

Philippines teachers' beliefs on digital teaching competence in post-pandemic recovery: Still prefer online?

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ABSTRACT

As the effect of school closure following the coronavirus lockdowns, the use of virtual classrooms has extremely rocketed to replace face-to-face school interaction. This change has resulted in new habits and adaptation in methods and approaches of teaching, particularly in the era of post pandemic recovery. This study is based on the phenomena occurred in most of school environments where digital (online) teaching practices become a new habit for teachers and students. A question that may arise is "do they still prefer online after the pandemic?" Drawing on this issue, this study aims to examine the beliefs of Philippines junior high schools teachers on digital teaching competence and to explore their preferences on teaching methods (online or offline) in post pandemic recovery. This study utilized a discovery-oriented qualitative approach, bridging into personal narrative and ethnographic perspective by involving twelve teachers teaching at several junior high schools in Davao Philippines. The results revealed that the teachers' beliefs mattered in terms of digital platforms (tools) and classroom activities. The results further depicted that their acquisition of digital teaching competence greatly depended on teacher professional development programs and individual trainings. Moreover, this study also discussed the teachers' preferences on the model of teaching either online or offline after the schools is opened. The results of this study contribute to providing valuable insights into redefining the situation of teaching and learning process in the era of post pandemic recovery.

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Introduction

The emergence of coronaviruses (COVID-19) has changed people behaviors and attitudes in almost all aspects of life, including in education system. As the effect of lockdowns and the closure of formal schools, face-to-face teaching activities has shifted to out-of-class learning interaction in virtual classrooms by using digital platforms. The change of education system has pushed teachers to adapt to a new digital epoch, a space where technology dominates every aspect of teaching (Klimova, 2019; Nugroho et al., 2021). It happens in almost all countries in the world, not except in Philippine junior high school education contexts. The way teachers communicate with students, how they deliver teaching materials, and how they assess students' performances have massively been changed. In such situation, Technology-Assisted Learning tools are crucial to be consistently utilized by teachers and students at all levels, from elementary and secondary schools to higher education (Mahmood, 2021; Wahyuningsih & Baidi, 2021).

It is undeniable that online teaching, or blended teaching, has been gaining its popularity since the recent years at the time of COVID-19 pandemic. It has proved to be a promising approach that could be a practical alternative and solution of distance

learning (Ivone et al., 2020). It also accommodates a diversified cohort of students while adding values to the learning environment (Bai et al., 2019). However, face-to-face learning still has its deep theoretical foundations embedded in the social constructivist theory of learning (Marchand & Gutierrez, 2012; Miller & Morris, 2016). Through face-to-face learning, teachers argue that they can implement methods or strategies to ensure students actively engage in the teaching activities as well as retain students' attention (Bali & Liu, 2018). Moreover, teachers are able to keep controlling students' attitudes and maintaining classroom interactions in an interactive way by seeing directly the students (Nartiningrum & Nugroho, 2021). Therefore, there is an interesting issue about the current phenomena which occurs in our education system lately. In one hand, online teaching and digital learning have been a new habit for teachers and students in conducting classroom activities; on the other hand, teachers are forced to be equipped with satisfactory knowledge and skills of digital teaching, which is found difficult for them (Webb & Doman, 2020), particularly in a developing country like Philippine. That is why, the issue of teachers' beliefs about digital teaching competence and their preferences on either online or face-to-face learning becomes an interesting attribute to explore. The present study; hence, is directed to portray this interesting issue through a survey research involving junior high school teachers in Davao Philippines.

