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PROFESSIONAL EDUCATION & TRAINING | RESEARCH ARTICLE

Graduate student's use of social media as a learning space

Nora Abdulaziz Ali Aleisa^{1*}

Abstract: This research was a qualitative exploration of seven graduate students' lived experiences with the use of social media (SM) as a learning space. An integrated thematic analysis based on data provided via interviews, observations, and artifacts yielded 13 main themes, offering a rich description of participants' experiences with using SM for advanced formal learning. The participants had varying ideas about definitions of SM, indicating that establishing clarity with respect to SM as a concept is important to both research and the practical integration of SM applications in advanced learning contexts. Regardless of conceptual inconsistencies, these graduate students primarily reported positive experiences with using SM for graduate studies: *major source of learning* and *motivating and engaging* emerged as main themes. Themes related to cross-cultural aspects also emerged in that *SM facilitates cross-cultural adaptation* and *increases global/cross-cultural communication and interaction skills*. Themes for the primary advantages of SM were *convenience*, *collaboration/connection*, and *transcends geographical boundaries*. The primary disadvantages were that SM could be *overwhelming/boring*, *distracting/time consuming*, and involve *interpersonal challenges*. The *credibility of resources* can also be an issue. Main themes for suggestions included *recommendations for educators' integration of social media* (for classwork) and *students' management of social media*. The study provides novel insight into the use of SM for learning from graduate students representing different geographic and cultural perspectives. Importantly, the findings provide rich qualitative data that provide

ABOUT THE AUTHOR

This research reported in this paper relates to using social media in formal postsecondary education. Dr. Nora Aleisa is a faculty member at Kind Saud University in the Kingdom of Saudi Arabia. She completed her master's and doctoral studies in educational technology at the University of Northern Colorado in 2019. She currently conducts research about advancing the use of educational technology in technologically advanced and developing countries and has a strong interest in cross-cultural research.

PUBLIC INTEREST STATEMENT

The study "Graduate Students' Use of Social Media as a Learning Space" concerns how students in graduate school are already using social media platforms to complete their academic work. This information is important because it shows that social media platforms are already becoming an indispensable tool for both educators and students. One of the most fundamental conclusions is that digital-technology-infused classrooms offer precisely the tools that educators need to transform traditional classrooms into the interactive, transformative learning environments that today's students demand. This study can help people learn about how graduate students use social media for advanced learning. The paper also includes recommendations for how best to use social media applications for teaching and learning.

convergent support for the generalizability of the findings from quantitative survey studies as well as providing insight into how varying conceptualizations of SM can influence participants' responses in research and their actual use of various applications.

Subjects: Educational Technology; Educational Research; Education Studie; Higher Education; Higher Education Management; Study of Higher Education; Multicultural Education; Open &Distance Education and eLearning

Keywords: social media; cross-cultural adaptation; distance learning; global citizenship; learning space; social learning theory; phenomenology; graduate students

1. Introduction

The importance of advancing the effective use of interactive technology in higher education has surged exponentially since the onset of the COVID-19 pandemic, which was officially announced in March 2020 in the United States. Since then, the majority of students at all levels of education worldwide have experienced abrupt changes in their educational environment, shifting exclusively to distance or blended learning situations (Albrahim, 2020; Johnson et al., 2021; Jung et al., 2021). Despite the advances in interactive technology offered via Web 2.0, social media (SM) platforms generally are not considered "educational technologies" and their integration into formal learning environments has lagged behind that of other innovations in learning spaces (Chawinga, 2017; Tess, 2013; Vivakaran & Neelamalar, 2018). Higher education institutions have focused on the development and use of formal learning management platforms (LMPs) and software applications that facilitate the unidirectional presentation of learning content (e.g., word-processing and slide-presentation packages), and SM platforms are often viewed as vehicles that are inappropriate for scholarly use, particularly in graduate and postgraduate studies, which are primarily viewed as formal learning environments (Everson et al., 2013; Fidalgo et al., 2020; Greenhow & Lewin, 2016; Greenhow et al., 2009; Hamid et al., 2015; Li, 2014; Odom et al., 2013; Reiser & Dempsey, 2012; Tess, 2013).

