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Transitioning from online teaching to blended teaching in the post-pandemic era: What has COVID-19 taught us?

Joseph Kee-Ming Sia^{1*}, Wei Lee Chin², Mung Ling Voon³, Adamu Abbas Adamu⁴ and Sylvester Chun Kiat Tan⁵

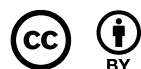
Abstract: Although educators in higher education institutions have embraced online teaching, little research has been conducted on their experience transitioning from online to blended classes. This study aimed to conduct a comparative analysis and present feedback from educators in higher education institutions (HEIs) in Brunei and Malaysia who migrated from online to blended teaching. Fifteen educators at HEIs in Brunei and Malaysia undertook in-depth semi-structured interviews that produced four themes: 1) openness to change from traditional teaching methods, 2) institutional assistance for academic resilience, 3) network broadening, and 4) the emergence of the digital divide. The findings assist higher education ministries and HEIs in strategically implementing blended learning in the endemic phase. The proposed recommendations provide insights for authorities to revisit existing education policy frameworks by designing new strategies for adopting technology and adjusting pedagogical approaches in their educational practices. Ultimately, this study contributes to the literature on educators' readiness and resilience in transitioning from online to blended teaching during the post-pandemic period, particularly in Asian countries.

Subjects: Teaching & Learning; Study of Higher Education; International & Comparative Education; Qualitative Methods

Keywords: COVID-19; Asian countries; Brunei; Malaysia; blended teaching; post-pandemic

1. Introduction

The onset of the novel coronavirus disease 2019 (COVID-19) has destroyed everything from world economies to social rituals. According to UNESCO (2020), 63 million educators in 165 countries have been affected by the disease, with a total of 1.5 billion students unable to attend schools or universities (UNESCO, 2020). The pandemic has also dramatically accelerated some pre-existing trends, particularly digitalization, by forcing educators to instantly adapt and transition their deliveries and assessments online to ensure that learning takes place. The unprecedented situation places tremendous pressure on educators as they have had to abruptly switch their lessons online with little or no formal training, insufficient bandwidth, and inadequate preparation. As noted by Spoel et al. (2020), although most higher education institutions (HEIs) have implemented technology in teaching, their digital learning environments and support systems are not yet fully



ready for this unique situation. A year or so after the pandemic, HEIs in Asian countries such as Brunei and Malaysia started to implement a combination of traditional and online classes, despite the countries continuing to grapple with COVID-19. For instance, HEIs in Brunei started implementing blended learning in the fourth quarter of 2020 (Noorashid et al., 2020). Similarly, most HEIs in Malaysia began implementing blended learning by the fourth quarter of 2021 while observing social distancing requirements and standard operating procedures (Nottingham University Malaysia, 2021). In transitioning from online to blended learning, HEIs in both countries reduced class sizes for social distancing purposes, conducted training for educators on integrating online and offline teaching strategies, and used educational technology tools to redesign classrooms and assessments to cater to students attending both in person and online.

The extant literature examining learning and teaching during COVID-19 has focused on diverse areas, including educators' online teaching experiences during the pandemic (Adi Badiozaman & Segar, 2021; Bavli & Kotel, 2022; Joshi et al., 2020; Schlenz et al., 2020; Tsegay et al., 2022), Strength-Weakness-Opportunity-Threat analysis on blended learning with no empirical results (Singh et al., 2021), impacts of COVID-19 to academic and business operations in Ethiopia (Tamrat, 2021), educators' and students' perceptions of blended approaches in schools (pre-school to year 12) in Australia (Attard & Holmes, 2022), K-12 educators' perceptions and experience of teaching online in Ecuador and Uruguay (Burgin et al., 2022), educators' online teaching expectations and experiences during COVID-19 in Netherlands (Spoel et al., 2020), secondary educators' perspectives on technology education during COVID-19 in Canada (Code et al., 2020), and perspectives of educators' readiness toward blended learning in India using a survey approach (Saboowala & Mishra, 2021). However, limited research has focused on HEI educators' experiences transitioning from online classes to blended teaching in the post-pandemic era. Accordingly, little is known about the opportunities and challenges HEI educators face (Sia & Jimmie, 2023) when shifting from online learning classes to blended teaching, with most studies skewed towards non-Asian countries, as evidenced above. There is a scarcity of research conducted in Asian countries, particularly in Brunei and Malaysia, which explores HEI educators' readiness to switch to blended teaching during the post-pandemic period. Shahril et al. (2021) noted that implementing blended learning in the post-pandemic period will increase opportunities to offer more individualized, flexible, and student-centric programs. Concurring with Shahril et al. (2021), Anoba and Cahapay (2020) posited that assessing educators' readiness to transition to blended learning is an initial step in advancing education post-COVID. Thus, more studies should focus on shifting to blended teaching in the post-pandemic recovery period, especially in Asian countries. Brauweiler and Yerispasheva (2021) proposed that future research should be conducted among HEI educators to improve the implementation of blended teaching in the post-pandemic era and beyond. In short, a better understanding of HEI educators' readiness to move from online to blended teaching is essential to inform teaching adjustments toward becoming effective educators.

Hence, this study aimed to investigate HEI educators' experiences transitioning from online to blended teaching approaches during the post-pandemic recovery period through two research objectives: (1) examining educators' readiness to conduct blended classes and (2) investigating the opportunities and challenges faced by educators transitioning from online to blended classes. The study provides a robust explanation of the opportunities and difficulties faced by educators in two Asian countries, namely Brunei and Malaysia. These countries were chosen due to their many similarities: both are emerging economies, members of The Association of Southeast Asian Nations (ASEAN) countries, and have implemented blended learning in the post-pandemic period. Furthermore, this study adds to the body of knowledge in the literature on the impact of COVID-19 on post-pandemic education.

2. Challenges in transitioning to blended teaching—HEI educators' perspectives

HEIs around the world moved to online teaching after the WHO declared the pandemic an outbreak on 11 March 2020 (WHO, 2020). In the higher education sector, classes are conducted entirely online, and educators face unprecedented challenges (Sia & Adamu, 2020) due to

insufficient awareness and knowledge of teaching and learning platforms. When the number of COVID-19 cases started to decrease, HEIs started to shift classes to blended learning. Many educators are willing to move to new teaching modalities; however, they are less ready and desire to change their teaching practices (Watermeyer et al., 2020). This learning model has created tremendous changes in teaching pedagogy and faces a multitude of issues, especially during the post-pandemic period. These changes present three main challenges for educators:

First, the successful implementation of blended teaching requires an adaptation period for both educators and students. On the one hand, educators implementing blended teaching must acquire skills that will help them effectively manage their time, students' learning, and communication (Cobo-Rendon et al., 2022). Furthermore, both online and face-to-face lessons in a blended modality require high integration to achieve learning outcomes (Adel & Dayan, 2021). On the other hand, students need self-regulation skills to attend physical classes and engage in autonomous learning. Nevertheless, international students who returned to their countries during the pandemic could only attend online classes, as their country's borders remained closed. This resulted in educators spending more online consultation time with these students.

