Barrot and Acomular
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How university teachers navigate social networking sites in a fully online space: provisional views from a developing nation

Jessie S. Barrot* and Denson R. Acomular

*Correspondence:
jessiebarrot@yahoo.com

College of Education, Arts and Sciences, National University, 551 MF Jhocson St., Sampaloc, 1008 Manila, Philippines

Abstract

Although social networking sites (SNS) have been widely investigated, very limited information is available about how teachers navigate them within a fully online learning space, the challenges they confront, and the strategies they use to overcome them. Thus, we examined these underexplored areas by interviewing 14 higher education teachers in the field of social sciences. Using a cross-case analysis, overall data indicates that teachers had varied reasons for and considered different factors when adopting SNS for online teaching. Our study also reveals that they used SNS affordances depending on their own teaching contexts and took different roles when teaching online via this platform. Although teachers generally viewed SNS as an instructional approach, they also reported several technical, pedagogical, and learner-related challenges, which they attempted to confront using a variety of strategies. These findings confirmed that teachers' pedagogical practices and decisions in an SNS-mediated learning environment are shaped by the interaction between and among the teacher-related factors, SNS as an instructional tool, and teaching goals mediated by the policies (existing or not) and their peers. Some key implications of our findings are on designing teacher development programs, recalibrating national, institutional, and classroom policies, and implementing a systemic approach to mitigating pedagogical challenges in an online learning space. Implications for future studies are also discussed.

Keywords: Online learning, Social networking sites, Social media, Online teaching, Teaching challenges

Introduction

Two decades ago, the second generation of web-based applications emerged. These are known as Web 2.0 technologies that allow users to collaborate, create, and share content on the Internet. Since then, we have seen how they have changed the landscape of education, the way teachers deliver instruction, and the way students learn and process information (Bennett et al., 2012; Faizi, 2018; Hew & Cheung, 2013; Isaías et al., 2021). One popular Web 2.0 technology that has been gaining traction in the field of education is the social networking sites (SNS), which allow both the students and the teachers to produce and share content, process information interactively, collaborate, and interact with one another within an online space (Greenhow et al., 2019; Hew & Cheung, 2013). In fact,

recent reviews have confirmed overwhelming support for the adoption of SNS to facilitate teaching and learning, whether within formal or informal learning contexts (e.g., Al-Qaysi et al., 2020; Barrot, 2021a, 2022; Manca, 2020; Masrom et al., 2021). Conversely, many criticisms and challenges were also reported regarding their appropriateness as a learning platform, resistance from students and teachers, technical glitches, and privacy concerns (Barrot, 2021b; Chugh & Ruhi, 2018; Hsu & Beasley, 2019; Luo & Gui, 2021). Despite these issues, SNS remain a viable online learning platform. Some popular SNS used for pedagogical purposes include Facebook, Messenger, Twitter, YouTube, and WhatsApp.

Because of the massive popularity of SNS, they have been widely used and investigated within the context of blended, flipped, and face-to-face learning and typically from students' experiences. However, very limited information is available about how they are navigated by teachers within a fully online learning space (e.g., Moran et al., 2011; Kamalodeen, 2016; Fedock et al., 2019), particularly regarding the challenges they experienced and the strategies they used to overcome them. Thus, this study probed this underexplored area within the context of a developing country, such as the Philippines. This study hopes to add value to the literature by providing a clearer picture of how SNS could facilitate interaction among students and teachers, facilitate online learning, create a conducive learning space, and promote flexibility in online learning delivery. This study would also shed light on how teachers' practices and experiences vary as a result of interaction among teachers, infrastructure, pedagogical goals, institutional and classroom policies, and students. Consequently, these pieces of information could be used as a guide on recalibrating policies that embrace the use of SNS and designing training programs that could support teachers' efforts to use SNS as a primary teaching platform or as a supplement for the existing learning management systems (LMS).

Literature review

SNS as a pedagogical tool

During the early years of the World Wide Web, most users were mainly passive consumers of content. Web pages were static and primarily functioned as a one-way content delivery network that showcases pieces of information. But as society becomes more and more connected, complex, and dynamic, Web technologies have transformed into platforms that promote usability, user-generated content, and interoperability for their end-users. This transition from predominantly individualistic to participative social Web technologies gave rise to SNS. SNS are Web 2.0 technologies that allow users to share images, interact through photo and instant messaging, video call, curate and organize multimodal information, post status updates in reverse chronological order, and collaborate within online communities (Manca, 2020; Reinhardt, 2019). This definition suggests combining three essential components, namely Web 2.0 tools, user-generated multimodal content, and user communities. As of October 2021, there are at least 17 SNS platforms that attracted 4.55 billion users across the globe. Among the most popular ones are Facebook, YouTube, WhatsApp, Instagram, Messenger, WeChat, and TikTok (Statista, 2021).

They have not only shaped the way we live, interact with one another, and process information, but their influence has also transcended the field of education. From a theoretical standpoint, adopting SNS for pedagogical purposes is hinged on connectivist theory, which argues that personal networks can be a source of learning various perspectives and

essential information for decision making (Manca, 2020; Siemens, 2005). This theory also blurs the boundaries among leisure, social, and pedagogical dimensions of SNS to facilitate continuous learning (Manca, 2020). Another learning theory that supports the classroom adoption of SNS is social constructivism, which highlights the role of social interaction and a socially engaging environment in knowledge construction and learning (Greenhow et al., 2019; Vygotsky, 1978). From a teaching perspective, both of these learner-centered theories urge teachers to foster interaction and collaboration, promote a positive learning environment, contextualize teaching, provide opportunities for enjoyable, interactive, and pedagogically sound digital learning, and consider the connection among the different variables necessary for effective online instructional delivery.

