Chapter 12

Hybrid Learning for A Better-Quality Education for Post-COVID-19 Learning Recovery: Indonesian Teachers' Perspectives

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A. Quality Education in Indonesia

Inequality is still a significant barrier to achieving quality education in Indonesia. Many people in Indonesia have difficulties reaching the indicators of quality education outlined in Sustainable Development Goals (SDG) No. 4 (United Nations, 2015). Not all students can fully receive adequate access to basic infrastructure. Therefore, other aspects such as high-quality learning, inclusive learning environments, and social equality might seem luxurious for most Indonesian learners. These discrepancies have become more salient due to the COVID-19 pandemic.

After two years of dealing with the pandemic, Indonesia and some other countries have started to live along with the virus. People can do their activities normally, so long as health protocols are prop-

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erly obeyed. In the educational context, Indonesia plans to introduce hybrid learning, which combines face-to-face (f2f) and online learning (Ministry of Education and Culture, 2020).

This chapter briefly reviews Indonesian education during the COVID-19 pandemic. Some facts about challenges education in Indonesia has faced based on indicators in SDG No.4 will be highlighted. They include access to all levels of education and quality teaching and learning infrastructure for all people. Secondly, we briefly shed light on the potential benefits of hybrid teaching (integrating technology-based learning settings and traditional classrooms). Thirdly, we explore teachers' perception of education during the pandemic and their opinion of hybrid teaching. In addition, we also invited their view on the potential implementation of hybrid teaching post-pandemic to recover from learning loss that occurred during the pandemic. Lastly, we provide some recommendations for all practitioners based on the findings of our study. We expect the information we provided in this chapter will benefit education practitioners in Indonesia and other countries with similar profiles.

B. Education in Indonesia during the COVID-19 Pandemic: An Overview from SDG No. 4 Outlook

This section briefly reviews Indonesian education during the pandemic in several main areas, which become the references in SDG No. 4 and online learning. These include access to education, basic facilities, literacy, learning in disadvantageous situations, and quality teaching. The review aims to shed light on the quality of education during the pandemic in Indonesia, which is perceived to be declined. The decline, we believe, can be recovered through a program called hybrid teaching, which became the main focus following our reviews.

1. Access to Education

The pandemic might diminish opportunities for Indonesians to properly access any level of education. UNICEF and the Indonesian Ministry of Village recorded that 1% of children aged between 7–18

dropped out of school due to economic reasons (UNICEF & UNESCO, 2021). The second most prominent reason for boys dropping out was child labor, while girls likely dropped out due to early marriage (UNESCO & UNICEF, 2021). Not only at school levels, but students at tertiary levels were also reported to be likely to drop out during the pandemic. In private institutions, the number of students dropping out at the tertiary level increased from 18% to 50% (Kahar, 2020).

2. Basic Facilities

Limited school facilities like internet access also exacerbated the issue of accessing high-quality education in Indonesia during the pandemic. Though internet use in Indonesia increased from 47.7% to 53.7% during the pandemic, in 2020, Indonesia (54%) still has inferior internet access compared to other Southeast-Asian countries like Malaysia (90% of the population), Singapore (92%), Thailand (78%), and Vietnam (70%) (World Bank, 2021). Upsettingly, schools in rural areas were reported to have much less internet penetration rates than all schools in the non-rural/urban regions (UNICEF & UNESCO, 2021). Students' geographical and financial conditions contribute to their limited access to the internet (Azhari & Fajri, 2021).

In addition to limited internet access, schools in Indonesia seem to have insufficient sanitation facilities for maintaining health protocols, according to the Service Delivery Indicator (SDI) Survey 2019; less than half of the schools have enough soap and water (Yarrow et al., 2020b), which are essential items in preventing the spread of COVID-19. Schools in rural places are more likely to have limited sanitation facilities. This condition might raise concerns about students' health safety during the pandemic if learning activities should be held at school due to the absence of online learning infrastructure. In other words, access to a safe learning environment is threatened by the lack of school facilities.