In the recent years, teachers' cognition has been studied as an independent research variable, with the main concerns on what teachers think, believe, and recognize about their teaching activities and attitudes (Ertmer et al., 2012; Galvis, 2012). In the context of this study, teachers' beliefs about digital teaching greatly influence the success of online learning (Ertmer & Ottenbreit-Leftwich, 2010). As teachers play crucial roles in education system, pedagogical knowledge and practice about technology integration is 'a must-acquired competency' that all educators today should have and must be supported with teacher training programs and professional developments (Specht et al., 2021). However, in fact, research showed that teachers slightly acquired digital teaching competencies as reflected by a disparity between their beliefs and practices about digital learning activities such as what happened in Australia (Flack et al., 2020), Indonesia (Nugroho & Mutiaraningrum, 2020), Sweden (Sundberg et al., 2012), USA (Ertmer et al., 2012), and many other contexts. Therefore, investigation about teachers' beliefs on digital teaching and learning should be continuously conducted.

Borg (2015) defines teachers' cognition as what teachers think, know, and believe. Studies about teachers' beliefs become crucial part of teacher cognition research. Teacher cognition research was studied at the late of 1960s and early 1970s, when it was conceptualized largely and teachers were considered as skilled workers (Birello, 2012). At the time, teachers were seen as technicians whose tasks were to apply the right methods and strategies to facilitate students' learning process. Since then, teachers' knowledge, in particular teachers' pedagogical content knowledge (TPCK), emerged as a major focus which attracted researchers' and academicians' attention. The TPCK framework focuses on the interactions between three elements: content, pedagogy, and technology (Koehler et al., 2013). These three elements are crucial for developing good teaching practices as teachers employ technology to teach content (materials). Thus, examining teachers' beliefs and cognition about technology-based teaching is important to ensure the success of learning in digital era.

Studies about teachers' beliefs on the integration of technology in teaching practices have been conducted with various results. An & Reigeluth (2011) explored teachers' beliefs, perceptions, barriers, and support needs in the context of creating technology-enhanced, learner-centered classrooms. Using an online survey, the study provide practical insights into how to support teachers in creating technology-enhanced, learner-centered classrooms. Ertmer et al. (2015) examined teachers' beliefs and uses of technology to support 21st century teaching and learning. They pointed out that teachers' pedagogical beliefs and their use of digital technologies were closely related and greatly

influenced each other. They suggested that teachers' beliefs and digital teaching practices should be synchronous to support today's model of teaching and learning. In a similar direction, O'Neal et al. (2017) scrutinized elementary school teachers' beliefs about the role of technology in teaching and learning in the southeastern United States. The results indicated that although teachers see the value of technology for teaching and learning, they require more guidance on what constitutes digital teaching and how to effectively integrate technology. This result implies that there is a discrepancy between teachers' beliefs and practices about digital learning.

Moreover, Sadaf and Johnson (2017) investigated teachers' behavioral, normative, and control beliefs related to digital literacy integration into their classrooms. The findings revealed that teachers' integration of digital literacy were closely related to their behavioral beliefs about the value of technology usage for developing students' digital competence, increasing students' engagement, and preparation for future careers. More recently, List (2019) examined pre-service teachers beliefs about digital literacy development as aligned with three conceptions of digital literacy, i.e. digital natives, skill-based, and sociocultural perspectives. The results disclosed that teachers' beliefs on digital literacy development include both formal and informal settings that can be used to foster students' interests and motivation to develop digital competence. Furthermore, Zhang (2020) investigated Chinese as a foreign language teachers' beliefs about modes of online teaching and self-assessment of digital competence. The findings showed that the beliefs held by the teachers affected how the implement teaching and learning activities in classrooms. Their digital competence depended on whether the teachers have been allocated ample institutional time to upgrade their digital competence through trainings and professional development programs.

Despite the enormous studies on teachers' attitudes about online learning as mentioned above, teachers' beliefs about digital teaching competence in post pandemic recovery still remains unexplored, particularly in the context of Philippine secondary level. Moreover, teachers' preferences on online or offline learning modes after the COVID-19 pandemic, which could be a novelty of this study, become an interesting issue to explore. Therefore, the present study aims to provide clear picture about Philippine secondary school teachers' beliefs on what expertise in digital teaching as well as to investigate pedagogical competencies that the teachers need to acquire when teaching in digital mode. This study further seeks the teachers' preferences on digital or traditional modes when schools are opened in post pandemic recovery. To ensure the objectives, this study is guided by three research questions: (1) what digital tools do Philippine secondary school teachers widely use and what tasks do they carry out while teaching online? (2) what are the Philippine secondary school teachers' beliefs about digital competence in their teaching? and (3) what are the Philippine secondary teachers' preferences on teaching modes in post pandemic recovery (online or offline)?