From a practical standpoint, SNS can enhance online education by expanding the learning context to larger networked publics, allowing hybridization of expertise, providing multiple sources of information, and promoting the facilitative role of teachers (Greenhow & Galvin, 2020). They also offer a variety of flexible affordances for teaching. For instance, photo and video sharing features are used to share multimodal resources relevant to the subject and showcase students' performances in the form of a digital portfolio. Instant messaging and comment features allow students and teachers to interact, collaborate, and engage in peer learning. Group features (as in Facebook) serve as a platform for the community of learners. Video chatting and live feeds support synchronous learning. Personal profiles serve as a source of information for teachers to better understand their students. All these SNS affordances are explored and integrated across different learning contexts, whether formal, informal, or non-formal (Greenhow & Lewin, 2016). Formal integration means that the adoption of SNS is within a structured academic context where a teacher controls the flow of learning. On the one hand, informal integration suggests that SNS are used within a learner-controlled context where students engage in self-directed learning. Unlike formal and informal integration that are situated within an academic context, non-formal integration means that SNS are used within a non-school learning environment.

Teachers' roles within an online teaching environment

The growing interest in online teaching has pushed educational institutions to revisit their organizational, academic, and pedagogical practices. While academic institutions around the world are becoming more involved in online learning delivery, faculty acceptance, involvement, and development related to online teaching have remained modest (Natriello, 2005; Scherer et al., 2021). Consequently, teachers face increasing demand and pressure to reflect on their conception of effective teaching and their roles as agents of learning as teaching online requires the development of a new set of skills and pedagogies (Guasch et al., 2010; Sánchez-Cruzado et al., 2021). In terms of teachers' roles, Anderson et al. (2001) identified instructional design and organization, facilitating discourse, and direct instruction as the three key areas that teachers need to attend to in order to ensure teacher presence. Alternatively, Badia et al. (2017) suggested that teachers' roles in teaching online involve instructional design, managing learning activities, learning assessment, managing social interactions, and design and use of educational technology. These roles coincide with Goodyear et al.'s (2001) proposed framework on the roles associated with online teaching. These include facilitating online activities, counselling students, assessing

performances, engaging in research, facilitating content knowledge, integrating technology, designing learning tasks, and managing online classes.

Research on teaching online through and with SNS

While there has been a gamut of studies that examined teachers' practices and experience in a fully online teaching space (Baran et al., 2011; Kebritchi et al., 2017; Martin et al., 2020; Moore-Adams et al., 2016), information on how they navigate SNS to facilitate instructional delivery in this pedagogical space remains limited. One such study was that of Moran et al. (2011), who surveyed 1920 faculty teaching in higher education in the United States. The data indicated that over 90 percent of the participants were using SNS for teaching and professional purposes. Two-thirds of them used SNS during class sessions, while the remaining one-third used them for out-of-class activities. Teachers also reported that they navigated various SNS affordances, such as posting and commenting features and online videos, to facilitate online classes. Despite the overwhelming support for the use of SNS, the teachers raised concerns about the privacy and integrity of student submissions. As a quantitative descriptive study, their work did not look into teachers' specific experiences and practices in greater depth. To address this gap, Kamalodeen's (2016) participatory action research looked into the ways secondary teachers navigated SNS to determine their readiness for this new digital learning space. Using the mixed-methods approach, the findings revealed 11 ways of how teachers explored SNS: lesson plan file sharing, blog posting, online course enrolment, forum discussion, online chatting, creating a user profile, adding new participants/colleagues, collaborating, participating in opinion polls, media sharing, and Google doc collaboration. Although their data pointed to teachers' readiness for this digital learning space, the study also revealed differences in their participation and the challenges they faced, such as Internet access, workload, difficulties in using Web 2.0 technologies, limited opportunity to express themselves, and technical complexity. Since the challenges and strategies were not Kamalodeen's focus, her study did not attempt to explain the nature of these challenges and why such differences exist.

More recently, Fedock et al. (2019) investigated the online adjunct faculty members' perception of SNS as an instructional approach. Using a case study design, the findings revealed three emerging themes from the interview data. These are *uniformity of purpose vs. personal beliefs* (theme 1), *need for justification vs. importance of student engagement* (theme 2), and *facilitation vs. direct instruction* (theme 3). Under theme 1, the data indicated that teachers had differing views on adopting SNS as a teaching tool but converged on prioritizing student learning goals. Teachers also reported that the lack of guidance and policies from the institution hampered their efforts to adopt SNS. For the second theme, Fedock et al. (2019) reported that teachers struggled in defining the purpose of SNS adoption and finding ways to align its use to specific instructional strategies and learning objectives. Issues on privacy, ethics, and students' resistance and inability to separate social from classroom-related posting were also highlighted. Although teachers considered SNS as a useful instructional approach, many of them viewed SNS as a permissive and unsafe learning environment. To mitigate these, teachers set ground rules and well-defined expectations. In the case of *facilitation vs. direct instruction*, those teachers who perceived themselves as facilitators expressed support for the use of SNS, while those who preferred direct instructional approaches tended to reject SNS. The in-depth findings on

teachers' perception and experience provided rich information on the potentials and issues confronting SNS use as an instructional approach. However, it did not shed light on the specific affordances that teachers used to facilitate online learning and the specific strategies they employed to overcome their pedagogical challenges. The authors also cautioned that the participants' status as adjunct teachers may have also influenced their perception of SNS.