3. Literacy

Although students could still gain access to education during the pandemic, they might likely experience 'learning loss'. Yarrow et al. (2020a) predicted that the reading score of Indonesian students would decrease by 21 points due to school closure. In 2018, students' reading score was 371 and was expected to fall to 350 after the pandemic. This prediction was made under the condition that all students, from those in the top to low-performance groups, equally received a negative impact from distance learning. However, the result of school closure on reading scores might not be as significant as predicted. The number of students who scored below the minimum proficiency will decrease by 4% if higher-performing students benefit from online tutoring or distance learning during the pandemic.

4. Learning in a Disadvantageous Situation

Students might have a spectrum of challenges related to learning during the pandemic. Wahana Visi Indonesia (2020), for example, reported three main challenges students to have during online learning. They included poor time management, limited understanding of the learning content, and significant challenges in comprehending teachers' instruction. The challenges might be more complex for students with disabilities and those living in geographically disadvantaged areas.

Students' learning challenges at home might be exacerbated by other issues such as physical and verbal abuse from adults in their homes. Suyadi and Selvi (2022) found that parents verbally abused their children for several reasons. Parents often find their children unmotivated (perceived as lazy), undisciplined (using the computer for playing games rather than for studying), and too dependent (asking for continuous assistance for doing the tasks). These reasons seem to fit with the challenges perceived by students at the school levels, as reported by Wahana Visi Indonesia (2020). In contrast, students at tertiary found that online distance learning positively impacted the

family relationship (Hermanto et al., 2021). These students appreciated more communication with other members of their family.

5. Quality Teaching

Other issues that might hinder students from accessing high-quality learning include the Indonesian teachers' limited knowledge. The SDI Survey showed that only 15.6% of teachers have minimum expertise in math, and 39.6% have minimum knowledge in Bahasa Indonesia and pedagogy (Yarrow et al., 2020b). During the pandemic, teachers with such inadequate knowledge are more likely to be pressured by the demand for digital skills for online learning. Some studies reported that many teachers identified gaps in their digital skills (Azhari & Fajri, 2021; Rasmitadila et al., 2020) and pedagogy skills in distance learning as their most limiting factors (Lie et al., 2020; Rasmitadila et al., 2020).

C. Pros and Cons of Online Learning: The Potential of Hybrid Learning

Due to government regulation, online learning was conducted during the pandemic in many parts of the world, including Indonesia. This section briefly reviewed one of the innovations in many schools to conduct their teaching and learning activities, namely online learning. Previous studies have recorded the pros and cons of online learning. It is believed that the potential of online learning could be continuously adopted even when the pandemic is over, and these potentials could be integrated with other learning settings. Hybrid learning, the proposed integration method in this study, is expected to recover the learning loss due to the decline in education quality during the pandemic.

Table 12.1 shows the pros and cons of online learning in Indonesia. Online learning is expected to provide learners more access and educational opportunities; they can learn anywhere in their own time. Although there is no consensus about its definition, and it is sometimes mixed up with other terminologies like e-learning and distance learning (Moore et al., 2011), many define online learning

as an environment in which learners access the learning experiences via a kind of technology like the internet. The popularity of online learning has dramatically increased due to the pandemic (Adedoyin & Soykan, 2020).

Table 12.1 Pros and Cons of Online Learning

Pros	Cons
Students might have their learning performance improved (Amir et al., 2020; Ngo et al., 2021)	Many teachers have a lack digital skills (Bao, 2020), which might influence the effectiveness of teaching
Students might have their learning independence increased (Purwadi et al., 2021).	Students often lack motivation and are anxious about the pandemic (Adedoyin & Soykan, 2020)
Digital immigrant teachers might have their digital skills improved (Azhari & Fajri, 2021; Taufik & Yustina, 2020),	Students might have to put more effort into the process (Wijanto et al., 2021).
Students can adjust the learning pace based on their needs (Peterson, 2021),	
Parents might play better roles in education (Pratama & Firmansyah, 2021)	
Students with social disadvantages might socially feel more secured (i.e., Farley et al., 2014; Swicord et al., 2013)	

Source: Authors' compilation

Older students, like tertiary students, might benefit more from online learning than younger students. Studies about online learning during the pandemic involving tertiary settings often reported students' increased learning performance (Amir et al., 2020; Ngo et al., 2021) and independence (Purwadi et al., 2021). While facing more challenges in online learning, younger students might also benefit

from this learning setting like the improved digital skills of digital immigrant teachers (Azhari & Fajri, 2021; Taufik & Yustina, 2020), flexibility to adjust the learning pace based on their needs (Peterson, 2021), and better parental roles in education (Pratama & Firmansyah, 2021). In addition, online distance learning could provide a safer environment during the pandemic for students with social disadvantages, such as those in juvenile detention (Farley et al., 2014) and some students with special needs (Swicord et al., 2013).