This study is directed to achieve multiple contributions. Firstly, it calls for increased attention to the importance of teachers' beliefs about digital learning and their actual practices in classrooms. Secondly, this study offers insights for current Philippine secondary teachers who are exploring options on how to deliver online lessons successfully. Thirdly, this study is expected to portray clear thought and preference of the teachers either they are enjoy teaching online or offline in post pandemic recovery.

Method

Research context

This study was based in Davao city Philippine and employed a survey research to reach its objectives. Philippine is one of Southeast Asian country to close schools and universities in attempt to stop the spread of coronaviruses. This situation sent teachers and students back into their homes while teaching and learning activities should be

remained. This study examines the perceptions and beliefs of Philippine secondary teachers about digital teaching competence as well as their idea about teaching modes after the pandemic. An electronic survey research was chosen as it was the most appropriate method to bridge into the teachers' views and beliefs about digital teaching. Kays et al. (2013) defines an electronic survey as survey in which digital platforms play a major role in both the delivery of a survey to potential respondents and the collection of survey data from actual respondents.

Participants

Twelve teachers teaching at several junior high schools in Davao city Philippines were recruited to contribute in this study. They are all are Philippines; eight of them earned bachelor degree and the other four hold master degree. To protect their privacy, each participant is ascribed to a pseudonym (P1-P12). All personal data, of which participants live and work, are deliberately vague. Table 1 presents the participants' information background. Their ages were varied from 22 to 36 years old. They consisted of 8 female and 4 male. Their teaching experiences varied from 3 to 13 years, with most of them have been teaching for more than 5 years.

Table 1. Participants' Information

| Participant | Age | Gender | Education background | Teaching Experience |
|--------------------|------------|---------------|-----------------------------|----------------------------|
| P1 | 23 | Female | Bachelor degree | 2 years |
| P2 | 22 | Female | Bachelor degree | 3 years |
| P3 | 27 | Female | Bachelor degree | 7 years |
| P4 | 31 | Female | Bachelor degree | 6 years |
| P5 | 37 | Female | Master degree | 11 years |
| P6 | 38 | Female | Master degree | 13 years |
| P7 | 29 | Female | Bachelor degree | 6 years |
| P8 | 28 | Female | Bachelor degree | 6 years |
| P9 | 27 | Male | Bachelor degree | 6 years |
| P10 | 28 | Male | Bachelor degree | 7 years |
| P11 | 34 | Male | Master degree | 10 years |
| P12 | 30 | Male | Master degree | 7 years |

Instrument and data collection

Nationwide lockdowns and restricted social policy limited our movement in collecting data for this research. No face-to-face interviews and contact were possible at the time of lockdowns. This study made use of electronic mail to distribute an online qualitative survey to the participants. The questionnaire is anonymous. The survey questionnaire is designed into three parts. The first part covers short multiple-choice questions, with the aim to collect data about the participants' use of digital tools. The question items are such as selecting recently used online tools, selecting activities that use digital platforms, and how to incorporate digital tools in teaching. The second part of the questionnaire comprises four open-ended questions, with the aim to seek the qualitative data about teachers' beliefs and perceptions of digital teaching competence. The third part requires the participants to expose their preferences on teaching modes (online or offline) in post pandemic recovery as well as their reasons of the choices.

Data analysis

The first step of data analysis was identifying and distinguishing common answers of the first part of the survey questionnaire related to the use of digital tools and teaching activities performed by the teachers. The second step was to search for the same or similar concepts expressed by the participants to identify emergent themes or patterns.