Second, notwithstanding that blended teaching was implemented in the post-pandemic phase to ensure the continuity of the teaching and learning process, both students and educators were required to maintain strict social distancing and social interaction in the classroom and on campus. For instance, due to the social distancing policy, only a certain number of students were allowed in a class, which led to more teaching hours for educators as more classes were created to cater to face-to-face tutorials and lectures. A study conducted by Gicheva (2020) asserted that educators would work more hours than usual during the 2020–2021 academic year, and as observed by Kraft et al. (2021), higher teaching loads are likely to increase burnout and turnover.

Finally, implementing blended teaching requires technological support, physical infrastructure, educator professional development, and instructional design. All of these require a high budget and extensive human resources. However, while the integration of technologies and online platforms to support teaching and learning is welcomed, most HEIs in Brunei and Malaysia are not prepared to do so within a short period of time. Noorashid et al. (2020) noted that HEIs in Brunei experienced numerous difficulties related to technical accessibility, infrastructure, and educators' competency in using learning platforms in the initial phase of blended teaching. Undeniably, blended teaching could be considered the “new normal” delivery method in HEIs during the post-pandemic period; however, its implications before and after COVID-19 are dissimilar. The latter poses more challenges to educators because of its abrupt implementation, social distancing, and promotion of a sense of safety, connectedness, and collaboration.

3. Methodology

Brunei and Malaysia were selected as they are both emerging economies, members of ASEAN countries, and have implemented blended learning post-pandemic. Additionally, both countries neighbor each other and share a very similar cultural background in education, ensuring a fair and accurate comparison. The study involved semi-structured interviews conducted during the third wave of the COVID-19 pandemic (March 2022). All the respondents interviewed were HEI educators from a mixture of both public and private universities in Brunei and Malaysia. A total of 30 respondents were interviewed, with 15 from Brunei and 15 from Malaysia (See Tables 1 and 2). Eight males (53%) and seven females (47%) were respondents across the universities in Brunei, while six males (40%) and nine females (60%) were respondents across the universities in Malaysia.

All educators interviewed were from the social sciences or humanities stream and included geographers, linguists, architects, and historians. The respondents were purposively sampled to include only educators from the social sciences in both countries to ensure a similar comparison.

Table 1. Brunei respondents' profile and descriptive characteristics

Respondents	Gender	Interview duration
B1	M	1 hour
B2	F	45 minutes
B3	F	1 hour
B4	M	1 hour 15 minutes
B5	M	45 minutes
B6	M	55 minutes
B7	F	1 hour
B8	F	45 minutes
B9	M	55 minutes
B10	F	45 minutes
B11	F	1 hour
B12	M	40 minutes
B13	M	1 hour
B14	M	35 minutes
B15	F	1 hour

Table 2. Malaysian respondents' profile and descriptive characteristics

Respondents	Gender	Interview duration
M1	M	45 minutes
M2	F	1 hour 10 minutes
M3	F	50 minutes
M4	M	1 hour
M5	F	1 hour 30 mins
M6	F	40 minutes
M7	M	45 minutes
M8	F	1 hour 15 minutes
M9	M	1 hour 30 minutes
M10	M	55 minutes
M11	F	1 hour
M12	F	45 minutes
M13	F	1 hour 30 minutes
M14	M	45 minutes
M15	F	55 minutes

A pilot study was carried out prior to the real interviews to test the effectiveness of the interview questions and make minor corrections to them. Interviewees were approached via email and given information sheets about the study. Most interviews were conducted online via Zoom, and some were recorded with the interviewees' consent. Some follow-up interviews were also carried out in person. The average interview duration for most respondents was about one hour. The interviews were transcribed and uploaded to NVivo for coding purposes.

The authors intensively discussed the context of the project at the pre-interview stage and during the creation of the interview questions. During data collection, interviews, observations, and other notes were detailed in a reflective journal to triangulate findings and enhance the reliability of the data. Interview data was then scrutinized and studied for emerging themes and possible

contradictions. This echoed Cohen's (2013) view relating to the importance of self-reflection in qualitative work during, before, and after. Reflexivity on the research design and analysis enhance the study's validity. Content analysis was used to identify key themes based on the salient features around educators' teaching circumstances and support provided pre- and post-COVID-19. All raw data was categorized into themes based on valid inference and interpretation. Table 3 shows the result of the content analysis, the code used and how the themes are determined from the data. Content analysis was used due to its flexibility in determining relevant themes in the contexts and times of pre- and post-COVID-19 teaching pedagogy. It provides a rich description of the social reality that is replicable in a different context.

Interview respondents were selected through initial gatekeepers in both countries, and more contacts were established using the snowballing technique. The gatekeeper, the university's dean, recommended some respondents, who in turn recommended respondents from other universities. The use of gatekeepers reduces the concern about how representative the sample is. The respondents interviewed via snowballing techniques were all educators pertinent to this research with relevant knowledge in teaching and learning. The authors recognize that the small sample size undertaken in this research might pose a limitation; however, during the study, the authors faced "data saturation," where findings were repetitive and further interviews were deemed to add little value to the results. This is highly pertinent to the reliability and rigor of the findings as this signifies the researcher has conducted a thorough investigation as subsequent interviews no longer yield new insights and themes to the research.

The authors created interview questions based on the literature on the shift in learning model and teaching pedagogy and the desire to accommodate evolving teaching practices pre- and post-pandemic. A series of questions was developed to explore the readiness of educators in both countries to conduct blended learning, which included their preparation for the sudden change in teaching style before and after the pandemic, their ability to cope, institutional support, and the learning difficulties surrounding blended learning. For further investigation, more questions were asked regarding the opportunities and challenges faced by educators while transitioning back and forth between face-to-face and online classes. Interview questions were also created on equality issues, valuable lessons or skills gained, and educators' concerns, workload, and views on innovative teaching. Detailed interview questions can be viewed in the [Appendix](#) section.

4. Findings

4.1. Brunei context

Four themes emerged via data analysis: 1) resilience and openness to change from traditional teaching methods, 2) institutional assistance to assist academic resilience, 3) network broadening in teaching and research, and 4) the emergence of the digital divide while moving to online learning.

4.2. Theme 1: resilience and openness to change from traditional teaching methods

All respondents from Brunei showed that they used online teaching during the pandemic and would most likely continue teaching using blended learning during the post-pandemic period. Thirteen educators saw blended learning as positive as it is not entirely online but because it also allows face-to-face interactions to better understand the students. Blended learning in Brunei reflects lectures held online or pre-recorded, while tutorials are conducted face-to-face. All respondents were confident that this would be the new normal in future educational pedagogy; hence, most were ready to continue and diversify different pedagogical approaches. For instance, B6 mentioned the following.

"We learnt what was good about online teaching and which aspects were good about face-to-face. With blended learning, it is a win-win where we get the good from both worlds".