As reviewed, previous studies somehow shed light on how teachers navigate SNS for online teaching and learning and their personal impression of SNS. However, these studies mainly focused on facilitating learning and did not attempt to explore other critical areas of online learning, such as incorporating flexibility, stimulating interaction, and fostering an affective learning climate. Moreover, other variables that might have influenced the way they adopt SNS were not fully examined. And while all of them shed light on the challenges in adopting SNS, none of them examined the strategies that teachers employed to overcome these specific challenges. Therefore, the current study was undertaken to complement the work of Moran et al. (2011), Kamalodeen (2016), and Fedock et al. (2019).

Conceptual framework

The current study is theoretically anchored on the activity theory (AT), which takes its roots from the sociocultural theory. This theory argues that human actions and understanding emerge from a complex activity that involves the interaction among the subject (people involved in the activity), object (purpose of the activity), and tools (physical and psychological artefacts) (Bannayan et al., 2014; Engeström, 2015). In the case of the current study, the teachers are the subject, facilitating full online teaching is the object, and SNS are the tools. These three elements of human activity are mediated by the policies that guide the activity, the community or social group where the subject belongs, and the division of labor within the social group (Engeström, 2015; Yamagata-Lynch, 2010). This theory is useful in gaining a nuanced understanding of how different elements, shaped the way teachers navigated SNS during fully online teaching, particularly their reasons for adopting SNS and how policies and peers shaped their practices.

Research questions

Situated within the context of a developing country, such as the Philippines, this study sheds light on how teachers navigate social networking sites in a fully online learning space. Specifically, the following research questions were addressed: (1) What are teachers' reasons for adopting SNS and the factors they considered in choosing them? (2) What SNS affordances did teachers use to facilitate online learning? (3) How did the policies and their social group (i.e., peers) influence the way they navigated and adopted SNS for online teaching? (4) What are the challenges that teachers experienced when using SNS and the strategies they employed to overcome them?

Materials and methods

We employed a cross-case analysis to address the research questions. This approach allowed us to collect complex data about teachers' experience in navigating SNS in a fully digital learning space and to understand the phenomena clearly from an emic perspective.

Table 1 Teachers' profile

Code	Name	Gender	Years of teaching	Subject area	Highest educational qualification
T1	RA	F	21	English	MA
T2	AT	F	14	English	MA
T3	EB	F	17	Education	MA
T4	DG	F	10	Social sciences	MA
T5	DD	F	23	English	PhD
T6	SG	F	31	Education	MA
T7	JG	F	14	Social sciences	MA
T8	PT	F	5	Social sciences	MA
T9	DA	M	5	Humanities	MA
T10	KE	M	4	Social sciences	MA
T11	KL	M	3	Social sciences	MA
T12	RR	M	10	Mathematics	MA
T13	NS	M	4	Social sciences	MA
T14	JT	M	8	Social sciences	MA

Context and participants

We invited 14 teachers from two private universities in the Philippines to participate in the study, and all agreed to be interviewed. Although the representativeness of the sample is limited, the two universities share the characteristics of the typical higher education institution (HEI) in the Philippines. Moreover, these two schools and all other Philippine HEIs use the same mode of teaching and learning delivery as mandated by the government higher education agency (i.e., adopting a combined synchronous and asynchronous online learning, a formal learning management system, and Web 2.0 technologies, such as SNS).

The participants were selected through purposive sampling using the following eligibility criteria: (1) have been teaching in a fully online learning space for at least one year, (2) have been using SNS for teaching purposes for at least two years, (3) with at least three years of teaching experience in higher education, and (4) with basic computer skills. As shown in Table 1, eight of them are female, and six are male with teaching experience that ranged from 3 to 31 years ($M=12.07$; $SD=8.14$), handling courses in the field of social sciences ($N=7$), English ($N=3$), education ($N=2$), humanities ($N=1$), and mathematics ($N=1$). Thirteen of them obtained a master's degree ($N=13$), while one has already completed her doctoral degree. All 14 participants have delivered the instruction using both the synchronous and asynchronous modes. In terms of navigating SNS for instructional purposes, all teachers have been using them for at least three years in an informal learning context. Informal learning context refers to a learner-controlled context not directed by the school or any external agent. It is mainly a self-directed, spontaneous, and exploratory type of technology-enhanced learning.

Instrument and data collection

We collected the data using semi-structured interviews, which asked relevant information on three areas: the teachers' background information, the preliminary questions on using SNS for pedagogical purposes, and the main questions. The *background*

information section contains questions about their name, affiliation, gender, age, designation, years of teaching experience, courses being taught, and educational attainment. The *preliminary questions section* centered on the online learning mode they used in class, the social media platforms they used for teaching the course, and the length and context of using them (i.e., formal, informal, or non-formal). Finally, the *main questions section* zeroed in on these four areas: (1) teachers' reasons for adopting SNS and the factors they considered in choosing them; (2) SNS affordances that teachers used to facilitate online learning; (3) how policies and peers influenced the way they navigated and adopted SNS for online teaching; and (4) the challenges they experienced and the strategies they employed to overcome them. The interview guide was validated by two experts in the field of education. They evaluated the instrument in terms of how it addressed the research questions, the clarity of instructions and questions, the appropriateness of length, and the accuracy of language. We revised the instrument based on validators' comments. Thereafter, we piloted it to two teachers who were not part of the actual study. This phase allowed us to estimate the interview duration, address any vague items, and strategize on how we could elicit richer data from the participants.

