that there is no conflict of interest among all authors concerning this paper.

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