Table 3. Content analysis

Unit of analysis of the interview	Codes	Themes
<p>We kind of learnt what was good about online teaching and which aspects were good about face to face. With blended learning, it is a win-win where we get the good from both worlds.</p> <p>Most educators in our university are confident, because TLC (Teaching and learning courses) are available at the university which was very helpful. Various strategies have been introduced on how we can practice blended learning, and other resources were also given to assist educators.</p> <p>“I would normally spend more time preparing my lessons and incorporating exciting videos and short clips from TikTok to make it more relatable to students. COVID-19 has been a blessing in disguise in a way, as lecturers are now more well-equipped with online teaching and making online lessons even more interactive than in person.</p> <p>From never conducting a meeting via Zoom or via Webex, now we are able to do that.”, we already [got] to know Zoom, MS Teams, and we actually find them really useful</p> <p>So at first, we were a bit concerned, but we have quite a number of trainings because our HOD is very supportive. So he allowed us to come to the campus [to] start to try the computer, to try the smart TV, and to try the writing, and together with other ICT staff, about how to handle this technology.</p> <p>“We are replacing long-winding lecture[s] by giving them resources and links to read before we meet. They don’t need 40 minutes of explanation from me. They can view my pre-recorded short clips, and we can focus on discussion when we meet.”</p> <p>“With flipped classroom[s], I have more time to implement problem-based learning to train students to self-formulate their goals and objectives of learning and to be able to solve some real-life problems. Formative assessment is then carried out to measure how [the] student has understood the topic or how they have progress[ed].”.</p>	<p>Used blended learning as a teaching tool Change in teaching style before and after the pandemic Proactive in looking for different teaching tools</p>	<p>Openness and readiness to accept changes Shifting the focus from traditional teaching approaches to student-centered learning Innovative teaching tools Resilience</p>
<p>“The University is doing a great job by taking into account ‘inclusivity’ and not taking away opportunities and resources for people who might otherwise be excluded or marginalized. I am proud to be working with such institution”.</p> <p>“The training provided by the university has been so helpful to educators. I have learned and explore a lot on my own by trying to switch from one platform to the another”.</p> <p>“The courses have provided us so much help in online teaching. I have incorporated a lot of online activities that I pick up from those courses to my lessons”.</p> <p>One of my colleagues sent a pen drive containing lecture slides and homework to students’ homes to ensure they [didn’t] miss out on classes due to lack of internet access.</p> <p>We can purchase gadgets with a budget given by the organization. If someone has not applied for any gadget before, they can apply [under] the allotted budget. We are eligible to purchase a laptop costing around 2000-plus.”</p> <p>“The IT staff is always available and ready to help when needed. I can just call them up, and they’ll come to my office or class to provide assistance.”</p>	<p>Support provided by the University Teaching and learning support for educators Learning support for students Training for educators</p>	<p>Academic resilience Institutional assistance</p>

(Continued)

Unit of analysis of the interview	Codes	Themes
<p><i>“With online teaching, our work and teaching become borderless and this open up a lot of collaboration opportunities. I was also invited as keynote speaker in a conference and I accepted it right away as I don’t need to think about buying tickets and booking accommodation”.</i></p> <p><i>“It has open up more prospects for me as I have more invitation as external evaluator of postgraduate and moderator in conferences. It also saves us a lot of time to put in formal application to the university if we were to fly abroad”.</i></p> <p><i>“My research was highlighted in one of the recent global classrooms that I collaborated with University of Manchester. We are in the midst of discussing international funding for an upcoming project”</i></p> <p><i>As lecturers, we can participate in various workshops or courses offered by our institution easily</i></p> <p><i>“Because of the experience of having to teach everything online, we developed a research paper focusing on the effects of online studies.”</i></p>	<p>International speaking engagement Keynote speakers Global classroom Conferences Collaborations</p>	<p>Broadening network Opportunities for educators</p>
<p><i>“Some of my students simply do not attend my online lectures because they haven’t got enough data. They have voiced out that streaming for lectures takes up a lot of their data.”</i></p> <p><i>“One of my students told me that they have to take turns to use the laptop with their siblings. She has informed me that she could only attend my online class every alternative week. She only has 1 laptop in the household to be shared with her three siblings”</i></p> <p><i>I see it with my own family on how online teaching creates a gap between those who couldn’t afford. My cousins have 7 children, 4 of them in university and she has difficulty giving her children the extra expenses on buying internet data or getting an extra tablet. They often have to come to my house to use my internet and borrows my son’s laptop. But if my son has class, some of them will have to skip their lessons and catch up on their own</i></p> <p><i>Online discussions are challenging, particularly in terms of student participation and absenteeism.</i></p>	<p>Internet issues Difficulty in students participation Difficulty for students to access internet</p>	<p>Difficulties Digital divide</p>

All respondents agreed that blended learning has shifted the focus from traditional teaching approaches to student-centered learning, where students can study at their own pace and in their own time, empowering them. The findings also showed that educators were more proactive in looking for different teaching tools to enhance their lessons to compensate for not meeting in person. In addition, most respondents expressed that they had become more innovative in incorporating lesson objectives into online quizzes or activities such as Kahoots, online games, and online charades. Educators interviewed also used different online platforms such as Microsoft Teams, Zoom, Google Chrome, Canvas, Moodle, and WhatsApp.

I use Kahoot all the time for online formative assessment, and my students like it a lot. They find my class more interactive, and they even told me that they actually pay more attention because they want to win in the Kahoot quiz. (B1)

I would normally spend more time preparing my lessons and incorporating exciting videos and short clips from TikTok to make it more relatable to students. COVID-19 has been a blessing in disguise in a way, as lecturers are now more well-equipped with online teaching and making online lessons even more interactive than in person. (B9)

All respondents also agreed that lecturers should be flexible in their teaching style and create assessments appropriate for online teaching based on students' needs. Many respondents mentioned the implementation and benefits of the flipped classroom. Respondents found it efficient, with reduced lecture times to accommodate more time for discussion. Respondents also gradually focused more on formative assessment, which claims to measure students' learning performance better than summative assessments, such as exams. Many modules were converted to 100 percent coursework, as the university recognized the importance of formative assessment over summative assessment in some social science streams.

We are replacing long-winding lecture[s] by giving them resources and links to read before we meet. They don't need 40 minutes of explanation from me. They can view my pre-recorded short clips, and we can focus on discussion when we meet. (B4)

"With flipped classroom[s], I have more time to implement problem-based learning to train students to self-formulate their goals and objectives of learning and to be able to solve some real-life problems. Formative assessment is then carried out to measure how [the] student has understood the topic or how they have progress[ed].". (B14)

Educators in Brunei found that they have either consciously or unconsciously phased out traditional teaching methods and moved on to innovative, student-based learning styles. Most have adapted to newer pedagogical approaches and gradually adjusted their assessment by giving quizzes and tests that evaluate how students learn throughout the course. More emphasis has been placed on formative assessment than summative assessment to identify areas where further explanation or support may be needed.

4.3. Theme 2: institutional assistance for academic resilience

Many respondents (93%) spoke of the importance of institutional assistance for educators and learners during and after the pandemic. Respondents identified that university support consisted of teaching and learning support for educators and learning support for students. For instance, Brunei University provides support for underprivileged students who face difficulties transitioning to online learning. Gadgets such as laptops or iPads are given to these students to help them keep up with online learning and minimize disturbances to their studies. The educational data pack for students in need is also sponsored by the university or the general public. As internet data usage is expected to be high during online learning, the ministry has worked with local telecommunications providers to introduce an educational data pack specifically for learning platforms.