Despite the potential benefits of online learning, teachers, students, and parents still prefer face-to-face (f2f) learning. Not all teachers are used to online learning and its technologies (Bao, 2020). Students often lack motivation and are anxious about the pandemic (Adedoyin & Soykan, 2020). A case study of Information Technology undergraduates (Karnalim et al., 2021) shows that although students can somehow maintain their academic performance, they might put more effort into the process (Wijanto et al., 2021).

Even among students in f2f, engagement between teachers and students is another challenge in online learning. Especially for courses involving physical activities like physical exercise or science laboratory work, f2f might offer an ideal setting. Students could learn from the teacher's demonstration. Further, teachers and peers can also observe and monitor them while performing the activities. In other words, there are still some f2f educational aspects that could not effectively be replaced by online technology.

Considering the potential benefits of online distance learning and realizing that f2f might be the best setting to cover some educational aspects, integrating both might benefit students in learning. The integration of the two settings is called hybrid learning. In this article, we use the definition of hybrid learning from Linder (2017), who defined hybrid learning as the utilization of technology to support the f2f setting. Hybrid learning allows the time spent by students in a technology-based learning setting to replace the seat time of f2f learning. This definition fits the learning condition during the pandemic, where students learned from home to replace the f2f learning.

Previous studies have recorded the benefits of hybrid learning. In a systematic review of hybrid learning, Ashraf et al. (2021) found that hybrid learning improved students' self-regulation and positive behavioral outcomes such as progression and cooperation skills. Moreover, they also found that hybrid learning enhanced students' motivation, interaction, higher-order thinking, and self-efficacy. In Indonesia, Manurung et al. (2020) found that blended learning allowed foreign language students at tertiary institutions to learn based on their learning pace. Furthermore, Zein et al. (2019) found that high school students improved their math performance using this learning method.

D. Community of Inquiry in Hybrid Learning

The Community of Inquiry (CoI) framework has been used to investigate studies about online learning (Garrison, 2007; Garrison & Vaughan, 2008). It was purposely designed to explore online learning for higher education but was recently used for exploring online and hybrid learning at the school levels (Garrison, 2007; Garrison & Vaughan, 2008). The framework illustrated how three fundamental domains comprise educational experience. These domains are social, cognitive, and teaching presence.

The three domains are fundamental aspects of learning in f2f and online settings. Garrison and Vaughan (2008) illustrate the three domains and what variables include in each presence. Regarding social presence, issues related to interpersonal communication are essential. A class with an effective social presence provides a medium for students to securely collaborate with others to express emotions and opinions. Students can feel free to explore their inquiries through collaboration. This inquiry is strongly related to cognitive presence, in which students might focus on either deductive or inductive inquiry approaches. Students might focus on exploring the inquiry in seeking the answer when adopting an inductive approach, or they might focus on an application of an inquiry when applying the deductive approach. Whichever the inquiry approach is sought, students will

benefit from an effective teaching presence, which aims to facilitate learning effectively by integrating social and cognitive presence to help students learn. Therefore, establishing an effective curriculum, approaches, and methods are the main elements of teaching presence.

The social, cognitive, and teaching elements are interlinked with each other. The interlinking between the three domains contributes to the educational experience. Teaching presence, for example, has a direct relationship with cognitive and social presence domains. On the one hand, teachers' decisions to select content and delivery methods will affect cognitive and social presence in learning. On the other hand, students' cognitive conditions and participation might also affect teachers' facilitation. Garrison and Vaughan (2008) described students' collaboration and feeling safe in expressing emotions as the indicator of social presence, while students' exploration, puzzlement, and questions show that cognitive presence is involved.