Importantly, although technology has drastically reduced the need for physical presence by enabling contact, communication, and collaboration via advancing communications technology, network links, and social media platforms, inconsistency in the use of related terminology (Li, 2014; Scialdone, 2014) limits comparative conclusions that can be drawn from the research. Terms such as social networking site, platform, application, apps, site, website, and so on have all been used with an assumption regarding consensus on their meaning (Li, 2014; Scialdone, 2014; Snelson, 2016). This suggests that it is important to explore these assumptions and the meaning of terms that are central in ongoing research.

Although research into the educational potential of social media is well-established, more information needs to be focused on how advanced students actually use social media in education and learning, both formally and informally, and qualitative studies are limited. Studies to date have provided mostly aggregated data from survey studies about the use of SM in educational settings (Ansari & Khan, 2020; Elitas, 2015; Hu et al., 2017; Joosten, 2012; Tess, 2013; Vivakaran & Neelamalar, 2018). Only a few studies have examined the personal experiences of students who use SM in education and learning in substantial depth (Bista, 2015; Sawyer & Chen, 2012; Zaw, 2018) and these have included varying platforms and terminology without addressing terminology-related assumptions.

The increasing prevalence of SM use and blending of formal and informal learning indicates the potential value of gaining an in-depth understanding of how graduate students use SM as a learning space and their perceptions of the value of the SM platforms in educational and learning settings. SM platforms help people connect across both cultural and geographical boundaries, and the ability to communicate across these boundaries has become critical in an increasingly

globalized society (Chen, 2012; Chen & Zhang, 2010). Moreover, current research indicates that using SM facilitates cross-cultural experiences and adaptation among students in general. Furthermore, SM applications offer significant support to international students (in both physical and online settings) in building and maintaining important relationships in both the home and host countries, as well as reducing the shock and stress associated with adapting to life in a new country (Ansari & Khan, 2020; Chen, 2012; Chen & Zhang, 2010; Hu et al., 2017; Johnson et al., 2021; Jung et al., 2021; Sawyer & Chen, 2012; Vivakaran & Neelamalar, 2018; Zaw, 2018).

This purpose of the study was to supplement the existing literature surrounding the use social media in education by contributing current qualitative research to provide deeper insight into how graduate students (on their own initiative) currently view and use social media in higher (graduate) education. The study focused on the use of social media in learning from graduate students' perspectives, as this perspective is lacking in the existing literature. To determine whether general misunderstandings about the nature of social media are more widespread than previously thought and to provide detailed data on graduate students' social media use, I conducted a phenomenological study with the following objectives: (a) ascertaining what social media actually meant to graduate students, (b) collecting their descriptions of how they use various SM applications for advanced learning, and (c) determining what graduates students perceive to be important features, advantages, disadvantages, and best practices for using SM for advanced learning.

The results of this study provide deeper insight into how social media is perceived specifically by graduate students, how these students viewed and experienced social media in learning, and how we as educators can incorporate social media into advanced educational processes. This research also provides insight into the potential misunderstandings about the nature of social media, which are more widespread than previously thought, and the implications of this issue for understanding the phenomenon of students' use of social media in learning.

In summary, this qualitative, phenomenological study provides an in-depth view of how seven graduate students from varying cultures and countries use SM in their graduate education. Using standard qualitative methodology (Creswell & Creswell, 2017; Merriam & Tisdell, 2015), data collected via interviews, observations, and artifacts were used to complete an integrated thematic analysis to examine how graduate students experienced the use of SM platforms for learning during their graduate program.

The following research questions were addressed:

Q1 How do graduate students define SM and describe their experiences of using SM for learning?

Q2 What are graduates students' perceptions of cultural aspects of using SM in learning?

Q3 What do graduate students perceive as advantages or disadvantages in the use of SM for learning?

Q4 What suggestions do graduate students make for using SM for learning?