"The university is doing a great job by taking into account 'inclusivity' and not taking away opportunities and resources for people who might otherwise be excluded or marginalized. I am proud to be working with such [an] institution." (B15)

A few of my students have claimed their laptops, and we have been tracking their presence and study performance. They have so far been active, and attendance has been great to date. (B1)

Furthermore, educators have expressed the significance of continuous skill upgrading provided by the university's Teaching and Learning Center. All respondents found it useful to keep up with online teaching. Courses offered include creating video animation for teaching and learning, Exploring Microsoft Teams, and implementing technology-enriched instructions to support blended teaching and learning, such as CANVAS, MS Breakout Rooms, interactive activities for online lectures, and Kahoot for interactive online teaching.

"The training provided by the university has been so helpful to educators. I have learned and explore[d] a lot on my own by trying to switch from one platform to another". (B9)

“The courses have provided us so much help in online teaching. I have incorporated a lot of online activities that I pick up from those courses [in]to my lessons”. (B11)

As universities recognize the importance of continuous learning and skill upgrading, they have recently (in the 2021 academic year) included such training as part of promotion exercises to ensure that all HEI educators in Brunei are up-to-date with their teaching and learning pedagogy and strategies.

4.4. Theme 3: opportunities faced by educators in online teaching: network broadening

Thirteen of 15 respondents (87%) indicated that online teaching broadened their teaching and research network. Most have experienced an increase in international speaking engagements and opened up opportunities to collaborate with international universities for both teaching and research. Online teaching introduced the global classroom, bringing new experiences to Brunei educators. Respondents indicated that the global classroom enhanced their current research project beyond local institutions and opened up more room, ideas, and angles for further research collaboration and discussion, as indicated by the following findings:

With online teaching, our work and teaching [has] become borderless, and this [has] open[ed] up a lot of collaboration opportunities. I was also invited as keynote speaker [at] a conference, and I accepted it right away, as I [didn't] need to think about buying tickets and booking accommodation. (B13)

It has open[ed] up more prospects for me as I have more invitation[s to be an] external postgraduate evaluator and moderator in conferences. It also saves us a lot of time put[ting] in [a] formal application to the university if we were to fly abroad. (B4)

My research was highlighted in one of the recent global classrooms that I collaborated [on] with [the] University of Manchester. We are in the midst of discussing international funding for an upcoming project. (B15)

With lessons carried out via blended or online methods, students are also being trained in technological skills and taking advantage of the endless online resources to adapt to the new ways of teaching and assessment. Respondents also claim that they have been able to attend more conferences virtually without affecting their teaching schedules.

4.5. Theme 4: challenges faced by educators: the emergence of the digital divide

Many respondents voiced a variety of concerns and challenges faced by educators in online and blended teaching. Challenges include internet or IT issues, lack of funding for more than one teaching platform, difficulty in recognizing students and building rapport, and concern for stripping away both international and local students' university experience by having classes online. However, the most prominent finding of all respondents was the emergence of a digital divide. Although the University has carried out many initiatives, as discussed previously, to combat such problems, the reality of overcoming the digital divide has not become easier, particularly in the aftermath of the COVID-19 pandemic. The rise in demand for virtual classrooms that require access to high-speed internet connections will only increase learning loss for those who cannot access or afford them. As B5 stated,

Some of my students simply do not attend my online lectures because they haven't got enough data. They have voiced out that streaming for lectures takes up a lot of their data.

“One of my students told me that they have to take turns to use the laptop with their siblings. She informed me that she could only attend my online class every alternate week. She only has one laptop in the household to be shared with her three siblings”. (B10)

Although Brunei's universities have taken steps to provide internet data packs and gadgets to underprivileged families, issues still exist as the resources are being shared with family members, as noted above. This shows that the digital divide still exists in Brunei despite the efforts carried out by the university as secondary education increasingly moves online, creating educational barriers for lower-income families. Although online teaching has many benefits, it has also increased the burden on lower-income families, and this has worried all educators interviewed about widening the gap between those who have access to technology and those who do not. Educators must often show empathy and think of ways for students to catch up with their lessons.

4.6. Malaysia context

The findings of this study are organized into four distinct themes, each shedding light on different aspects of blended teaching during the COVID-19 pandemic. These themes provide valuable insights into the experiences, perspectives, and challenges faced by educators in adapting to the new educational landscape.

4.7. Theme 1: resilience & openness to change in blended teaching

This theme focuses on the experiences and attitudes of educators during the transition to blended learning. It explores various aspects of educators' resilience, willingness to embrace new technologies, and challenges adapting to blended teaching methods.

Overall, a small minority of the respondents expressed ease in transitioning to blended learning. One respondent, M5, stated, *"I'm not worried at all because my concern is [the] delivery of the study or the subject."* However, more than half of the respondents expressed concern about contracting COVID-19. Specifically, M1 revealed, *"My biggest concern is, will I be tested positive next?"*

Nevertheless, a large proportion of respondents agreed that strict standard operating procedures (SOPs) exist to curb COVID infections. M1 stated, *"The university still practice[s] taking body temperatures, and there [is] also limited occupancy for every office basis, including tutorial rooms."* Furthermore, M8 revealed, *"I feel quite safe because the campus also practiced a very strict weekly fumigation process."* M2 concurred, *"We have very expansive safety procedure[s] to follow."*

As such, the majority of respondents expressed willingness to adopt new technologies, with over a quarter of respondents remarking on the benefits of blended learning. M14 mentioned, *"I think one of the best [things] when it comes to education is that it forces you to be innovative."* This is in line with M11's statement, *"The pandemic actually brings up something good, which is [that] traditional teachers can explore digital learning platform[s]."* Moreover, M10 expressed that this change would unfold opportunities, *"It's [the] combination of different tools and devices that we have that definitely opens up a lot of doors and a lot of different opportunities that we can take up in terms [of] how we do learning and teaching."*

Exactly two-fifths of the respondents shared their willingness to change by exploring teaching platforms. As mentioned by M1, *"... from never conducting a meeting via Zoom or via Webex, now we are able to do that."* Similarly, M13 stated, *"Hence, during that time, we already [got] to know Zoom, MS Teams, and we actually spent a lot of time to figure out how to use it."*

However, the majority of respondents experienced increased workloads for various reasons, such as extra meetings and training, staff shortages, increased admin work, additional lesson preparation time, student consultations, and student monitoring. In addition, some educators had to manage students from different time zones.

Faculty management expects 24/7 computer access and demands attendance at a high volume of workshops, seminars, and training sessions, which was not the case before the pandemic.

(M8)

In addition to physical health deterioration, 60% of respondents experienced psychological strain. 46.67% of respondents attributed their stress to teaching, with more than half originating from the initial preparation when transitioning to blended learning. For example, M10 stated, *“I found the first year of the pandemic pretty stressful and time-consuming. It took a toll on my sleep, and I often found myself staying up until 2–3 AM.”* Teaching stressors also included the perceived doubled work in preparing for both online and face-to-face modes, difficulty engaging students in the two groups, and internet stability issues.