Some data from the current study were analyzed qualitatively using the hybrid learning framework reviewed in this section. We categorized the information acquired from the survey into social, cognitive, and teaching domains. The following section describes the methodology of our survey study, which aimed to investigate the teachers' perspectives in Indonesia on the potential of hybrid learning as one innovation to recover the learning loss during the pandemic.

E. Acquiring Teacher's Perspectives towards Hybrid Learning: Reflecting through Experience

This chapter summarized teachers' perspectives on Indonesian education's readiness to implement hybrid learning via a questionnaire survey. The survey consisted of twenty-five questions (open-ended and close-ended) tailored explicitly to the high-quality education envisioned by the United Nations in the Sustainable Development Goal No. 4. Details of the questions can be seen in Table 12.2. Each question is answered on a 4-points Likert scale: 'strongly disagree' as 1, 'disagree' as 2, 'agree' as 3, and 'strongly agree' as 4. The first sixteen questions could also be found in Karnalim et al. (2022). The survey

was validated by two experts from the educational technology field. Further, the survey questions had been made more evident according to suggestions provided by ten teachers before being used in this study. The amount of 201 teachers was participating in our study; they teach various levels of education, with some of them coming from 3T rural areas—3T: *Terdepan* (frontier), *Terpencil* (the outermost), and *Tertinggal* (the most disadvantaged). However, 72 were excluded from our study as they fell to our trick question, and we consider they did not thoughtfully respond to the survey. Our trick question (Q17) is the reversed perspective of Q07, and if a respondent does not provide consistent responses for both, we exclude their response from the results. We applied this tricking mechanism to ensure that respondents did read the questions.

In addition, we provided information regarding the purpose of the survey and how we would process the data. We also strived to ensure the confidentiality of the participants. One of the ways was by not asking their personal data in the demography questions. In the demography questions, we asked their institution location, level of education, whether they had taught special needs students, and whether they had experience teaching and/or learning online. In addition, participants were informed that their returned questionnaires indicated their consent for this study to use their opinion.

The responses from the complete surveys were analyzed with a mixed-method analysis. In analyzing the data from the close-ended questions, we used the second author's quantitative analysis for responses of all teachers, 3T teachers, and non-3T teachers. The average Likert score for each question can be seen in Table 12.2. To measure the difference between responses of 3T and non-3T teachers, a two-tailed independent t-test with a 95% confidence rate was used.

In analyzing the data from an open-ended question, the first and the third author codified the answer into several codes. The codes were determined from the hybrid teaching domains highlighted by Garrison and Vaughan (2008) and an online teaching framework called Community of Inquiry (CoI) proposed by Garrison (2007).

The framework included social presence, cognitive presence, and teaching presence. Answers from the participants were categorized into variables that might belong to either of the three presences (see section D for detail). The discussions resolved disagreements between the coders, including involving the second author.

F. Teacher's Perspectives towards Hybrid Learning for Quality Education in Indonesia Post-Pandemic: An Outlook.

1. Teacher's Reflection on Online Learning during the Pandemic

Overall, we noted that teachers seemed to have mixed perspectives regarding implementing hybrid learning. Nineteen of the questions did not show explicit agreement among teachers. The proportion of agreed respondents is comparable to the counterpart, and the average score is between 2 (disagree) to 3 (agree). Table 12.2 summarizes our quantitative findings: non-rural, rural, and both areas. Q17 is our trick question; it is the reversed perspective of Q07. Participants who did not provide consistent answers to both questions were not considered in the analysis. The data is reliable since its Cronbach's alpha is 0.92, higher than the minimum threshold for reliability (0.7).