The interviews, which lasted for about 60 min, were conducted online because of the ongoing restrictions on mobility and were recorded with the participants' permission. To mitigate any social desirability biases, we ensured that teachers were relaxed during the interview, seated in a conducive environment, and open to discussing their thoughts. Prior to the interview, we obtained informed consent from the participants and oriented them on how the interview would proceed. We also informed them that there are no wrong responses as these are based on their experience, that their anonymity shall be protected, and that all their responses shall be treated with the utmost confidentiality.

Data analysis

After transcribing each of the interviews, we subjected them to a cross-case analysis, which involves a cyclic iteration of examining, interpreting, coding, and comparing data across cases (Aesaert et al., 2013; Miles & Huberman, 1994). We employed content analysis driven by the research questions, which dictated the four main themes (i.e., reasons for adopting SNS, SNS affordances navigated by teachers, mediating role of policies and peers, and teachers' challenges and strategies). Then, we analyzed the transcript of the first participant and constructed the subthemes under each main theme. Then, we proceeded to analyzing the transcript of the second participant and integrate the subthemes with the preceding data. Related subthemes were combined, whereas unrelated ones were allowed to emerge as separate subthemes. This comparative and progressive method of analysis had been repeated until the analysis of all transcripts was completed. To ensure reliability and rigor of the analysis, we had a calibration session before independently analyzing the interview transcripts (i.e., two intercoders). During this session, we reviewed the research questions, the interview guide, and the data analysis procedure and discussed any divergence to arrive at a full agreement.

Results

The current study sheds light on how teachers navigated SNS in a fully online learning space. To achieve this objective, we examined teachers' reasons and the factors they considered for adopting SNS, such as user familiarity, cost, reach and immediacy, students' preference, and customizable features. We also probed into how teachers used the SNS affordances (i.e., chat, posting and sharing, video call, and flexibility) to facilitate online learning and how policies and peers shaped their practices. Finally, we identified the different learner-related, technical, instruction- and assessment-related, and psychosocial challenges that teachers experienced and the strategies they employed to overcome them.

Teachers' reasons for and the factors they considered in adopting SNS

The findings revealed the different reasons teachers had for adopting SNS in class. One of their primary reasons is to reach out to students faster and easier, especially when making announcements and updates (e.g., T1, T4, T6, T8, T10, T11, T13). For instance, T4 decided to use Facebook and Messenger because "it was the fastest way of communicating with my students. And it is more convenient for them, because primarily, they are spending, you know, 24 h a day checking notifications of their social media sites." Other teachers reported that they used SNS because students could easily access these platforms and were frequently active on Facebook and Messenger (T6, T8, T10, T13), had difficulties in getting notifications from their official LMS (T8), and lacked access to their official LMS (T10). In other cases, teachers decided to adopt SNS as an alternative learning platform. Take, for example, T5, who shifted to Messenger when delivering lectures and explaining homework because of the technical glitches she experienced with Microsoft (MS) Teams. Alternatively, T7 used Facebook as her students' platform for selling products as part of their culminating activity in their Economics class. Two teachers shared that it was the free data availability of Facebook and Messenger that motivated them to use SNS in their online classes. According to T2, "you just turn on the data and you can use Facebook for free, except you won't be able to access the photos and the videos. So, still, if I just type my instructions as regular text, they will be able to read it." T14 also pointed out that students needed to have data to access MS Teams. Considering that not all his students have data allocation, he shifted to Messenger. Other reasons teachers had for using SNS in their respective online classes include promoting collaboration and multiple opportunities for learning (T3), engaging in private communication (T9), allowing them to monitor which students have read the announcements (T10), and establishing a community of learners (T12).

Five themes have emerged regarding the factors that teachers considered when choosing an SNS platform: user familiarity, cost, reach and immediacy, students' preference, and customizable features. T1, T5, T6, and T11 converged that students' and teachers' familiarity was their primary consideration in choosing an SNS platform. As T1 noted, "the students are more familiar with these social media avenues since they use it practically every day, if not literally every minute of their social media usage. So, I'm taking advantage of that." T6 echoed the same point explaining that "MS Teams was new to us both on the side of the faculty and students, that's why we shifted to Facebook Messenger as our primary online platform and those students are accustomed with all the buttons." Another group

of teachers (T2, T4, T8, T12) identified the cost as a factor in deciding whether they would use it or not. T12 explained that "if they [students] don't have enough budget for—for the load, they can still communicate as long as they have the signal from their chosen prepaid or SIM card in their—in their device that they are using." T2 further explained that students just need to turn on their mobile phones and use Facebook for announcements and instructions even without mobile data. However, she cautioned that students would not be able to access the photos and videos. The third factor teachers considered when selecting SNS is its reach and immediacy. T8 shared that it was the speed and reach of Facebook and Messenger that motivated her to adopt these platforms instead of an email, especially when reminding students about their submissions. T9, T10, and T11 echoed this claim by emphasizing the value of real-time feedback and response and speed in delivering instructions online. For instance, T11 claimed that "I use heavily social media, specifically, Facebook, so I can address quickly their concerns, 'no. So, I think these are the reasons why I use Facebook before as our learning platform." For T1, T8, T11, and T13, they took into account students' preference. Using a platform that students like made them more at ease (T1, T8, T11) and highly engaged because they view SNS positively than formal LMS (T13). The last factor that teachers considered is the flexibility of features that allowed them to customize content (T3) and set up a virtual classroom (T7).