Another reason was additional job scope, such as administrative duties and training (20%), as stated by M14, *“... deadline[s are] definitely important and that is why I think admin work is more, how to say, stressful, because it has a lot of deadlines,”* and M8, *“Apart from regular teaching hours, a significant amount of time is spent on attending online workshops, seminars, and training sessions, adding to our stress.”*

Some respondents mentioned job stability as a third reason for feeling the need to constantly prove their work when working remotely. Thus, COVID’s impact on the economy and rising cases also caused anxiety about job and income stability for educators.

It was very stressful because ... I kept wanting to prove that, you know, I might be working from home, but yes, I’m doing this, I’m doing that, I’m doing this, I’m doing that. Mentally exhausting. (M1)

Fellow educators have developed coping strategies for stressors related to blended learning. For instance, some educators have resorted to training and familiarizing themselves with blended learning. M7 stated, *“So at first, we were a bit concerned, but we have quite a number of trainings because our HOD is very supportive. So he allowed us to come to the campus [to] start to try the computer, to try the smart TV, and to try the writing, and together with other ICT staff, about how to handle this technology.”* Others depended on sharing sessions, like M10, who shared, *“Small open sessions whereby people could share their experiences and maybe after sharing their experiences, after ranting about their frustration, they could share ideas on how to cope with the different difficulties.”*

In hindsight, respondents were willing to adapt their teaching styles and assessments to meet students’ needs, with most interviewees demonstrating creativity in teaching. For students lacking internet access, M4 stated, *“One of my colleagues sent a pen drive containing lecture slides and homework to students’ homes to ensure they [didn’t] miss out on classes due to lack of internet access.”* In cases where students lacked the proper facilities, M14 explained, *“Let[s] say, for example, I’d say, okay, if you cannot type it in Word, can you write it down and take a picture?”*

For assessments, some respondents expressed using open-book exams. One interviewee stated, *“During COVID-19, some students have performed better than they did pre-COVID. There could be several reasons for this, one of which is the assessment methodology. Exams are designed to encourage thinking and problem-solving, and in some cases, students are allowed to take open book exams.”* Similar to pre-recorded videos, students could pre-record their presentations, as seen by one interviewee, *“So we had to change our assessment. Everything has to be submitted online. Students, instead of presenting live, what they [did was] pre-record themselves, upload it on YouTube, and [send] the YouTube links to their respective lecturers.”*

A significant proportion of the respondents highlighted the importance of diversifying pedagogical approaches to improve student engagement. M4 disclosed, *“I think gamification and online ... tools [are] going to be very important for education right now.”* M6 concurred, *“Some of them, they even engage [with a] much more vibrant way of teaching, such as doing on online tools such as a Kahoot.”* The findings show that educators understand the importance of using innovative teaching techniques such as gamification and Kahoot to enhance student engagement and

learning. This highlights the need to constantly explore and adopt new pedagogical methods to keep up with the changing educational landscape.

4.8. Theme 2: institutional assistance for academic resilience

This theme emphasizes the role of institutions in supporting educators' adaptation to blended learning and fostering their resilience. It encompasses various aspects of institutional assistance, including infrastructure, equipment provision, IT support, facility availability, training, and mental well-being support.

The study found that the majority of respondents expressed satisfaction with the institution's infrastructure and the additional allowance provided for purchasing blended learning equipment. One respondent, M1, stated, "... our tutorial rooms where classes are conducted by a blended learning are well-equipped." M5 revealed, "We can purchase gadgets with a budget given by the organization. If someone has not applied for any gadget before, they can apply [under] the allotted budget. We are eligible to purchase a laptop costing around 2000-plus." IT support is available, as mentioned by M11, who stated, "The IT staff is always available and ready to help when needed. I can just call them up, and they'll come to my office or class to provide assistance." Overall, the study suggests that the institution's investment in infrastructure and blended learning equipment was well-received by the respondents. The availability of IT support has also added to satisfaction with the institution's technology-related services.

However, less than half of the respondents expressed dissatisfaction with the facilities, particularly the lack of available, functional, and suitable facilities. The lack of available facilities impacted one respondent (M6) as such, "I think the college has asked certain staff members to come back to work on priority, as some of them may find it difficult to perform their tasks without a computer at their workplace." Though some respondents did not lack facilities, those facilities were not necessarily functioning, as M10 explains, "I've experienced deficiencies or faults in the first six weeks of the semester. For example, a computer jammed in the middle of a presentation, and a microphone stopped working due to a dead battery."

Regarding the necessary innovative facilities to maintain successful blended learning, a minority of respondents discussed appropriate blended teaching and facilities training given to educators. One respondent, M14, stated, "So in terms of facilities, we have it. We have had training on it." Some respondents disclosed that their institution had prepared a mentor program. One respondent, M13, mentioned, "The institute actually provides or assign[s] a mentor to us. So, I think it's quite helpful." Nevertheless, the majority of respondents reported their institutions' support for mental well-being through talks, seminars, and counseling services.

Yes, we had a counselor over the university that [was] more than happy to talk to us if we had any difficulties. (M10)

We have [a] counseling department, and teachers can see the counselor, and also, once in a month, they will invite some doctors from [the] general hospital and give a talk on mental health as well. (M11)

4.9. Theme 3: broadened network in teaching & research

This theme highlights the networking and collaboration opportunities that arise from blended learning. Although mentioned by a small number of respondents, these opportunities have the potential to facilitate connections and professional growth among educators.

Only a small number of respondents mentioned networking opportunities that could result from blended learning. These opportunities include attending workshops or courses offered by their institutions and meeting other academics from different locations while teaching online. "As lecturers, we can participate in various workshops or courses offered by our institution, which can be attended by those in other areas as well." (M13)

These interactions can lead to research collaboration and other beneficial professional relationships. *“Because of the experience of having to teach everything online, we developed a research paper focusing on the effects of online studies.”* (M10)

4.10. Theme 4: challenges and implications of the digital divide

This theme encompasses the challenges students faced in accessing online education, the impact of limited network infrastructure and connectivity issues, and the lack of proper facilities. Additionally, it explores the implications of these challenges on student engagement and the loss of human interactions in the online learning environment.

Although educators received institutional support for infrastructure and training, and counseling services were available for students, the majority of respondents reported that students still faced issues related to the digital divide, including a lack of network infrastructure (13.33%). As M8 stated, *“If you’re talking about the rural area, especially in many parts of Sarawak and Sabah, it’s a complete standstill. No more learning because, you know, students from these areas, they don’t have access to [the] internet. So when it comes to online learning, they are completely out.”* Apart from that, many respondents indicated that connectivity issues remain even in areas with internet connections.

Most of the students [in] the town in the middle of metropolitan place[s], they’re having problem[s] accessing the internet. So, I’ll do my recording. (M5)

The same number of respondents also noted that the students lacked proper facilities. This was reflected by M1, *“We also had students who are in places where there’s limited wireless network connection[s], and [they] do not have [the] proper equipment, such as laptop[s] or the proper software such as Microsoft document[s] for them to deliver.”* Even where facilities are available, students may also face technical issues with equipment, as mentioned by M2, *“Probably the students online, they have problems in terms of accessing the audio, for example. This need[s] to be improved.”* In other cases, students had to share their devices with their siblings.