The third step was scrutinizing the participants' responses by adopting thematic analysis (Yin, 2015). The thematic analysis searched for commonalities emerging from the teachers' responses. It also highlighted contrasting responses and views of the teachers. Finally, the whole participants' responses were analyzed, reviewed, and integrated the emerging themes as reflected from the twelve participants that further lead to the final results of conclusion drawing. To guarantee the reliability of the data, triangulation, and the whole process of the research, observation of four teachers' online teaching was conducted by the author.

Results

Digital tools for online teaching

The first question of this study seeks the answers of digital tools used by Philippine secondary teachers in conducting their digital teaching. Table 2 presents several digital tools that were frequently employed by the teachers for online teaching, especially during the pandemic. The use of Office software such as Ms. Word and PPT were the most frequently used by the teachers in online teaching. Audio/video recordings, Learning Management System such as Google classroom and Moodle, and social media like facebook and instagram were also used to facilitate the online teaching.

Table 2. User frequency of digital tools for online teaching

| Tools frequently used by teachers in online teaching | User frequency |
|---|-----------------------|
| Office software (Ms. Word, PPT, etc.) | 35% |
| Audio/video recordings (Youtube videos, etc.) | 21% |
| LMS (Google classroom and Moodle) | 13% |
| Social media (Instagram and Facebook) | 11% |
| Live video conference (ZOOM, Google meeting) | 9% |
| Online dictionary (Google translate) | 6% |
| Other websites containing supporting materials | 5% |

One of the participants, P2 commented positively on using Office software or video in online teaching:

"I think the most important thing to conduct online teaching is making the students interested in our teaching materials. It is important to keep them stay focus in joining learning activities. In my case, I think using PPT and audio-video recordings to facilitate delivering materials is appropriate and effective." (P2)

Use of LMS and social media such as Google classroom, facebook, and instagram makes incredibly easy for teachers and students to share assignments in forms of documents, videos, or picture. These platforms also facilitated sharing ideas and work together in real-time. P7 who used Google classroom and facebook much more frequently since this online teaching, commented:

"It is very convenient to control and comment the students' works through Google classroom and facebook, for example seeing their videos uploaded in facebook and directly give comments in 'comment feature'." (P7).

P7's use of interactive digital platforms reflected her beliefs that teaching becomes effective and convenient when conducted in an interactive environment. Teachers and students could collaborate to achieve the teaching objectives. Integrating various digital

platforms into teaching activities assists the teachers to establish a helpful environment to cultivate a meaningful experience.

Tasks and activities of using digital tools in teaching

When they were asked what pedagogical tasks and activities implemented in online teaching, the teachers provided description a general picture of which teaching activities include the usage of digital tools. As depicted in table 3, collecting and correcting assessment of the students' works was the most frequently conducted activity during the online teaching. Moreover, analyzing videos and explaining materials were also carried out by the teachers (see Table 3).

Table 3. Teachers' Tasks and activities for online teaching

| Tasks of using digital tools in online teaching | Use percentage |
|--|-----------------------|
| Collecting and correcting assignments | 26% |
| Delivering materials using PPT and videos | 23% |
| Designing quizzes and online exercise | 21% |
| Group-based and collaborative works | 16% |
| Discussing a particular topic | 14% |

Most of the participants commented that giving the students assignments and delivering materials are the most effective way to keep students' attention and guiding them through lessons. By the activities, students tended to attentively understand materials and do the assignments. Later, teachers could facilitate discussion of the assignments using Video conference or social media.

"Digital platforms such as social media and LMS can facilitate students to send assignments in various forms such as document, voice notes, and videos. I can give one-to-one feedback and comment. The feedback is very crucial when teaching secondary level." (P12)

Similar to P12, P4 shared his views:

"I think the digital platforms today are advanced, reliable, so we can share anything by using them. Therefore, the teaching effect and environment can be almost the same as that face-to-face interaction in real classrooms." (P4)

Contrary to P12 and P4, P1 holds a slightly different view. He commented:

"Overall, I don't find online teaching more effective that face-to-face teaching. In my opinion, digital platforms which are exist today cannot replace the efficacy of formal teaching in schools. It is because teacher not only giving knowledge but also transferring attitudes. This could not be done online." (P1)

Teachers play a crucial role in designing classroom activities. In terms of online teaching, the teachers prefer to conduct teaching activities similar to face-to-face learning. However, it was also found that some teachers believed the efficacy of offline teaching instead of online teaching. This finding becomes interesting in order to see their preferences on the teaching modes either online or offline when the schools are officially opened in post pandemic recovery.