SNS affordances that teachers used during fully online teaching

When it comes to the specific SNS affordances that teachers navigated to facilitate online learning, virtually all of them used the chat feature either to stimulate interaction and collaboration among students (T1, T6, T7, T11, T12, T14), to facilitate learning processes (T5, T8, T9, T11, T12, T13), to foster and affective learning climate (T3, T4, T8, T9, T13), and to incorporate flexibilities during online classes (T2, T4, T5, T7, T13). For instance, T8 shared that "in Messenger, what I do is I create a group—a group chat for the students, so that if they would want to ask questions or clarifications, and they would want to immediately—for me to immediately get back to them, it's easier for me to answer." She added that she used the group chat in many instances to post encouraging words to motivate her students to finish their output. For T9, the group chat feature helped him set up a community of learners where students are free to share anything about the course and seek a help system. In the case of T5, she used this affordance to instruct students on how they should go about the assigned activities. She added that Messenger "is really very easy to use…, and… the flexibility is always there" especially when submitting their output remotely and beyond class time.

Similar to chatting, teachers frequently used the posting and sharing features to facilitate learning activities (T1, T2, T3, T4, T6, T13, T14). According to T2, she used these affordances when giving and soliciting feedback from students, posting relevant videos, uploading learning materials and files, engaging students in asynchronous recitation, and making announcements. In some cases, teachers used these features to promote interaction among students (T2, T3, T4, T13) and establish a positive learning environment (T1, T2, T6). For example, T13 and T3 facilitated a sharing of opinion and interaction among students after posting a link on Facebook. In the case of T1, she posted memes and emoticons to make students "a bit more comfortable." Lastly, the posting feature allowed teachers to share learning resources (e.g., informative videos, recorded lectures, and links) to

students for self-directed learning (T3, T6, T12, T13, T14) and upload reading materials for advanced reading (T6, T7, T8). Along with the posting and sharing affordances are the comment features used by teachers to provide constructive and immediate feedback as well as encouraging messages to boost students' confidence and engage them in academic discourse, as in the case of T5 and T7.

Another key SNS feature that teachers find useful during online classes is the video call. For instance, T1, T3, and T7 let their students interact and engage in discussion and peer feedback through video call. T7 and T3 extended the use of video for delivering lectures and promoting a positive online learning climate, respectively. Meanwhile, T4 used this feature to have her students explore their creativity through video production. However, T2 cautioned that video calls could only be used when students and teachers have sufficient data allocation.

Some teachers (T2, T3, T14) also noted the flexibility of SNS affordances for synchronous and asynchronous online learning and teaching. T14 narrated that he used SNS for synchronous sessions and shared the recorded lectures with students who had Internet connectivity problems for their asynchronous learning. And since SNS is Internet-based, T1 commented that it somehow broke geographical boundaries, allowing students to participate in online classes despite living in remote areas.

Influence of policies and peers on teachers' adoption of SNS

Another objective of the current study is to determine how policies and peers influenced the way teachers navigated and adopted SNS for online teaching. During the interview, all teachers reported that their respective schools had existing policies on online learning that covered the conduct of classes, assessment protocol, infrastructure, internships, support services, and netiquette for both teachers and students, among others. However, none of them were provided with detailed policies and guidelines on using SNS for instructional delivery as these platforms were merely optional and could only be used as a supplement, as most teachers explained. Given this, teachers adopted SNS based on their own initiative and not based on school directives. In fact, T10 observed that "some faculty members are, you know, using FB or FB Messenger to hold classes" despite directives from the school to use Canvas or MS Teams during formal classes.

The findings indicate that although teachers find the policies for online learning as a useful guide, they did not allow restrictive provisions to limit their pedagogical practices online, such as SNS adoption. As T1 commented, "the impact on me is very negative because the way I see it, it's limiting." T2 added that the school's preference to use its official LMS did not deter her from using Facebook, which allowed her to engage in more personal conversations with her students and make teaching less formal. In the case of T10, he exclaimed that he would still use Canvas and MS Teams for formal learning sessions and SNS as a supplementary platform regardless of the school's issuance of policies. For T7, the policies have little effect on her because he has been using the designated LMS (i.e., Edmodo) and Facebook even before the transition to remote online teaching. Unlike other teachers, T6 took a different approach to bridging the policies and students' preferences by negotiating with students the platforms that they would use in online classes.

We also looked into how peers (i.e., co-teachers) shaped the way teachers use SNS. This aspect revealed mixed results. Some teachers reported that they were hardly influenced by their colleagues when using SNS in a virtual learning space. Take, for example, T7, who shared that it was her own decision because she knew what was suitable for her class. Nonetheless, she entertained feedback and suggestions, particularly on the platform's additional features. T4 had the same perspective that her adoption of SNS is solely based on her own decision. Meanwhile, others felt that their peers somehow influenced their practices in using SNS through collaboration and professional learning sessions. T3 said that she, along with her colleagues, needed "to revise school policy for the social media platform for online class" to ensure uniformity in their practices. Conversely, other teachers reported problems with their school heads. For instance, T1 expressed her disappointment when she and her colleagues were prohibited by their department head from using SNS, especially when submitting student outputs. She considered this directive very limiting. T12 shared the same sentiment and highlighted the need for clear guidelines when implementing SNS in online classes.