2. Theoretical framework

Investigations about the use of SM in higher education are appropriately framed within social learning theories because SM applications are strongly interactive in nature. These theories are rooted in constructivist philosophy, which introduced the idea that meanings and understandings are outcomes of social encounters that occur in cultural contexts (Vygotsky, (Russian psychologist,

1896–1934; 1978). Thus, a constructivist perspective argues that individuals learn about their world and create their knowledge and meaning of it through their interactions (Crotty, 2003).

Based on constructivism, social learning theory posits the value of interactive learning in that instruction is oriented toward engaging learners in a process of inquiry and activity. The instructor shifts role from “sage on the stage” to “guide on the side”—still sharing information where needed but primarily engaging learners in authentic and challenging learning activities (Ertmer & Newby, 2013; Reiser & Dempsey, 2012). In the last 20 years, social learning theory has increased dramatically in popularity, and the education field has begun to embrace the ideas of situated learning, authentic practice, community collaboration, and participation, with more attention to practice with real-world activities, engagement with others (often internationally using the Internet), and practical experience (Duffy & Cunningham, 1996; Reiser & Dempsey, 2012). Thus, social learning perspectives have gained acceptance as valid frameworks for educational research and practice, particularly in the face of increasing globalization and the corresponding surge of distance learning intercultural learning (in both physical and online) environments (Lutta, 2019). Thus, social learning theory, which is founded within constructivist philosophy, is intricately linked to current models of instruction that endorse interactive aspects as being important to improving classroom learning, such as increasing student engagement (Deaton, 2018; Ertmer & Newby, 2013; Heilporn et al., 2021; Reiser & Dempsey, 2012). In keeping with this perspective, the focus on interaction as a primary element in learning made social learning theory fundamental in considering the use of social media platforms in education.

3. Related research

Globalization has increased the importance and frequency of cross-cultural and long-distance interactions and learning, highlighting the potential for SM applications to facilitate interactive learning and the development of effective global communication skills (Chen, 2012; Deaton, 2018; Duffy & Cunningham, 1996; Reiser & Dempsey, 2012; Sawyer & Chen, 2012; Zaw, 2018). Thus, researchers are increasingly interested in how using SM influences these processes for better or worse. However, in conducting research about SM in higher education, it has become critical to address the assumptions and inconsistencies with respect to terminology that make it difficult to interpret the results of aggregate studies because such studies are limited to only one SM application or they make assumptions about what the participants view as SM applications; moreover, advanced (graduate) students’ views are not well represented.

Li (2014) conducted a case study exploring female teachers’ beliefs and use of social media in a teacher’s program by using an online survey tool to collect interview data and online observations of instructors’ teaching practices. The author found that there was confusion in understanding terminology that is related to social media. For example, one of the participants “demonstrated an unclear understanding of what the differences are between [communications] technology and social media. She used the two terms, social media and technology, interchangeably many times in the interviews” (p. 134). The author suggested that an unclear understanding of social media may influence students’ beliefs about the benefits and challenges of integrating social media education.

Another study regarding misunderstandings of the definition of social media was conducted by Scialdone (2014) regarding how a student’s educational experiences were affected when social media was merged and included into online course activities. This researcher concluded, “There is debate and confusion among scholars and practitioners as to what should be included under the term social media or how it is different from related terms such as user-generated content and web 2.0” (p. 79). Although formal definitions of SM have been inconsistent throughout the literature (Li, 2014), these technologies have come to be known as *social media* because they permit the creation and exchange of user-generated content (Everson et al., 2013). Because the platform (Web 2.0) and the SM tools (applications) promote the exchange of ideas, both the process and product are said to be socially constructed.

Social media sites were defined by Boyd and Ellison (2008) as web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. (p. 211)

In this study, the participants were asked for their own definitions of SM to investigate the potential difficulties suggested by Li (2014) and Scialdone (2014).

