

six experienced teachers to interpret their experiences on taking online classes during this pandemic and in normal times in the future.

2. LITERATURE REVIEW

The quick shift from face-to-face educational formats to online modes due to the COVID-19 pandemic has suddenly given many teachers a new sense of the difference between teaching online and in physical classroom settings (Rapanta et al., 2020). Ries and Wagner (2020) reported that if the COVID-19 situation becomes stable, a number of universities in the United States have decided to consider the possibility that in-person classes may not resume until 2021. Kabir (2020b) also postulated that due to the unpredictability of the pandemic people may have to maintain social distancing measures even after the COVID-19 phase, probably until 2022—such as in relation to staying at home; attending public functions, following World Health Organization hygiene guidelines; and school closures (Li, 2021). Therefore, it is likely that the return to the face-to-face classroom education will be delayed and teaching online remotely will continue throughout the upcoming years, at least for the next 1 or 2 years. Similarly, in the wake of an increasing number of coronavirus cases in the country, the government in Bangladesh has decided to cancel one of the public exams for the higher secondary school students and hinted that school closures will continue at least until mid-2021 (The Business Standard, 2020). Thus, both policymakers and secondary school teachers have no option but to continue with online education until a return to normalcy after the pandemic is over.

Online teaching involves using a diverse range of digital tools and platforms, pedagogical approaches, and institutional arrangements and supports, as well as assessing interactions and implementing monitoring—with many potential combinations of these operations and integrations (Helm, 2015; Wang, 2009). The term online teaching is massively used but with a wide range of meanings (Singh & Thurman, 2019). In this article, in relation to Bangladesh, we refer to online teaching as a mode of teaching that is mediated by a variety of means. These modes range from recorded lectures on National TV and YouTube to different online interactive platforms such as Google Class, Zoom, and Facebook Live (Farhana et al., 2020). In Bangladesh, the speed of the Internet also varies widely in urban and rural areas (Farhana et al., 2020; Mamataz, 2017). This difference happens due to the socio-economic disparity between urban and rural areas. Several researchers have pointed out that the urban–rural contextual difference is one of the factors that makes the classroom context different (Hasnat, 2016, 2017). The required technological devices and equipment needed to teach online classes are not cheap and Internet data are expensive in Bangladesh, where only 60% of secondary school teachers have access to the Internet and 92% of them access the Internet through their smartphones (Kabir, 2020a; Ahmed & Kabir, 2018). However, Biswas et al. (2020) contended that 100% Internet connectivity in Bangladesh is not available for both teachers and students. They further stated that most students are very familiar with online learning and have a positive perception of learning and studying via

underpinnings. The approach to this study was qualitative in nature and the exploratory research method was used to interpret the in-depth interview data. Exploratory research is defined as a research method employed to investigate a problem that is not clearly explained (Given, 2008). It is used to gain a better understanding of an existing problem when no single answer provides conclusive results for that problem (Given, 2008). Lichtman (2017) argued that when conducting exploratory research, in-depth interview data can be used as a primary data source, providing researchers with a powerful means of gathering data. The forced adaptation of online teaching during this pandemic is palpably one of those problems to be explored in the context of Bangladesh.

3.1 Participants

In total, the authors interviewed six teachers (T1–T6) via Zoom. The usual duration of each interview was 20–25 minutes. The teachers were selected based on the following three criteria: (a) teaching expertise (based on their vast experience); (b) experience in both face-to-face and online teaching; and (c) willingness to cope with changing situations. All of the teachers were currently secondary school teachers at an urban school. In this study, the authors used pseudonyms for each teacher (i.e., T1–T6). Table 1 gives the details pertaining to the participants.

TABLE 1: Secondary school teachers

Teacher	Description of the Participants	Instrument
T1	A secondary school teacher who has been teaching for 15 years	Semi-structured Interview
T2	A secondary school teacher who has been teaching for 15 years	
T3	A secondary school teacher who has been teaching for 15 years	
T4	A secondary school teacher who has been teaching for 12 years	
T5	A secondary school teacher who has been teaching for 12 years	
T6	A secondary school teacher who has been teaching for 10 years	

3.2 Data Collection

To collect the qualitative data, one-to-one interviews were conducted via Zoom. Since the interviews were semi-structured, the participants were asked the questions given in Table 2 at the beginning of the interviews.

currently known about the online teaching understandings of the secondary school teachers in Bangladesh. Then, the interviews were qualitatively analyzed and the emerging categories were used to develop typologies of the teachers' learning paths under changing circumstances.