Table 12.2 The Average of Likert Scale Responses (1–5) from Both Groups regarding Online Distance Learning during the Pandemic and Potential Hybrid Teaching

	Questions	Non-rural	Rural	All	t-test
Q01	Designing online learning activities to encourage discussions among students is easy to do	2.58	2.67	2.55	0.61
Q02.	Designing online learning activities to encourage students to ask questions is easy to do	2.32	2.39	2.52	0.34
Q03.	Online learning can encourage discussions among students in the learning process	2.25	2.47	2.27	0.81

	Questions	Non-rural	Rural	All	t-test
Q04.	Online learning can improve students understanding of the learning materials	2.32	2.45	2.19	0.7
Q05	Online learning can promote interaction between students and educators in the learning process	2.14	2.35	2.29	0.85
Q06.	Students are more active in discussions with their peers about the learning materials during online learning	2.53	2.53	2.06	0.42
Q07.	Online learning reduces students' participation	2.39	2.52	2.42	0.53
Q08.	Students become more technology-literate in online learning	3.29	3.18	3.22	0.88
Q09.	Educators become more technology-literate in online learning	3.57	3.43	3.56	0.83
Q10.	Online learning is more suitable for accommodating the needs of all students, including the vulnerable ones (e.g., those with disabilities or those in vulnerable situations)	2.08	2.16	2.02	0.65
Q11.	Information and software from the internet can be useful to improve students' literacy skills	2.98	3.00	2.89	0.8
Q12.	Information and software from the internet can be useful to improve students' numeracy skills	2.88	2.90	2.8	0.71
Q13.	In online learning, students' grades reflect their actual competence	2.26	2.49	2.21	0.48
Q14.	My institution has adequate facilities to conduct online learning	3.05	2.29	2.81	0.0016*
Q15.	Online scholarships can help students to learn with no restrictions on time and place	3.25	3.29	3.2	0.92
Q16.	Online scholarship can help educators to improve their teaching skills with no restrictions on time and place	3.29	3.24	3.23	0.98
Q17.	Online learning increases students' participation (Trick question)	NA	NA	NA	NA

	Questions	Non-rural	Rural	All	t-test
Q18.	Online learning integrated with face-to-face meetings (hybrid teaching) will be effective	2.84	2.91	2.77	0.74
Q19.	Hybrid teaching will reduce unequal access to education, especially in an emergency situation like a pandemic.	3.01	2.98	2.92	0.37
Q20.	Hybrid teaching will reduce the discrepancy in quality education, especially in an emergency like a pandemic.	3.03	3.04	2.95	0.79
Q21.	Hybrid teaching will accommodate the needs of all students, including those with disabilities and those who are socially disadvantaged.	2.98	2.91	2.89	0.61
Q22.	My institution has adequate learning facilities to support a hybrid learning setting.	2.99	2.49	2.84	0.008*
Q23.	My institution has adequate human resources to support a hybrid learning setting.	3.01	2.84	2.91	0.29
Q24.	Based on my teaching experience during the COVID-19 pandemic, I believe I can teach in a hybrid setting in the future,	3.07	2.89	3.00	0.27
Q25.	I do agree hybrid teaching is implemented regardless of the emergency	2.85	2.76	2.68	0.15

Note: *p-value < 0.05, **p-value < 0.001

We believe that online learning settings positively influence students' and teachers' digital literacy. Q09 is agreed by 131 of 138 teachers, and 85 of them responded with "'strongly 'agree.' The survey question asks whether teachers become more technology-literate in online learning. That kind of learning enforces Indonesian teachers, who previously relied so much on face-to-face teaching, to learn about online platforms and tools to improve student engagement. The second most agreed-upon statement is Q08, which is about students being more technology-literate in online learning. One hundred twelve

teachers agree with a comparable proportion of 'agree'; and 'strongly agree' responses. As Indonesian teachers introduce online learning, students must learn how to use relevant technologies, which might make them more technology-literate. These findings support evidence from previous studies indicating that younger students might also benefit from this learning setting, like the improved digital skills of digital immigrant teachers (see Azhari & Fajri, 2021; Taufik & Yustina, 2020).

Teachers from both groups seem to share a similar opinion that online learning might provide complete access to education for both students and teachers. Q15 and Q16 have comparable agreement rates with Q08. They are both about online scholarships; Q15 is for students while Q16 is for teachers. Indonesian teachers agree that given the current situation, an online scholarship can be a viable alternative for prospective students and teachers; they can improve their skills and knowledge without being restricted by time and place. This finding supports the idea that online learning could provide broader access to education for people regardless of their limitations (Farley et al., 2014; Swicord et al., 2013).