Teachers' beliefs about digital competence

Related to the second research question, the teachers were asked to reveal their beliefs about digital teaching competence. In other words, they have to share their ideas and views about the ideal digital competence that teachers should have. We use three key elements of teachers beliefs as proposed by Borg (2015), i.e. ability, awareness, and attitudes. Table 4 shows teachers' beliefs about digital competence as resulted in this study.

Table 4. Teachers' beliefs about digital competence

| | |
|-----------|---|
| Ability | <ul style="list-style-type: none"> ▪ Having knowledge and skills to design interactive digital learning (P1) ▪ Being skilled in using various digital platforms to support teaching (P2) ▪ Acquiring a good command and control over the students in digital learning environment (P5) ▪ Possessing ability to use and take benefits of digital tools (P6) ▪ Mastering tips and steps of using digital tools from beginning to the end of the online classroom without technical problem (P7) ▪ Holding ability to operate digital software in online teaching (P9) |
| Awareness | <ul style="list-style-type: none"> ▪ Awareness of fundamental differences between offline and online teaching (P10) ▪ Awareness of using digital tools to facilitate students' learning, not to do other purposes (P12) |
| Attitude | <ul style="list-style-type: none"> ▪ Attitude of being agile and attitude to being open-minded for digital teaching practices (P11) |

Moreover, institutional support and teacher's motivation were found to be the two key factors that influenced the teachers' digital competence development. The majority of the participants said that these two factors are crucial for enhancing their knowledge and skills of digital teaching competence. As P9 and P11 said:

"It is very important for teachers to be involved in training programs related to digital competence and have a basic understanding of digital competence. In this case, institutions are to supportive by offering teachers' development programs and training about digital competence." (P9)

"Beside the institutional supports, it is also crucial for us [as teachers] to regularly upgrade our digital competencies individually when we are in our leisure time". (P11)

Teachers' preferences on the teaching modes in post-pandemic

One of interesting findings in this study is related to the teachers' preferences on online or offline teaching in post pandemic recovery. Although this study resulted in good perception of teachers toward the digital teaching, the majority of teachers (8 out of 12) declared that they preferred face-to-face teaching in formal classroom instead of conducting the online teaching. The primary reason conveyed by the teachers was that regarding the teachers-students' familiarity on the use of various features offered by digital platforms. They believed that digital teaching could assist them in creating interesting and attractive online classroom activities. However, they confessed that they have to struggle to be equipped with adequate knowledge, skills, and competencies on

how to administer teaching in online mode. Below are some participants' comments about this issue.

"For me, digital teaching is interesting. But, if I have to choose between online and offline teaching, I would choose offline teaching because I can directly meet with my students and I can control their attitudes toward classroom activities." (P9)

"I would prefer offline teaching, because teaching is not only transferring knowledge but also giving example about behaviors and attitudes, and it could not be done online". (P10)

"I am interested in digital teaching since today we have to follow the trends. But I prefer offline teaching for now because to be honest I am not having adequate knowledge about designing interactive digital teaching activities. May be we have to do more practices and trainings." (P3)

Discussion

Drawing on the data analysis, this study reveals that Office software such as Ms. Word and Power Point Presentation becomes the most frequently used digital platforms to assist the teachers in conducting online teaching and learning activities. In addition, they also make use of videos/audio and social media as the variation of their teaching platforms. This study also shows that Philippines teachers' beliefs mattered in terms of digital platforms and classroom activities they choose to practice. Their acquisition of digital teaching competence is highly based on a range of teacher development programs and personal trainings. In terms of the teachers' preferences, this study depicts that Philippines junior high school teachers prefer face-to-face teaching instead of conducting online teaching because of the slight familiarity on the use of various features of digital tools.