Challenges teachers faced when using SNS and the strategies they used to overcome them

To address the last research question, we explored the challenges that teachers experienced in using SNS and the strategies they employed to overcome them (see Table 2). Most of the problems teachers encountered were learner-related, which included student resistance (T4), cost of Internet data for students (T5, T6), online distractions (T8), and SNS fatigue (T10). T8 explained that "since it's a social media and they are using their personal accounts, they also get access to chatting their friends. Uhm, they also get access to other content that are not really educational." T4 added that "not all students are that open-minded in terms of—or knowledgeable in terms of the usage of the social media."

Equally frequent were technical challenges. T5, T10, T11, and T14 lamented that students struggled in coping with the lesson because of poor Internet connectivity. T10 further commented that "as long as we don't have a reliable and a consistent Internet connection here in the Philippines, online learning would be very limited to those who can only afford such Internet services."

Several issues related to teaching delivery and assessment also surfaced. Some teachers reported that it was difficult for them to monitor students' performances and engagement during activities (T2) and to gauge whether the students understood the lesson (T13). For T4, she highlighted the greater accountability that she had because of possible misdemeanors of students, such as cyberbullying and intrusion of privacy. In fact, students were not the only ones who had privacy issues but also the teachers themselves. T4 added that she was very careful in posting personal activities on Facebook (e.g., going out with friends and drinking wine) because students might use her posts against her. For T7, she felt that her personal time and space were violated because students continued to message her even up to 2AM and 3AM. She felt responsible for this problem because she failed to set boundaries when using SNS as a learning platform.

The last challenge that surfaced during the interview was related to teacher's feeling of isolation. T12 mentioned that he felt isolated when his students formed a group chat and privately communicated with one another without his knowledge. He added that "as much

Table 2 Summary of teachers' challenges and strategies

Challenges	Strategies
Learner-related challenge	
Student resistance	Provided psychosocial support; Used humor; Exhibited patience, understanding, and compassion
Cost of Internet data for students	Recorded and uploaded lectures; Observed time flexibility; Shifted to the free data version of SNS
Online distractions	Involved students in crafting online class guidelines; Explained all the policies and requirements at the start of the term; Asked students to turn on their camera
SNS fatigue	Adjusted the course schedule/timeline; Reduced the synchronous sessions
Technical challenge	
Poor Internet connectivity	Recorded and uploaded lectures; Observed time flexibility; Sought help from their superiors
Complexity of SNS affordances	Engaged in self-directed learning and explored these SNS affordances themselves; Sought support and help from their colleagues; Participated in webinars
Teaching delivery and assessment challenge	
Monitoring students' performance and engagement	Used a buddy system and peer assessment; Used the different SNS affordances
Increased accountability	Involved students in crafting online class guidelines
Psychosocial challenge	
Feeling of isolation	Sought advice from peers; Psyched oneself that a teacher could not join students' group chat
Intrusion of privacy	Set clear boundaries on when and how they could be contacted by students; Did fact-checking

as I wish that I could be a part of their communication so that I can reach out with their concerns. Although, I can't require them po, eh, to include me in their communication."

With reference to the strategies they employed to address learner-related challenges such as resistance to SNS as a platform, teachers provided psychosocial support to students by giving encouraging words and positive feedback (T1, T2), using humor (T1), and exhibiting patience, understanding, and compassion at all times during online learning (T5). For those students who struggled to catch up with the lesson because of poor Internet service and high cost of mobile data, some teachers recorded and uploaded lectures that students accessed once they got a good Internet signal (T6, T11) and observed time flexibility, particularly when setting deadlines for the submission of academic requirements (T1, T8). In the case of online distractions, several teachers (e.g., T8) involved students in the crafting of the online class guidelines to ensure that they remain committed to the negotiated class policies and focused on the lesson when using SNS as a learning platform. The same approach was used by T1 to mitigate the higher accountability she had when using SNS. Furthermore, she clearly explained all the policies and requirements at the start of the term and made sure that they understood them. On top of these, they asked their students to turn on their cameras so they could see what their students were doing during class (T2). When it comes to addressing SNS fatigue, T10 adjusted the course schedule/timeline and reduced the synchronous sessions without compromising the target learning outcomes.

In the same way, teachers were burdened by the Internet cost of using SNS. To address this issue, some of them (e.g., T6) shifted to the free data version of Facebook and Messenger. This shift allowed both the teachers and students to experience uninterrupted engagement

and interaction. When it comes to poor Internet connectivity on the teachers' end, another strategy they used was to seek help from their superiors. Take, for instance, T11, who noted that "what I did is I asked my program head, my department chair to schedule me on the time where my internet connectivity is faster. So, hence, my schedule is 7:30 in the morning to 12, because my Internet connection… there is always a scheduled interruption, especially in the evening." Although teachers were generally familiar with SNS, the complexity of certain SNS affordances got in their way. To overcome this problem, teachers engaged in self-directed learning and explored these SNS affordances themselves (e.g., T7), sought support and help from their colleagues (e.g., T7), and participated in webinars (T14). In the case of difficulties in monitoring students' performance and engagement, teachers used a variety of SNS affordances to gauge students' progress. Among these are group chat and video call that allowed real-time and immediate feedback on student performances. Other teachers used a buddy system that allowed one student to help another student through peer assessment. This peer assessment served as an alternative to teacher assessment.