Related to the potential of hybrid learning, teachers from both groups seemed to be optimistic about its implementation. Q24 is another statement that is agreed upon by many teachers (101 of 138). These teachers believe that their skills are adequate to conduct hybrid teaching. The finding confirms Azhari & Fajri (2021) that technology exposure during the pandemic might improve teachers' technology skills. Although self-assessment can be biased, this is still a good sign for the Indonesian government to establish a policy to standardize hybrid teaching.

Lastly, we noted that teachers from both groups agreed that online distance settings might mostly challenge the social domain. Teachers mostly disagreed with Q4, Q6, and Q17. These questions inquired about teachers' opinions towards students' interactions in the classroom. The exchanges included teachers-students interaction, students-students interaction, and student-course content interactions.

In addition, teachers also disagreed that online learning positively impacts cognitive and teaching domains. The questions implicate these challenges are the teachers' answers to Q2, Q3, Q5, Q10, and Q13. Ashraf et al. (2021) also recorded the challenges related to these domains. Their studies revealed that students faced psychological and behavioral issues, such as engagement, motivation, cooperation, and academic performance.

Rural teachers have comparative perspectives with those from non-rural regions. A two-tailed independent t-test with a 95% confidence rate shows that the responses do not show statistically significant differences for most questions.

Q14 is the only survey question with a statistically significant difference. Rural teachers believe that their institutions have less adequate facilities to conduct online learning. It is expected as 3T regions usually have limited infrastructure and facilities. Further, the institutions tend to have less budget. This finding is not surprising as UNICEF and UNESCO (2021) reported that rural areas in Indonesia have much less internet penetration rates than all schools in the non-rural/urban regions.

2. Perceived Challenges in the Social Presence Dimensions

Teachers from rural and non-rural areas disclosed that online learning infrastructure had contributed to teaching online challenges. Poor internet connection and the absence of supporting gadgets from students are the two examples often mentioned. Especially for those who teach in rural areas, some teachers were disheartened that many students were not equipped with the supporting gadgets due to financial factors. In addition, many students lived in geographically disadvantaged areas, making the internet connection challenging to afford. Table 12.3 summarizes the results of the most perceived challenge in conducting teaching online by rural and non-rural teachers in Indonesia.

Table 12.3 The Most Challenging Factor in Increasing the Social Presence Reported by Teachers (% of Respondents)

Challenging Factors	Domain	Non-rural	Rural
1. Teacher's digital literacy/skill	Teaching	5%	0%
2. Students' family support	Teaching	6%	7%
3. Infrastructure/facilities	Teaching	40%	76%
4. Instruction delivery	Teaching	25%	7%
5. Students' motivation	Cognitive	3%	0%
6. Students' ability to comprehend	Cognitive	2%	0%
7. Students' concentration	Cognitive	10%	0%
6. No answer	-	9%	10%

As indicated in Table 12.3, most teachers perceived that online classrooms' social presence was highly affected by teaching factors. However, non-rural teachers identified cognitive factors to influence social presence. These teachers mentioned students' short learning attention/concentration, low motivation to follow specific courses, and their ability to comprehend the content courses as cognitive factors that might influence their social presence in the classrooms. These perceived factors seem to align with Suyadi and Selvi (2022), who reported that younger students tended to lose motivation, were easily distracted by non-educational content on the screens, and depended on their parents when it came to assignments.

3. Perceived Challenges in the Cognitive Presence Dimension

Both urban and rural teachers believed that the lack of pedagogical skills in online learning became one of the biggest challenges in assisting students in understanding the courses. It might be in line with Yarrow et al. (2020b), which disclosed that most teachers in Indonesia have insufficient knowledge and pedagogical skills. However, both groups put different factors in the most challenging one. For teachers from rural areas, limited facilities were the factors that hindered the most. This answer seems to be consistent with their answers to the previous question. While for non-rural teachers, their lack of

knowledge regarding course content delivery methods was the factor that negatively affected the 'students' understanding of the content. This finding confirms Rasmitadila et al. (2020), who mentioned that instructional strategies became one of the most highlighted challenges by most teacher participants. These teachers mainly resided in non-rural areas in Java provinces.