4. FINDINGS

The findings revealed a considerable range of reflections from the secondary school teachers between the online and face-to-face classes in connection with the pedagogical and technological challenges and the extent to which this was enabled through the guidelines for test developers and their adaptations and actual practices. Each of the three key themes is elaborated in this section.

4.1 The Gap between Online and Face-to-Face Classes

The interviewees reported different opinions about the changed mode of their teaching during this pandemic. First, to start the discussion, our first question to each of the interviewed teachers was the following. In what aspects do the teachers think online teaching is different from face-to-face teaching? This question was intended to help us understand the perceptions of the teachers about the pedagogical gaps between an online and face-to-face class. The authors also intended to see if there was any gap between an online and face-to-face class in relation to the effectiveness of the teaching–learning process and its outcome, and if so what were the challenging issues that hindered the teaching and learning quality. In this process of discussion, two teachers provided their insights:

Whatever I say about online classes, it cannot be the replacement of a face-to-face class. Students seemed serious to me in a face-to-face class rather than in an online class. It is harder to judge the attentiveness of the students in an online class than in a face-to-face class. To get students' feedback is also difficult in online. Even the students are also not serious about online assessment. It also seems to be challenging to assess online. Conducting exams physically is easy to me. (T1)

I think a face-to-face class is always more effective than an online class. Moreover, taking an online exam seems quite difficult as it's hard to connect all the students at the same time to sit for the examination. It is also complex to preserve the grading of regular assessments. So we encourage our students to submit their homework and assignment online so that we can keep them involved with the school. But online assessments cannot be the replacement for face-to-face assessments. (T5)

It is relevant to comment here that although T1 seems not to prefer online classes over face-to-face classes, the use of the word replacement indicates that online classes and assessments may be for the time being or act as a makeshift arrangement during this COVID-19 situation but it can never be an alternative way of teaching and assessing in a physical classroom. In favor of his statement about face-to-face class, T1 avers that he finds

In a face-to-face class, I can get a panorama of the whole class. But when I record the class on video, it seems that I am speaking to the camera. I don't enjoy the vibe of a physical classroom. I can't see the reactions of the students. It feels that I can use my natural teaching ability more in a physical class than in an online class. (T3)

Whatever I try to deliver a lively lecture to record and upload online for my students, I think I can't do it like the way I do in a face-to-face class. In a recorded lecture, students can get to know the topic explained by me but they have no scope to make questions or interact with me. I also can't know whether they got me or not, especially the weak students. (T4)

The statements by T3 and T4 indicate that their understanding of online classes means the recording of lectures and uploading them online. T3's use of the phrase "speaking to the camera" clearly indicates that he does not enjoy recorded teaching and prefers face-to-face teaching. The comment by T4 also signals that he is not clear about the possibility of an interactive class online. This indicates that he is not trained for online classes, both pedagogically and technologically, because online assessment involves both pedagogical and technological skills. Research in the context of Bangladesh also claims that since the pandemic happened suddenly and unexpectedly, the teachers had no previous training in teaching online classes (Farhana et al., 2020). Therefore, from the perspective of T3 and T4, it is debatable to conclude whether or not online classes could be made successful or interactive.

In this regard, the vignette of T6 completely differs from the rest of the participants. He actually suggests the utility of both face-to-face and online classes and the necessity of online classes by making some distinctive features. He stated:

Actually, you know, I don't want to compare both the mode of teaching. An online class cannot be a replacement for a face-to-face class. It can be an alternative for emergency situations like lockdown or quarantine situations. I can always feel a lively atmosphere in a face-to-face class that is absent in an online class. For example, teaching face-to-face is like visiting a place physically and see the place practically. However, online teaching is like watching that place on TV. You can't feel the sense of bonding with the place to you. Similarly, when I teach online I cannot feel that I am attached to my students. (T6)

The statement by T6 highlights the ongoing argument among the secondary school teachers in Bangladesh about whether an online class is better than a face-to-face class or vice versa. His use of analogy to describe an online class—"online teaching is like watching that place on TV"—projects that he misses the idea of the real-time and interactive reality of a physical classroom. In terms of the connectedness to the students, his notion is also similar to that of T3 and T4 in this regard. Moreover, he also hinted at a pivotal point that a firm bonding between a teacher and the students is less likely to take place in an online class. Different empirical findings (Ganesh et al., 2015; Sparks, 2019) have shown that for effective and life-long learning, teachers are required to meet regularly with their students to give feedback about their learning and engagement in the classroom, and to brainstorm better ways to reach out to them. In a face-to-face classroom, both students and teachers develop deeper

the lockdown situation is also evidenced in other research findings within the Bangladesh context as well as the international context. Khan et al. (2020) contended that educational activity has been hampered due to the lockdown and quarantine, which has caused the prevalence of stress, anxiety, and depression related to COVID-19 among home-bound students in Bangladesh, and online education can be one way of reducing these mental problems experienced by students. In an international context, Liang et al. (2020) also suggested that since quarantine has isolated students from their schools, students have developed depression by staying at home and feeling isolated, which can be solved by keeping them connected through online classes.