As reported above, many teachers also cited privacy intrusion as their major concern. One approach they did to mitigate this problem was to set clear boundaries on when and how they could be contacted by students through SNS, as in the case of T7. For T4, she did some fact-checking on what students posted and shared on their Facebook accounts. When it comes to the feeling of isolation, teachers sought advice from their peers and psyched themselves that they should allow students to have their private group (e.g., T12).

Discussion

This study investigates how teachers in a developing country navigated SNS in a full online learning space, what challenges they faced when using SNS, and how they coped with these challenges. Overall data indicate that teachers had varied reasons for and factors considered when adopting SNS during fully online learning. Similarly, they navigated the different SNS affordances (e.g., video call, group chat, and posting and sharing) to facilitate interaction, facilitate learning, create a positive learning climate, and promote flexibility both formally and informally. The above findings lend support to earlier reports (e.g., Kamalodeen, 2016; Moran et al., 2011) on how teachers navigated SNS and its affordances during synchronous and asynchronous online sessions. Aside from their respective teaching contexts, the diversity in teachers' practices and reasons may be linked to their attitude toward the pedagogical use of SNS. While most viewed it positively, some teachers did not find it pedagogically appropriate and preferred formal LMS as an exclusive learning platform (e.g., T10). Teachers who viewed SNS more positively tended to navigate its affordances more extensively, while those who viewed it negatively tended to limit its use to communication purposes only. The above findings have also confirmed the different roles that teachers play when teaching online, as identified by Anderson et al. (2001), Badia et al. (2017), and Goodyear et al. (2001). Among the roles that frequently surfaced are designing/planning instruction through flexible learning, managing learning activities, facilitating social interactions, and promoting a positive learning climate.

Our study also extends the findings of Fedock et al. (2019) and Kamalodeen (2016) by shedding light on the technical, pedagogical, and learner-related challenges they faced in this new learning space and how they coped with them. As the data suggests, their practices and the challenges and strategies they employed varied from one teacher to another

and one school to another and were shaped by several factors. These findings align with the activity theory, which explains that online teaching is a complex phenomenon influenced by the interaction among the teachers, infrastructure or tools, and teaching goals mediated by institutional and classroom policies, fellow teachers, and students (Bannayan et al., 2014; Engeström, 2015). However, the findings reveal that policies had little impact on teachers' ways of adopting SNS. Consequently, whenever there was a clash between these policies and students' context, teachers tended to rely heavily on their unique teaching context when making pedagogical decisions and delivering instruction. The little impact that policies had counters previous reports that peers and policies significantly influenced teachers' online practices (Badia et al., 2017; Ching & Hursh, 2014; Kelly & Antonio, 2016; Roby et al., 2013). One explanation for our finding is that teachers tended to disregard or adjust the policies when they found them insufficient and unclear. Data shows that teachers filled in the gaps in the policies (e.g., T5), revised them when they did not sit well with the realities in the classrooms (e.g., T6), and limited the use of SNS when policies were not available (e.g., T10). Thus, the teachers highlighted the need for recalibrating institutional policies that would embrace SNS as a pedagogical tool. These findings resonate with the work of Fedock et al. (2019), who found that a lack of guidance and leadership communication hampered teachers' adoption of SNS as instructional tools. Hence, schools need to make the policies on institutional support, processes, and institutional practices available to ensure the effective integration of SNS into online classrooms (Orr et al., 2009; Pedro & Kumar, 2020). In the same way, teachers tended to be individualistic in their teaching practices when there is an absence of a concrete systematic approach to peer collaboration. The findings further indicate that the teachers' embedded pedagogical framework significantly shaped the way they adopt SNS in cases of conflicts among the elements (e.g., T5, T7, T10). Nonetheless, further investigation is required to understand the reasons behind this phenomenon better, and whether this behavior manifests in both novice and experienced teachers.

Another important element that heavily influenced teachers' approach to SNS adoption is their students' context. These findings coincide with Fedock et al.'s (2019) report that teachers typically converged in prioritizing students and their learning goals despite differences in the teachers' view and utilization of SNS as a learning platform. We observed the same behavior among the teachers in this study. And given the current health crisis and restrictions on mobility, teachers are bound by the national policy of implementing flexible learning where they practiced flexibility in time (synchronous or asynchronous), place of learning (remote or face-to-face), and mode of delivery (offline or online). This directive further reinforced the need to make students (i.e., their socioeconomic status, physical condition, mental health, learning resources, and home environment) the foremost consideration when delivering instruction and designing a learning plan via SNS, overriding even the existing policies and mandate from the department heads. Such a scenario echoes the arguments of Sithole et al. (2019) and Wang et al. (2021) on the key role that student characteristics and background play in shaping teaching practices in a virtual learning environment, as in the case of the current study.

Conclusions

This study explored teachers' navigation strategies and experiences when using SNS in a fully online learning space. Overall data suggested that teachers' reasons for and ways of navigating SNS during fully online teaching are relative to their respective teaching and learning

contexts. The same is true regarding the challenges they confronted and the strategies they used to overcome them. These findings have confirmed what activity theory argues that teachers' pedagogical practices and decisions in an SNS-mediated learning environment are shaped by the interaction between and among the teacher-related factors, SNS as an instructional tool, and teaching goal mediated by the policies (existing or not) and their peers. This study also provided initial information on teachers' reliance on their intuition and embedded pedagogical framework when confronted with conflicts among these elements. Situated within the context of online learning during the pandemic, teachers' responses showed that they prioritized students' welfare (e.g., financial capacity, mental health, physical health) above anything else. Finally, teachers' attitudes toward SNS appeared to have influenced their SNS utilization. This area is worthy of further investigation to determine the full extent of the interaction between teachers' attitude toward SNS and how they navigate them.