In scholarly settings, the use of SM has been questioned in terms of its credibility, potential for misuse, and distraction from formal learning activities (Everson et al., 2013; Mensah & Nizam, 2016; Odom et al., 2013). Moreover, research about its use in both formal and informal contexts has focused on skills, perceptions, and attitudes of administration and teaching personnel (Albrahim, 2020; Elitas, 2015; Joosten, 2012; Jung et al., 2021; Vivakaran & Neelamalar, 2018), with a limited amount of in-depth research on the personal experiences of graduate student users in higher education settings. Research about students' personal experiences with SM for learning have used large samples and surveys, generating aggregate results (Al-Sharqi & Hashim, 2016; Ansari & Khan, 2020; Elitas, 2015; Hu et al., 2017; Joosten, 2012; Odom et al., 2013; Tess, 2013; Vivakaran & Neelamalar, 2018), with few contributions that use qualitative designs that explore the nuances of personal experience (Hamid et al., 2015; O'Brien and Glowatz; Zaw, 2018). Moreover, although interaction, engagement, and information gathering across cultures is clearly implied in the results of studies about SM in education, limited studies have specifically examined the cultural aspects as a specific focus (Chen & Zhang, 2010; Sawyer & Chen, 2012; Zaw, 2018).

Among aggregate studies, Odom et al. (2013) surveyed university students in two leadership courses about their level of comfort and frequency of use of SM tools and advantages and disadvantages of using SM in the classroom. According to the researchers, the most comfortable and frequently used SM tool used was Facebook. Advantages that these students perceived were (a) using SM helped to increase the quality and efficiency of student-student and student-instructor communication, (b) using SM integrated useful technology that is used throughout life, (c) SM facilitated access to class information, and (d) SM enhanced collaboration and strong social communication among classmates. These students also highlighted several disadvantages of using SM in classrooms. Most frequently mentioned was the issue of distraction. A few students reported that their lack of knowledge impeded their use of SM because it was unfamiliar to them.

Similarly, Mensah and Nizam (2016) used survey sampling and regression analysis to investigate the influence of SM use on college students' academic performance and found significant relationships between performance and appropriate use of time, connections with others, and the nature of use by college students. These researchers concluded that effective time management in the academic use of SM is important and that becoming overly immersed or distracted potentially leads even to adverse effects on health.

Focusing on graduate students, Bista (2015) explored the use of Twitter for facilitating classroom discussions, demonstrating that students had positive experiences and using Twitter enhanced their engagement in the class. Bista analyzed 2,414 tweets from the assignments of 42 students during a 15-week course. All participants contributed by posting tweets weekly on the selected Twitter page; some posted their dislikes to their peers and instructors and others shared assignments and information from reading assignments. Most of the posts showed that the students used Twitter to ask the teacher or friends questions about assignments or for class discussion because they got a quick reply. Approximately 8% of the participants stated that Twitter was not a learning tool, but 92.4% believed it useful for learning. The participants also described positive experiences of engaging in group projects, class discussions, needed activities, and course announcements, as well as collaboration on projects and assignments.

Other recent studies have found similar results. Ansari and Kahn (2020) surveyed 360 undergraduate students and used structural equation modeling to explore a priori hypotheses regarding positive relationships among SM use for collaborative learning and interactivity with teachers and peers, online knowledge sharing, and student engagement. Significant positive relationships were consistently identified between SM use and the hypothesized outcome variables.

Using interviews and an online survey to collect data, O'Brien and Glowatz (2013) conducted a case study with 15 students to investigate the effectiveness of Facebook for increasing academic engagement and developing synergistic knowledge. Several distinct themes emerged from the data analysis that showed that most Facebook practices could be academically beneficial to students by stimulating critical thinking and academic debate. The study demonstrated that using SM not only facilitated increased communication and information sharing between students but also allowed them to collaborate in an easily accessible online environment, which was a useful tool for distance-learning and part-time students. In a recent review using Facebook in education, Chugh and Ruhi (2017) found substantial consistency in the research about the benefits of using Facebook in higher education such as increased interaction among students and teachers, student engagement, and academic performance, concurring with the findings of O'Brien and Glowatz.

Everson et al. (2013) reviewed the use of Facebook, Twitter, and YouTube among college students and supported its potential in engaging them and fostering critical thinking and information literacy. These researchers explored the use of SM tools in their own courses and shared examples of how SM could be used by other educators. According to Everson et al. (2013), SM allowed students to connect with their teacher, friends, and with each other in different ways. However, the findings indicated the importance of ensuring that students have adequate skills in the use of SM, indicating that educators should not assume their students are "tech savvy." These researchers concluded that educators should use SM to help their students contribute, participate, and engage in their learning experiences.