Over half of the respondents reported difficulties with student engagement, including cases in which students skipped classes or were unwilling to interact. One respondent, M5, stated, *“Online discussions are challenging, particularly in terms of student participation and absenteeism. While the first and second semesters went smoothly, the third and current semesters have seen an increase in student absenteeism.”* These findings highlight the challenges educators face when engaging their students in blended learning, emphasizing the need for innovative teaching strategies and institutional support. *“Even university students are no different. You know there are too many distraction[s], and different famil[ies] have different challenges.”* (M8)

Moreover, as educators and learners alike become accustomed to blended learning, especially in the online mode, a significant proportion of respondents agreed on the loss of human interactions. *“Online teaching for me, it’s not so effective. We cannot get full interactions.”* (M15)

Consequently, just over a third of the respondents emphasized the urgency to empathize with others, especially students, an example from M10 being, *“So I guess the ability to just empathize with people and the situation you’re in was kind of helpful and kind of pretty much something I’ll carry from the pandemic onwards into blended learning as well.”*

5. Differences in blended learning between Brunei and Malaysia post-COVID-19

The differences between the Brunei and Malaysia contexts in online teaching and blended learning are evident in several areas. In Malaysia, there is a smaller emphasis on networking opportunities resulting from blended learning, with a greater focus on challenges related to the digital divide, including infrastructure and connectivity issues. The Malaysian context highlights the need to address these challenges to ensure equitable access to education. On the other hand, in Brunei,

there is a higher emphasis on broadening teaching and research networks through online teaching. Educators in Brunei have experienced increased international engagements and collaborations, showcasing a more global perspective. While challenges such as internet and IT issues are acknowledged, there is a proactive effort to address the digital divide and provide support to underprivileged students. Overall, Brunei's context reflects a more positive outlook and proactive approach to blended learning, while Malaysia's context highlights challenges that need to be overcome for successful implementation.

6. Discussion

This study of the transition from online to blended learning challenged researchers and educators to think creatively about eliciting performance and commitment from teaching staff. This is because blended learning has potentially made access to teaching easier for students (Bülöw, 2022). By empowering educators to innovatively use blended learning spaces, the hope is to add empirical research that can advance synchronous learning studies beyond brainstorming, which often shapes higher education policy around blended learning. The resulting data has provided significant information about what makes educators effectively utilize blended learning and expands our understanding of how institutional interventions can enhance educators' efforts.

The study's findings highlight a contrast in terms of teaching staff readiness in both countries. The Brunei data shows that educators are fully prepared and ready to commence blended learning, while only 13% of Malaysian respondents are ready for blended learning. In line with previous studies, institutional support plays a vital role in increasing educators' readiness for blended learning (Olapiriyakul & Scher, 2006). However, the data also indicates that safety concerns can hinder readiness, which aligns with the study by Bailey (2020), which highlighted that the health and safety concerns of students, employees, and the community at large have been a source of anxiety for educators. Nevertheless, the interview indicated that COVID-19 standard operating procedures help minimize anxiety.

Similarly, live-broadcasting platforms have been reported to play an intermediary role in bonding distance learners and in-class educators and learners through a chat room (Xiao et al., 2020). This gives students and educators the flexibility to adapt and use platforms, which is a good fit for blended learning. Similarly, our findings show that blended learning results in changes in assessment structure. Thus, our study addresses the call by Raes et al. (2020) for future research to predict student assessment performance based on blended learning efforts. Malaysian data further highlighted that blended learning increased educators' workloads. This finding is revealing and beneficial to educators in designing their workloads.

A unique aspect of this study is the inclusion of mental health, which is a relatively important concern during the post-pandemic period. Our data revealed that the majority of respondents experienced some form of stress and mental decline as a result of several predictors, including student engagement in the online space. This aligns with a previous study showing that the use of social and electronic media and fear of COVID-19 significantly influenced the mental health status of educators (Hossain et al., 2022). Most respondents reported that some institutional help in terms of mental health workshops helped in managing the situation. Therefore, educational institutions should strengthen the mental health services they offer to their critical internal stakeholders, both academic and non-academic, to navigate mental health challenges. This is an important finding for educational institutions in both Brunei and Malaysia and for the global educational community.

Regarding institutional assistance for academic resilience, past studies have demonstrated that resilience requires open communication, strong academic leadership, and increased self-motivation (Bento et al., 2021; Raghunathan et al., 2022). Our research extends these studies by indicating that institutional assistance to both educators and students is key to organizational resilience, for instance, in providing these key stakeholders with all the necessary equipment for blended and online learning and training on how to use new technological devices. The findings

show that there is still a need for further improvement in providing infrastructure to effectively use blended learning, as this teaching technique has come to stay.

Finally, by focusing on Brunei and Malaysia, this study has gained insights into blended teaching readiness in ASEAN countries. These countries share similar cultural and social factors that may influence educators' readiness to adopt blended teaching methods. This regional focus allows us to compare and identify common trends across similar contexts applicable to other Asian countries which also implemented blended teaching.

7. Implications

This study has several implications for researchers and practitioners. The identified critical factors can be used as a guide by educators to enhance their blended learning teaching effectiveness. As indicated in this research's findings, applying these factors significantly benefits students and educators in HEIs. First, institutional management must create a safe teaching environment for both staff and students. This will help improve educators' readiness to embrace blended learning without feeling apprehensive, as the informants depicted. The next critical area is blended learning platforms; HEI should provide the relevant and most effective blended learning platforms that will meet the contextual needs of both educators and students. As indicated in the findings, platforms that encourage engagement with breakout rooms for students are of utmost importance. Another important implication of this study was mental health. In line with past studies highlighting that fears related to COVID-19 have affected educators' mental health status (Hossain et al., 2022), our study's responses mentioned that HEIs need to pay attention to mental health. More specifically, HEI management should encourage and propagate seminars and workshops that provide educators with techniques to manage their mental health. Equally important is open and effective communication, which engenders resilience among educators.

Our study also identifies opportunities offered by blended learning for educational institutional educators, such as innovative pedagogy, increased personal freedom, and the opening of learning spaces for more students (Flynn-Wilson & Reynolds, 2021; Green et al., 2020). Our study further advances the literature by indicating that educators have the opportunity to broaden their networks and collaborate with colleagues in other institutions globally. Similarly, our findings identify some challenges of blended learning. For example, online students experience isolation and a lack of attention and interpersonal communication from educators (Blad, 2020; Shamir-Inbal & Blau, 2021). More specifically, our Malaysian data also highlights the need to consider the issue of the digital divide when employing blended learning.

Brunei and Malaysia have similarities in their education systems, teaching practices, and policies. By studying these two countries, this research has unraveled the existing education infrastructure which influences the integration of blended learning approaches. The findings can be extrapolated to other countries with comparable education systems. Thus, other countries may use the findings from this study to formulate effective blended teaching strategies.