Several implications can be drawn from our findings. First, this study shed light on the uniqueness of each teacher's experience in using SNS in a fully online teaching space relative to their teaching context and interaction, among many factors. These findings require policymakers, school heads, and teacher trainers to design a nuanced, continuous, and progressive professional development (PD) program that aligns with teachers' realities in SNS adoption. These PD efforts are crucial as they have been found to positively impact teachers' ability to teach online (Brinkley-Etzkorn, 2018; Hungerford-Kresser & Amaro-Jimenez, 2020). Second, our study indicated the adverse impact of limited and unclear policies on teachers' SNS adoption. This information would guide educational institutions and educational agencies in crafting or recalibrating national, institutional, and classroom policies that would help teachers harness the full potential of SNS as an instructional approach. However, the development of these policies may need to be transactional and participatory, involving various critical stakeholders (Timmermans, 2004). Finally, this study revealed that the challenges teachers faced were caused by interrelated factors. Since the problems are systemic, they also require a systemic approach to be successfully mitigated.

Our study is not without limitations, which can be addressed in future investigations. First, the qualitative nature of this study with 14 participants did not reveal a clear pattern regarding the most utilized affordances and teachers' challenges and strategies. Future studies may embark on a mixed-methods approach using a larger sample size to determine whether any patterns exist or not. Since SNS adoption for pedagogical purposes may depend on the nature of a subject/course being taught (Barrot, 2021a), it might be useful to zero in on each subject area (e.g., humanities, science and mathematics, engineering, social sciences) to better appreciate a field-specific data. Second, the context of this study is limited to higher education, wherein students are already highly exposed, familiar, and well-versed in using the different SNS affordances. The challenges teachers experienced and their instructional strategies may vary when used with younger learners. Hence, future studies may explore this area within the K-12 context for a more nuanced understanding of the SNS adoption in a fully online learning environment. Finally, future studies may dig deeper by probing the interaction between institutional policies and teachers' embedded pedagogical framework in cases of conflicts and how much influence learner-related factors have on teachers' behavior and pedagogical decisions.

Appendix

Interview script

Personal Information:

1. School Name: _____
2. Address: _____
3. Type of school: O Public HEI O Private HEI
4. Date of Interview: _____
5. Check box if consent is obtained: O Yes O No
6. What is your name?
   First Name _____
   Middle Name _____
   Last Name _____
7. Sex of the respondent O Male O Female
8. Age: _____
9. Designation in the school: _____
10. Years of teaching experience: Number of years: ☐☐ Number of months: ☐☐
11. Courses/subjects being taught:
    _____ _____
    _____ _____
    _____ _____
12. Highest level of qualification: O Bachelor's Degree O Master's Degree O Doctorate

Preliminary Questions:

1. What is the online learning mode you are using in your class?
   O Synchronous only O Asynchronous only O Both modes
2. Do you use social media in your online class? O Yes O No
3. What are the social media platforms you are using in your online class? How much do you use these social media platforms per class in a week (in hours and minutes)? (Indicate the total number of hours they devote per class in a week as a denominator)
   O Facebook No. of minutes/week: _____
   O Instagram No. of minutes/week: _____
   O Messenger No. of minutes/week: _____
   O Skype No. of minutes/week: _____
   O Twitter No. of minutes/week: _____
   O WeChat No. of minutes/week: _____
   O WhatsApp No. of minutes/week: _____
   O Others, please specify: _____
4. How long have you been using the social media you indicated in item 2 for online teaching? (in years and months)
5. Do you use social media formally, informally, or non-formally?

Main Questions:

RQ1:

1. What are your reasons for adopting social media for online teaching, particularly those you indicated in the preliminary question?
2. What factors do you consider in choosing the social media for your online classes? Explain your answer.

RQ2:

3. What are the social media features (affordances) you use to facilitate interaction during your online class? How do you use them?
4. What are the social media features (affordances) you use to facilitate learning during your online class? How do you use them?
5. What are the social media features (affordances) you use to foster affective/positive climate? How do you use them?
6. How do you incorporate flexibility in your online class using the social media in terms of
    a. time (asynchronous or synchronous)
    b. place (home, school, or any remote areas)
    c. path (order in which the content is provided in the course)
    d. pace of learning (students progressing at their own speed)?

RQ3:

7. Does your school have policies as regards the use of social media platforms during your online classes? What are these policies?
8. How do these policies influence your way of using social media during online teaching?
9. How do your co-teachers influence you in using social media during online classes?
10. How does sharing of tasks or division of labor among the teachers influence you in adopting social media during online classes?

RQ4:

11. What challenges do you experience when using social media during online classes?
12. What strategies do you use to overcome these challenges? Were they successful or not? Explain your answer.

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JSB led the planning, prepared the instrument, wrote the report, and processed and analyzed data. DRA participated in the planning, fielded the instrument, processed and analyzed data, reviewed the instrument, and contributed to report writing. Both authors read and approved the final manuscript.

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Availability of data and materials
The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
The study has undergone appropriate ethics protocol. Informed consent was sought from the participants

Consent for publication
Authors consented the publication. Participants consented to publication as long as confidentiality is observed.

Competing interests
None.

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