Table 12.4 The Most Challenging Factor in Increasing the Cognitive Presence Reported by Teachers

Challenging Factors	Challenged Domain	Non-rural	Rural
1. Teacher's digital literacy/skill	Teaching	6%	7%
2. Students' family support	Teaching	6%	3%
3. Infrastructure/Facilities	Teaching	15%	47%
4. Instruction delivery	Teaching	26%	17%
5. Teachers' monitoring method	Teaching	13%	3%
6. Students' motivation	Cognitive	6%	7%
7. Students' ability to comprehend	Cognitive	12%	3%
8. Students' concentration	Cognitive	8%	3%
10. No problems	-	2%	3%
11. No answer	-	7%	7%

Source: Authors

As indicated in Table 12.4, all teachers shared a similar perception that the teaching domain was the challenged domain to engage students cognitively. Three student-related factors that teachers perceived contributed to the missing cognitive presence in the class. They included the students' motivation, various cognitive abilities, and concentration. Our quantitative analysis also validated this finding, which is in line with the study conducted by Ashraf et al. (2021). Moreover, we noted that the two groups highlighted different aspects of cognitive issues. The non-rural teachers mentioned the students' cognitive condition as the most highlighted challenged domain, while the rural teachers mentioned the students' motivation.

Interestingly, we found few teachers who admitted to having no problems. When we look at the demography of these teachers, we found that those from non-rural areas were college instructors, and those from rural areas were teachers who never taught online. It might validate that online learning is not new to higher education and has been thoroughly studied and evaluated (see Garrison & Vaughan, 2008). Hence, it is not surprising to see the fact that the learning system and the instructors at college can more adequately support hybrid learning than those at the lower education levels.

4. Perceived Challenges in the Teaching Presence Domain

Both groups believed that the course delivery was the most challenging factor in interpreting the curriculum during the pandemic. They also put course material design as one of the top challenges. However, rural teachers still put online distance learning infrastructure or facilities as one of the most significant challenges. In contrast, only a few non-rural teachers admitted it as the most challenging factor in curriculum adaptation.

Table 12.5 The Most Challenging Factor in Improving the Teaching Presence Domain Reported by Teachers

Dimension	Factors	Non-rural	Rural
1. Teacher's digital literacy/skill	Teaching	9%	7%
2. Students' family support	Teaching	2%	0%
3. Course characteristics	Teaching	7%	3%
4. Infrastructure/Facilities	Teaching	6%	21%
5. Course material design	Teaching	20%	17%
6. Instruction Delivery	Teaching	28%	31%
7. Teacher's Monitoring method	Teaching	3%	3%
8. Students' ability to understand	Cognitive	5%	0%
9. No problems	-	6%	0%
10. No answer	-	13%	17%

Source: Authors

It is interesting to note that in Table 12.5, some non-rural teachers mentioned students' various cognitive abilities and family support as two of the most significant challenges. In contrast, none of the rural teachers said both factors. In addition, similar to the previous questions, we also found that few non-rural teachers had no problems adapting or delivering the curriculum to the new settings. The reason was that their school had already provided a steady learning system. Though the number is few, their answer might encourage the idea that ideal online learning could occur when schools fully support teachers and students. In addition, the fact that teachers from both groups pointed out that instruction delivery was the most challenging teaching factor seems to support what Yarrow et al. (2020b) reported regarding the insufficient pedagogical knowledge of Indonesian teachers.

5. Perceived Opinion about the Effectiveness of Integrating f2f and Online Distance Classrooms

Most teachers from both groups agreed that integrating f2f and online learning would be effective. They believed the integration would provide more learning opportunities for students. Students could access learning and review the lessons at home according to their pace. In addition, the teacher could maximize f2f meetings in the classrooms with monitoring and interaction through discussions rather than content delivery. Both groups also agreed that the integration would provide more input channels for students, which might offer better options to the various learning styles of students. This finding might indicate that the integrated setting will benefit the cognitive domain.