8. Conclusion

This study's findings highlighted the challenges educators face in higher education institutions when transitioning from fully online to blended learning teaching modes. Innovative teaching styles are crucial for effectively engaging students in both online platforms and physical classrooms. Institutional support is also crucial for ensuring the success of blended learning in classrooms. Moreover, this study confirmed that blended learning could broaden teaching and research networks with other educational institutions worldwide, thereby fostering a more collaborative and global academic community. In conclusion, implementing blended learning requires a combination of innovative teaching styles, institutional support, and willingness to embrace the benefits of collaboration across institutions.

9. Limitations and future research

The study presents few limitations and recommendations for future research. Although the research has uncovered several advantages of blended teaching during post-pandemic era such as networking opportunities and learn new teaching tools from the educators' perspectives, we suggest that future work is needed to explore how students' perceived blending learning. Students who attended the physical class may have different thoughts from those who attended the class online. Similarly, future research can be conducted among the parents. Parents' views on blended learning approach and its impacts on their children's learning would enable HEIs to undertake true educational reform post-pandemic. Moreover, we conducted the research in two high-context cultures. Future research should broaden their focus to include low-context cultures, such as those in Western countries, where cultural hierarchical linkages are softer.

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Supplemental material

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References

- Adel, A. & Dayan, J. (2021). Towards an intelligent blended system of learning activities model for New Zealand institutions: An investigative approach. *Humanities and Social Sciences Communications*, 8, 72. <https://doi.org/10.1057/s41599-020-00696-4>
- Adi Badiozaman, I. F., & Segar, A. R. (2021). Exploring online teaching competence in the context of the COVID-19 pandemic: Insights from Sarawak, Malaysia. *Journal of Further and Higher Education*, 46(6), 766–779. available at. (Retrieved November 27, 2022. <https://doi.org/10.1080/0309877X.2021.2002284>
- Anoba, J. L. D., & Cahapay, M. B. (2020). The readiness of teachers on blended learning transition for post-COVID-19 Period: An assessment using parallel mixed method. *PUPIL: International Journal of Teaching, Education and Learning*, 4(2), 295–316. available at. (Retrieved November 28, 2022. <https://doi.org/10.20319/pjtel.2020.42.295316>
- Attard, C. & Homes, K. (2022). An exploration of teacher and student perceptions of blended learning in four secondary mathematics classrooms. *Mathematics Education Research Journal*, 34, 719–740.
- Bailey, J. (2020). Reopening resilient schools: With a hybrid learning model and proper safeguards, schools can successfully open. *Education Next*, 20(4), 8–19.
- Bavli, B., & Kotel, O. (2022). Teacher resilience in the face of uncertainty: Experiences of Turkish teachers during the COVID-19 outbreak. *Pastoral Care of Education*, 41(3), 346–368. Retrieved November 29, 2022. <https://doi.org/10.1080/02643944.2022.2109191>
- Bento, F., Giglio Bottino, A., Cerchiareto Pereira, F., Forastieri de Almeida, J., & Gomes Rodrigues, F. (2021). Resilience in higher education: A complex perspective to lecturers' adaptive processes in response to the COVID-19 pandemic. *Education Sciences*, 11(9), 492. <https://doi.org/10.3390/educsci11090492>
- Blad, E. (2020, May 4). An Idaho School Reopens. Are its precautions the 'new normal'? Education Week - Politics K-12. <http://blogs.edweek.org/edweek/campaign-k-12/2020/05/schoolreopens-new-normal-covid.html>.
- Brauweiler, H. C., & Yerimpasheva, A. (2021). Moving to blended learning in the post-pandemic era. In *The impact of COVID-19 on accounting, Business Practice and Education* (pp. 104–120). Publishing House of Wrocław University of Economics and Business Wrocław.
- Bülow, M. W. (2022). Designing Synchronous Hybrid Learning Spaces: Challenges and Opportunities. In Gil, E., Mor, Y., Dimitriadis, Y., & Köppe, C. (Eds.), *Hybrid Learning Spaces. Understanding Teaching-Learning Practice*. Springer. https://doi.org/10.1007/978-3-030-88520-5_9
- Burgin, X. D., Coli, S. C., & Daniel, M. C. (2022). Ecuadorian and Uruguayan teachers' perceptions and experiences of teaching online during COVID. *International Journal of Comparative Education and Development*, 24(1), 54–68. <https://doi.org/10.1108/IJCED-06-2021-0062>
- Cobo-Rendón, R., Bruna Jofre, C., Lobos, K., Cisternas San Martín, N. & Guzman, E. (2022). Return to university classrooms with blended learning: A possible post-pandemic COVID-19 scenario. *Frontiers in Education*, 7, 957175.
- Code, J., Ralph, R., & Forde, K. (2020). Pandemic designs for the future: Perspectives of technology teachers during COVID-19. *Information & Learning Sciences*, 121(5/6), 419–431. <https://doi.org/10.1108/ILS-04-2020-0112>