From a different perspective, Dumpit and Fernandez (2017) investigated the adoption of SM technologies by higher education institutions through the lens of the technology acceptance model, bringing focus to both cultural elements of SM use for learning. In keeping with the constructs that are emphasized throughout other studies (convenience, accessibility), these researchers surveyed 500 higher education students from the Philippines and used principle component analyses and structural equation modeling to determine predictors of students' actual use of SM for learning. The findings indicated that usage was significantly related to perceived usefulness, positive affect while using SM, and perceived ease of use, providing quantitative support for findings that have emerged from other studies. The findings were marginal for perceived accessibility, which the authors suggested was related to variation in the quality of information and communications technology infrastructure in public institutions in developing nations, concerns that are echoed by Johnson et al. (2021).

Focusing on educators, Vivakaran and Neelamalar (2018) surveyed 100 faculty members in Tamil Nadu, India, regarding their use of SM in education, also finding that infrastructural factors are important. These researchers found that half of the surveyed teachers used SM applications to find information and supplemental class materials and that a variety of applications was used. A regression analysis revealed that student demand likely drives the adoption of SM technology by educators. Significant results also emerged for several potential barriers to the use of SM for education including lack of technological infrastructure, limited access to SM applications at school, and limited access to SM applications among students.

More recently, Johnson et al. (2021) surveyed 313 university students in the South Pacific, finding that < 2% of the respondents indicated that SM was "not important" or "not important at all" and > 60% indicated that SM was "important" or "very important," the remainder being "neutral." The

overall results indicated that the students had positive attitudes toward the use of communications technology for distance learning, but ensuring the quality of needed infrastructures, online classes, and related skill development among both students and teachers are ongoing challenges to distance learning that are not specific to the use of SM, concurring with Albrahim (2020).

Although most of these studies present that SM enhances the fluidity of communications and interactions across geographical and cultural boundaries, it is important to acknowledge potential issues with access to needed infrastructure and popular SM platforms in different countries as well as how culture and individual differences may influence the acceptance and use of technology as well as cross-cultural adaptation.

More focused studies have confirmed the findings of larger studies and consistently raised the importance of cultural factors in how SM may operate in learning settings. Hamid et al. (2015) used qualitative methods to examine students' experiences in using SM for student–student and student–instructor interactions at Malaysian and Australian universities, finding that the use of SM appeared to bring fun to learning and offered a comfortable form of interaction for students who did not like to speak up in class. Additionally, Hamid et al. considered the views of students who came from various academic disciplines and from different levels of study, representing those who were debatably the main “stakeholders” in higher education. These findings strongly suggest that students leverage SM technologies to enhance interaction among themselves, with their instructors, and with the content of the course.

Chen (2012) and Sawyer and Chen (2012) explored international students' use social media and how it influences their intercultural adaptation in the United States. The researchers interviewed 10 international students who were enrolled in a mid-sized university in the northeastern United States who were born in other countries and experienced adjusting to life at the university. The results indicated that social media provides platforms for such students that allow them to connect with people in both home and host countries. The primary themes from the interviews were connection (relationships), adjustment, and community. The authors concluded that using SM helps international students (sojourners) build and maintain personal relationships while fostering a sense of belonging to the host culture as well.

In a similar vein, Zaw (2018) focused on how SM can facilitate cross-cultural adaptation. This researcher conducted in-depth interviews with 15 international students who were studying at a university in China. The participants were from Asia, Africa, and some Pacific Island countries, and most had never been to China. The participants' responses revealed important themes related to their experiences with SM, indicating that SM helps students adjust to culture shocks, facilitates ongoing socialization in the host country and online communities, and helps students maintain existing relationships and information flow with family and friends. Social media supported the participants in communicating, meeting new people, socializing, sharing knowledge, and learning different perspectives. Moreover, social media facilitated intercultural adaptation among people who were facing a different cultural experience in a new community.