4.3 The COVID-19 Pandemic Helped Teachers Improve Digital Competence in Teaching

Teachers viewed online teaching aspects and experiences in a new light. They stated that the pandemic helped them improve their teaching and professional skills. Most importantly, the COVID-19 situation helped teachers support students through technology-enhanced online teaching. They learned to prepare digital content for teaching. They also developed their knowledge of ICT, which they applied for educational purposes. Several vignettes from the participants are the following:

However, in an online class, I can use teaching aids more. In the future, online teaching can be supplemented with face-to-face teaching if needed after the pandemic. The COVID-19 pandemic has taught me many technical features for online teaching and learning. (T1)

To record a lecture, I rehearse several times in front of the camera. After that, I record the final version. This process has improved my lecture ability than before. I am sure this improvement will help me to conduct a better face-to-face class in the future. (T2)

Online classes helped improve our professional development as a teacher. In my teaching career, I never thought of a class for a long on how to conduct but in this pandemic, I have thought a lot about how to make my online lecture better. So, every day, I improve a lot as a teacher. (T4)

Due to the experience I have gathered from the online classes, I am now confident enough to manage and format technical issues of a computer system in the future. I have also come to know how to prepare a tabulation sheet using the Excel program. (T5)

I would have never learned different aspects of IT to use in my lecture if there would be no online classes during this pandemic. I even might not learn the IT skills to apply in the classroom lecture. (T6)

Interestingly, most of the teachers shed light on a wider digital transformation process in the education system of the school, which also increased their beliefs about their abilities in using technology to succeed in online teaching situations. T1 clearly states that online

both their pedagogical and technological needs. All of the teachers reported that despite the pedagogical and technological challenges, they maintained online teaching in a connective way with their students. The majority of the teachers stated that they had been introduced to new teaching and learning content for online classes. In addition, the teachers also faced challenges in assigning tasks for assessment and providing feedback to their students.

The results obtained in this study indicate that one of the major reasons for the struggle with online classes is that teachers lack digital competence. Some teachers reported that they struggled to adopt online classes or they were technophobic. The online teaching–learning environment is much different from a face-to-face class, which takes some getting used to. A teacher needs to be accustomed to a variety of online digital toolkits beyond physical classroom walls. She/he should have the conceptual ideas of online teaching platforms such as, for example, Google Classroom, Zoom, and Blackboard. In addition, to make an online class effective, a teacher needs to know how to use free teaching materials from online resources and distribute them during online classroom talk and tasks. Several researchers have claimed that an online class can be synchronous or asynchronous but it should be live and interactive at a certain point in time between a teacher and the students (Kohnke & Moorhouse, 2020). A teacher needs to know numerous pragmatic and easy-to-implement concepts in order to use teaching materials that can be put into practice immediately with little or no preparation.

When the authors analyzed the emergent factors of the challenges, a number of participants further reported the challenges of conducting online assessments, providing feedback, and keeping records of the assessments, which thus far have been mastered to a lesser extent. This happened mainly for two reasons: (1) teachers lacked self-efficacy, and (2) teachers were unfamiliar with the required technological and pedagogical knowledge necessary to teach online classes. The existing research also suggests that as relevant facets of teacher competence, teachers' self-efficacy and technological–pedagogical knowledge are significant components in providing feedback to students online (König, Jäger-Biela & Glutsch, 2020). Thus, it is necessary to help teachers develop their technological literacy of different online learning models such that they can overcome the issues of online assessment and feedback to their students.

This study also identified that if teachers had not provided online classes during the closure of schools due to the pandemic, mental health problems could have become a serious concern among secondary school students. Therefore, online classes helped students stay connected with their teachers and maintain some continuity in their studies. Despite the argument of the quality and effectiveness of the online classes by the teachers, the online classes also created an opportunity for the teachers to transform, adapt, and learn new knowledge and skills to improve themselves for the post-pandemic world and their future face-to-face classroom contexts. The online teaching experience in the pandemic has been able to reshape the teachers and their professional knowledge of how to function and respond to any challenging situations.