- Cohen, S. A. (2013). Reflections on reflexivity in leisure and tourism studies. *Leisure Studies*, 32(3), 333–337. <https://doi.org/10.1080/02614367.2012.662522>
- Flynn-Wilson, L., & Reynolds, K. E. (2021). Student responses to virtual synchronous, hybrid, and face-to-face teaching/learning. *International Journal of Technology in Education*, 4(1), 46–56. <https://doi.org/10.46328/ijte.43>
- Gicheva, D. (2020). Teachers' working hours during the COVID-19 pandemic. *Educational Researcher*, 51(1), 85–87. available at. (3 December 2022). <https://doi.org/10.3102/0013189X211056897>
- Green, J. K., Burrow, M. S., & Carvalho, L. (2020). Designing for transition: Supporting teachers and students cope with emergency remote education. *Postdigital Science & Education*, 2(3), 906–922. <https://doi.org/10.1007/s42438-020-00185-6>
- Hossain, M. T., Islam, M. A., Jahan, N., Nahar, M. T., Sarker, M. J. A., Rahman, M. M., & Islam, M. N. (2022). Mental health status of teachers during the second wave of the COVID-19 pandemic: A web-based study in Bangladesh. *Frontiers in Psychiatry*, 13, 13. <https://doi.org/10.3389/fpsy.2022.938230>
- Joshi, A., Vinay, M., & Bhaskar, P. (2020). Impact of coronavirus pandemic on the Indian education sector: Perspectives of teachers on online teaching and assessment. *Interactive Technology & Smart Education*, 18(2), 205–226. <https://doi.org/10.1108/ITSE-06-2020-0087>
- Kraft, M. A., Simon, N. S., & Lyon, M. A. (2021). Sustaining a sense of success: The protective role of teacher working conditions during the COVID-19 pandemic. *Journal of Research on Educational Effectiveness*, 14(4), 727–769. Retrieved November 27, 2022 available at. <https://doi.org/10.1080/19345747.2021.1938314>
- Noorashid, N., Phan, L. H., Alas, Y., & Yabit, V. M. (2020). "Beyond the pandemic integrating online learning." University World News, Retrieved December 3, 2022 from. <https://www.universityworldnews.com/post.php?story=20201009150047136#:~:text=While%20the%20other%20higher%20education,with%20blended%20learning%20this%20semester>
- Nottingham University Malaysia. (2021), "Blended learning", Retrieved December 4, 2022. <https://www.nottingham.edu.my/CurrentStudents/StudentRegistry/Blended-Learning.aspx>
- Olapiriyakul, K., & Scher, J. M. (2006). A guide to establishing hybrid learning courses: Employing information technology to create a new learning experience, and a case study. *The Internet and Higher Education*, 9(4), 287–301. <https://doi.org/10.1016/j.iheduc.2006.08.001>
- Raes, A., Detienne, L., Windey, I., & Depaepe, F. (2020). A systematic literature review on synchronous hybrid learning: Gaps identified. *Learning Environments Research*, 23(3), 269–290. <https://doi.org/10.1007/s10984-019-09303-z>
- Raghunathan, S., Darshan Singh, A., & Sharma, B. (2022). Study of resilience in Learning environments during the COVID-19 Pandemic. *Frontiers in Education*, 6, 552. <https://doi.org/10.3389/feduc.2021.677625>
- Saboowala, R., & Mishra, P. M. (2021). "Readiness of in-service teachers toward a blended learning approach as a learning pedagogy in the post-COVID-19 era. *Journal of Educational Technology Systems*, 50(1), 9–23. <https://doi.org/10.1177/00472395211015232>
- Schlenz, M. A., Schmidt, A., Wostmann, B., Kramer, N., & Schulz-Weidner, N. (2020). Students' and lecturers' perspective on the implementation of online learning in dental education due to SARS-CoV-2 (COVID-19): A cross-sectional study. *BMC Medical Education*, 20(354). <https://doi.org/10.1186/s12909-020-02266-3>
- Shahril, M., Petra, M. I., Naing, L., Yacob, J., Santos, J. H., & Abdul Aziz, A. B. Z. (2021). New norms and opportunities from the COVID-19 pandemic crisis in a higher education setting: Perspectives from Universiti Brunei Darussalam. *International Journal of Educational Management*, 35(3), 700–712. <https://doi.org/10.1108/IJEM-07-2020-0347>
- Shamir-Inbal, T., & Blau, I. (2021). Facilitating emergency remote K-12 teaching in computing-enhanced virtual learning environments during COVID-19 pandemic-blessing or curse? *Journal of Educational Computing Research*, 59(7), 1243–1271. <https://doi.org/10.1177/0735633121992781>
- Sia, J. K. M., & Adamu, A. A. (2020). Facing the unknown: Pandemic and higher education in Malaysia. *Asian Education and Development Studies*, 10(2), 263–275. <https://doi.org/10.1108/AEDS-05-2020-0114>
- Sia, J. K. M., & Jimmie, A. (2023). Transnational education in Malaysia: Development, challenges and strategic alignment. In R. Gareth & L. L. Morris (Eds.), *Handbook of research on developments and future trends in transnational higher education* (pp. 379–396). IGI Global. <https://doi.org/10.4018/978-1-6684-5226-4.ch020>
- Singh, J., Steel, K., & Sing, L. (2021). Combining the best of online and face-to-face learning: Hybrid and blended learning approach for COVID-19 post vaccine, & post pandemic world. *Journal of Educational Technology System*, 50(2), 140–171. <https://doi.org/10.1177/00472395211047865>
- Spoel, I. V. D., Noroozi, O., Schuurink, E., & Ginkel, S. V. (2020). (Retrieved November 26, 2022. Teachers' online teaching expectations and experiences during the covid-19 pandemic in the Netherlands. *European Journal of Teacher Education*", available at. <https://doi.org/10.1080/02619768.2020.1821185>
- Tamrat, W. (2021). Enduring the impacts of COVID-19: Experiences of the private higher education sector in Ethiopia. *Studies in Higher Education*, 46(1), 59–74. <https://doi.org/10.1080/03075079.2020.1859690>
- Tsegay, S. M., Ashraf, M. A., Perveen, S., & Zegergish, M. Z. (2022). Online teaching during COVID-19 pandemic: Teachers' experiences from a Chinese university. *Sustainability*, 14(1), 568. <https://doi.org/10.3390/su14010568>
- UNESCO. (2020), "Teacher task force calls to support 63 million teachers touched by the COVID-19 crisis," (Retrieved December 2, 2022). <https://en.unesco.org/news/teacher-task-force-calls-support-63-million-teachers-touched-covid-19-crisis#:~:text=Around%2063%20million%20primary%20and,that%20is%20predicted%20to%20rise>
- Watermeyer, R., Crick, T., Knight, C., & Goodall, J. (2020). COVID-19 and digital disruption in UK universities: Afflictions and affordances of emergency online migration. *Higher Education*, 81(3), 623–641. available at. (Retrieved December 5, 2022. <https://doi.org/10.1007/s10734-020-00561-y>
- WHO. (2020), "COVID-19 public health emergency of international concern", Retrieved December 1, 2022. [https://www.who.int/publications/m/item/covid-19-public-health-emergency-of-international-concern-\(pheic\)-global-research-and-innovation-forum](https://www.who.int/publications/m/item/covid-19-public-health-emergency-of-international-concern-(pheic)-global-research-and-innovation-forum)
- Xiao, J., Sun-Lin, H. Z., Lin, T. H., Li, M., Pan, Z., & Cheng, H. C. (2020). What makes learners a good fit for hybrid learning? Learning competences as predictors of experience and satisfaction in hybrid learning space. *British Journal of Educational Technology*, 51(4), 1203–1219. <https://doi.org/10.1111/bjet.12949>

Appendix

Examples of questions asked during the semi-structured interviews

- (a) Do you feel safe conducting blended courses/classes post-pandemic?
- (b) How ready are you to conduct blended classes after a few semesters of online teaching? Please elaborate.
- (c) Do you think blended classes will meet the expectation of students' performance? If yes or no, please explain further.
- (d) Does your institution provide sufficient support (safety precautions aligned with SOP, IT equipment) in conducting blended course delivery? If yes, what type of support is provided? If no, any justification?
- (e) Does your institution have standard operating procedures in place for blended classes? What are they?
- (f) Do you think you have the capability to provide clear instructions for classroom activities despite social distancing?
- (g) What are the ways to assist students with disabilities/students with learning difficulties in blended classes? Are there any institutional supports?
- (h) What is your biggest concern about switching to blended classes from online teaching?
- (i) How do you overcome the challenges faced during your return to blended course delivery, if any?
- (j) What valuable skills/lessons have you learned throughout the pandemic that can be brought forward to the blended class?
- (k) How have you dealt with (in)equality issues during the pandemic—students with internet access and students without—and how would you plan to close the gap in your blended class?
- (l) Are there any opportunities that have been developed throughout this online teaching? What do you think the institution or educator should do to capitalize on the opportunities?
- (m) In your view, how will blended class increase/decrease the workload of the educator compared with online classes?
- (n) In your view, to what extent does blended course delivery enhance innovation in teaching and digital development?