Hence, how do the results imply? First, this study finds that Philippines teachers are more familiar with Office software and social media as the digital platforms to conduct online teaching and learning during the COVID-19 pandemic. This result is similar to the findings of several previous studies in various contexts and countries, particularly in South-east Asia region such as in Indonesia (Aliyyah et al., 2020; Mailizar et al., 2020; Nugroho et al., 2021), Malaysia (Chung et al., 2020; Kamal et al., 2020), Vietnam (Van & Thi, 2021), and Thailand (Nuankaew & Nuankaew, 2021). This fact might be because similar characteristics in terms of culture and educational backgrounds among these countries, where they still remain struggle for enhancing potential educational benefits of technology. With the advanced technological development and teachers' creativity, social media becomes a promising alternative to conduct online learning activities, such as Instagram (Juryatina & Amrin, 2021; Nugroho & Rahmawati, 2020), Youtube (Fakhrudin et al., 2020), and Facebook (Slim & Hafedh, 2019).

Second, this study demonstrates that the Philippines teachers' beliefs on digital teaching competence are affected by the types of digital platforms they choose and classroom activities they implement. It means that when they are using familiar digital platforms such as Office software they tend to feel confident in teaching. However, when they are required to use other variety of digital platforms to assist their online teaching, they tend to be less confident due to unfamiliarity with these platforms. Moreover, teacher professional programs and personal training are found to be the key factor of the success of the teachers' digital teaching competence. In other words, they more they engage in professional trainings on developing digital teaching competence, the higher their level of digital teaching knowledge, practice, and acquisition. This finding supports previous results revealed by Gjelaj et al. (2020) and Mutiaraningrum and Nugroho

(2020) that trainings, both personal and professional, play a crucial role in developing a teacher's digital competence.

Third, this study portrays Philippine junior high school teachers' preferences regarding the teaching mode in the time of post-pandemic recovery. According to the result of data analysis, they prefer offline teaching mode with face-to-face interaction to online teaching. When they are asked the reasons, they confessed that offline teaching is more effective and accurate in terms of material discussion and teaching implementation. It is in line with a proverb saying that 'teachers is not only giving knowledge but also transferring a character', and of course it is difficult to do through online teaching. The finding is also consistent with the previous studies that face-to-face interaction in formal classroom is still considered as the most effective mode today (Makruf et al., 2021; Pei & Wu, 2019; Setyawan, 2019), although we should also acknowledge that the present-day teaching paradigm is greatly influenced by the affordances of advanced technology.

Last but not least, the results of this study provide several implications for teaching and learning both theoretical and practical. Theoretically, this study enhances literature enrichment with regards to teachers' beliefs about digital teaching competence in respond to the modern paradigm of today's learning instruction which focuses on the use of technology. Practically, this study contribute to offering fruitful insights for education stakeholders as a 'wake-up call' in designing appropriate teaching instruments to develop the efficacy of teaching practices both offline and online in a blended learning mode.

Conclusion

This study aims to shed some light on the Philippines teachers' beliefs about digital teaching competence and to explore the teachers' preferences on the teaching modes in post pandemic recovery. Drawing on a discovery-oriented qualitative approach, the results showed that the teachers hold a high beliefs on the important role of technology in digital teaching activities. However, they also acknowledged that they could not perform adequate knowledge and skills of digital teaching. The results further depicted that their acquisition of digital teaching competence greatly depended on teacher professional development programs and individual trainings. An interesting result found in this study is that the teachers more prefer face-to-face teaching instead of the online teaching. Apart from these results, this study has a limitation that the number of participants requires addition to generalize the results of this study. Hence, future research are suggested to conduct an immense project incorporating greater number of participants to depict quantitative analysis about teachers' beliefs on digital teaching competence.

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