Overall, there is substantial empirical support for the idea that SM can effectively serve as a learning space specifically in higher education, and current research indicates that SM has several advantages to offer including enhanced student engagement, interaction, and collaboration (Ansari & Khan, 2020; Bista, 2015; Deaton, 2018; Mensah & Nizam, 2016). Moreover, the results of current research indicate several practices that support the effective use of SM in higher education settings such as time management and instructor training (Albrahim, 2020; Odum et al., 2013). However, few researchers have conducted in-depth qualitative studies that have focused on graduate students' understanding and self-initiated incorporation of SM technologies into their learning spaces. This study served this purpose in that multiple sources of data were obtained from seven graduate students, providing rich textual, visual, and observational information that was used to complete a detailed integrated thematic analysis of the participants'

perceptions regarding their experiences with using SM applications for graduate-level learning. Moreover, these students represented different cultures and geographic backgrounds, providing a rich cross-cultural perspective.

4. Materials and methods

4.1. Research design

Phenomenology was an appropriate methodological framework for this research because it involves interpretive processes whereby the researcher derives meaning about a given phenomenon from participants' testimonies about their experiences with it (Creswell & Creswell, 2017; Creswell & Poth, 2018). Therefore, I used qualitative, phenomenological methodology to investigate the participants' experiences using SM in graduate-level classes. Each completed a semistructured interview session during which they also provided artifacts (drawings and screenshots) and shared examples of using SM for classes and other purposes. These were combined with my notes and observations, which generated several sources of data for interpretation via a triangulation process (Creswell & Creswell, 2017; Creswell & Poth, 2018; Merriam & Tisdell, 2015).

4.2. Setting

This study took place at a mid-sized private university in the Western region of the United States. The interviews were conducted in natural settings such as study rooms in the library or at informal campus sites where the participants indicated they were comfortable using SM. Normal furnishings such as chairs and tables were present. Each participant and I mutually agreed on a location for the interviews, which were recorded using the audio-recording function on my cell phone or laptop. I used paper, writing tools, a portable computer, cell phone, and an interview guide for questions, taking notes, and making informal observations. One of my participants was interviewed online due to travel distance. Aside from being interviewed remotely, this participant was treated in the same way that any other was treated and the data collected were similar to that collected from the other participants.

4.3. Participants

Using purposeful sampling, seven graduate students were recruited to participate in this study. The inclusion criteria included that they be university students from the Department of Education who had responded to a previous survey on the educational uses of SM from their perspectives. Two males and five females who were over the age of 18—none of whom came from a vulnerable population and who represented different majors—completed the study. [Table 1](#) displays the participants' demographic characteristics.

4.4. Procedure and data management

After obtaining Institutional Review Board approval for this research and finalizing the interview guide, I contacted the prospective participants via email to establish their willingness to complete the study. After each informally agreed to participate, a consent form was provided to them explaining the purpose and general procedures of the study, including the protection of their data and the use of a pseudonym in the raw data, analysis, and findings of the study to ensure confidentiality. Upon receiving a signed consent form, each participant was contacted to schedule a time and place for the study session (see **Supplemental Materials Section A** for correspondence and consent form; this study was granted an exemption by the Institutional Review Board of The University of Northern Colorado; IRB approval form #1,047,834-2 available on request). All of the participants were adult students who were exposed only to risk that naturally occurs in a university setting; they voluntarily participated in the session and were aware they could end participation at any time. All data were stored in a locked, password-protected computer and stored in a locked cabinet.

The data for each participant were collected during one interactive session that integrated a semistructured interview with the flexible exchange of drawings and demonstrations from the

interviewee. The interview questions followed a semistructured guide that was based on a group of questions that specifically related to the educational uses of SM (see **supplemental materials Section B** for the interview guide). The questions were peer-reviewed for clarity and relevance and modified if necessary. They were then field tested in actual practice interviews with two peers as a final step in development.

Artifacts were collected during the session by asking the participants to create an illustration that expressed how they used SM for education. I also (with permission) took a digital picture of specific sites used by participants on the devices they commonly used, without capturing any identifying information. The participants could also share screenshots of their SM use during the interview and were permitted to participate in the interview but not share their screenshots or illustrations if desired.