Table 12.6 Teacher's Opinion regarding the Integration of Online Distance and f2f Learning

Opinion about the integration	Non-rural	Rural
It will be effective	55%	48%
It will not be effective	27%	28%
No answer	18%	24%

Source: Authors

In addition, Table 12.6 discloses that more teachers in rural areas believed that the integration would provide a more inclusive learning process because they considered the technology might compensate for limited school facilities. In addition, teachers in remote areas might keep updated with the technology while preserving the learning culture that f2f usually has. However, none of the rural teachers mentioned that the integration offered a safer environment for students and made teaching more accessible, while few non-rural teachers did. It seems that few non-rural teachers identified more benefits from online distance learning. Some teachers might realize that hybrid teaching might provide a safer learning environment despite poor sanitation in many Indonesian schools (Yarrow et al., 2020b).

The percentage of teachers from both groups stating that the integration would not be effective, as displayed in Table 12.6, is almost the same. However, non-rural teachers identified various reasons to support their disagreements. The reasons included the less inclusivity of the settings, extra workload for teachers, difficulties in class management, limited infrastructure, and problems cooperating with unsupportive parents. In addition, some teachers admitted that only f2f was a better approach and thus suggested that online distance learning would not be necessary if f2f could be done. Among those reasons, non-rural teachers shared only two reasons. They were the limited infrastructure and the opinion that only f2f was a better method. In other words, pessimistic teachers about the integration method will face future challenges in the teaching domain.

6. Perceived Opinion about What Factors Make Successful Hybrid Learning

Teachers from both groups agreed that hybrid infrastructure is essential for successful hybrid learning. Other factors are the teachers' digital literacy, stakeholder cooperation, time management, effective teaching methods, active participation, and effective course content design. Overall, the findings of this section validate the CoI framework for hybrid learning from Garrison and Vaughan (2008), which

described the vital role of teaching presence. Teaching presence directly impacts social and cognitive presence in education (Garrison, 2007; Garrison & Vaughan, 2008). The teacher participants in this study seem to highlight important factors to increase the teaching presence in hybrid learning.

Table 12.7 Teacher's Opinion regarding the Most Important Factor to Accomplish an Effective Hybrid Learning

Factors	Influenced Dimensions	Non-rural	Rural
1. Teacher's digital literacy/skills	Cognitive and Social	11%	11%
2. Hybrid Infrastructure	Cognitive and Social	27%	33%
3. Stakeholder cooperation	Cognitive and Social	15%	9%
4. Time management	Cognitive and Social	3%	2%
5. Effective teaching methods	Cognitive and Social	13%	29%
6. Students' active participation	Cognitive and Social	9%	2%
7. Effective course content design	Cognitive and Social	10%	2%
8. No answer	-	11%	11%

Source: Authors

All factors mentioned by the teachers in Table 12.7, either the teacher- or student-related ones, directly influenced both the cognitive and social presence domains. Out of seven factors, one factor is student-related. The teachers associated the students' participation with their motivation and willingness to interact with others during online distance learning. This factor was also mentioned by Ashraf et al. (2021) as one of the most important aspects to be paid attention to in the future when implementing hybrid learning.

G. Conclusions and Future Directions

Teachers from rural and non-rural areas shared a similar opinion that online learning was challenging in many aspects of learning, such as teaching, social, and cognitive domains. Among these three domains, teachers reported that they faced many factors in teaching domains. Teachers from rural areas highly mentioned limited infrastructure as the most challenging factor in facilitating learning, while teachers of

non-rural areas mentioned selecting instruction methods that will stimulate social and cognitive presence in learning as the most difficult one. Despite realizing the other challenges, teachers from both groups showed an optimistic view about implementing hybrid learning in the future. Both groups agreed that online learning might positively contribute to professional development and provide more inclusive access to better education. Thus, hybrid teaching might recover students' learning loss due to the COVID-19 pandemic.

The Indonesian government must address two fundamental issues to achieve effective hybrid learning. The first is to build an adequate online distance learning infrastructure, especially for rural regions. This infrastructure is one of the crucial elements in supporting teaching presence. Teachers must be equipped with effective online delivery instructions along with adequate infrastructure. The proper teaching methods will significantly improve the social and cognitive presence. By improving teaching, social, and cognitive presence in learning, students might experience a better-quality education.

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