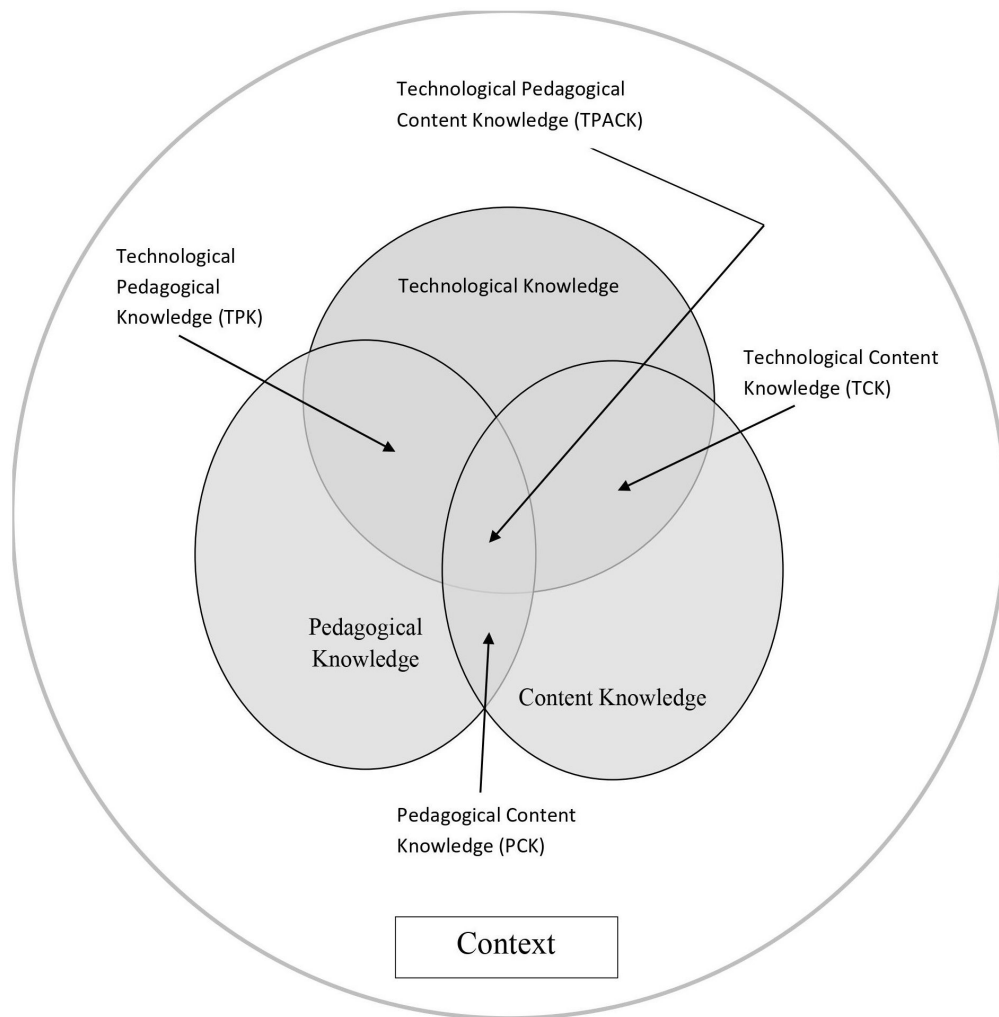


FIG. 1: The technological, pedagogical, and content knowledge (TPACK) framework [adapted from Mishra and Koehler (2006)]

The concept of the TPACK framework may represent a full understanding of how to teach with technology for secondary school teachers. In this study, it was found that teachers have sufficient knowledge of teaching content but only limited knowledge of online teaching pedagogy and the use of technology. Therefore, if teachers know how to incorporate all three major elements when teaching online—technology, pedagogy, and content—the challenges of online classes related to pedagogy and technology may be reduced. Therefore, the focal point of the TPACK framework is to recommend that teachers understand how to use technology in order to teach concepts in a way that enhances student learning experiences.

5.2 Our Reflections as Practitioners

Being the practitioners, we, the authors, were also involved in online classes during this pandemic caused by COVID-19. Although online teaching was a new phenomenon for us, we initially found it challenging but also an opportunity to learn new skills in pedagogy and technology. We found that many learners in our class willingly participated in discussions in an online class who used to sit quietly in the back in a physical classroom. The probable

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