4.5. Data analysis

I analyzed the data via an immersive examination of interviews, pertinent artifacts, and my notes and journal. The audio recordings of the interviews were transcribed verbatim to text files for the analysis. The data analysis involved identifying the coconstructed meanings with data from the interviews, observations, and artifacts by using a systematic thematic analysis across the participants.

The data from the interview transcripts were closely examined and common themes were identified by (a) reducing and coding the information into meaningful and recurring ideas, (b) organizing the codes into a textual description of the students, and (c) then creating a structural description of those experiences to reach common theme categories that were comprehensive and mutually exclusive. I then integrated the information from the artifacts with the information from the interviews to provide an in-depth examination of the participants' use of SM in formal learning (Braun & Clarke, 2006; Creswell & Creswell, 2017; Creswell & Poth, 2018; Merriam & Tisdell, 2015).

4.6. Credibility, dependability, and trustworthiness

To ensure the overall credibility of this study, I used several standard qualitative research strategies including keeping an audit trail, using triangulation procedures, and completing member checks and a peer review. I kept a journal in which I wrote my thoughts, feelings, and perceptions throughout the study to set aside these ideas and minimize their influence during my interviews and analyses. I also kept field notes, using the interview guide immediately after the interviews as an additional place to make observations and keep other notes of ideas and perceptions.

For the thematic analysis, I integrated multiple sources of data to help me obtain a comprehensive view of the phenomenon. I also used thick, rich descriptions, providing a detailed description of the setting and all participants in this study, as well as their artifacts and screen shots. I completed member checks to further support the credibility/confirmability of the data. All of the participants were asked to verify the accuracy of their transcripts; of the six participants who responded, all agreed that the transcripts were accurate. Additionally, three of the participants were asked to review the analysis and provide feedback. Finally, I engaged with the data until saturation was reached and used the participants' own words to create the themes (Creswell & Creswell, 2017; Creswell & Poth, 2018; Merriam & Tisdell, 2015).

4.7. Constraints

Several constraints related to the nature of qualitative research and some limitations to this study bear consideration. First, the sample consisted of only seven graduate students for the College of Education at a university in the Western region of the United States, obtained via purposeful sampling. It is possible that these students were more focused on learning and more disciplined in their use of information than students who are not committed to higher education. Also, as

education majors, these individuals might have been significantly more interested in different learning processes and formats, so their perspectives might not transfer to the general population.

Second, participants in this study were from different cultures, religions, and national backgrounds, so they might have had different levels of previous knowledge about using SM. However, this factor also serves as an asset in that the participants cocreated a rich, integrated vision of how SM offers many advantages in distance and blended learning environments. Third, an inherent risk in interviews relates to the honesty of participants' responses. Even though participants were informed their responses would remain confidential, there was a risk that answers might not reflect actual thoughts and feelings for a variety of reasons (e.g., desire to answer in a way that they felt the researcher wanted, feelings of embarrassment, guilt, or reluctance to share personal opinions). Therefore, the information offered by this study should be interpreted keeping these limitations in mind.

5. Results

First, I discuss the participants' views with respect to defining social media. Next, I present the participant's profiles and their artifacts, highlighting notable aspects. I then present the integrated thematic analysis, detailing the themes and subthemes that emerged.

5.1. Graduate students' conceptual understanding of social media

Before discussing themes, it is important to understand how the participants conceptualized social media, in terms of both how the construct was defined and how the participants perceived its use in education. The graduate students in this study had widely varying perceptions of what the term social media meant to them. Many thought some social media sites (e.g., YouTube) or learning platforms (Blackboard, Canvas) were not types of social media. Emails were also excluded from some participants' definitions of social media. The participants thought social media refers primarily to informal communications using platforms like Facebook, Twitter, or Snapchat and not formal communications using email or discussion boards in LMPs such as Blackboard and Canvas. However, they frequently contradicted themselves.

Helen defined social media as "a social platform where people can interact with each other through technology. This media may be used for groups or individuals, and some use it to promote their business." When I asked her what the term social media meant to her as a student, she said,

As a student, I think about social media as a place where I can connect with my classmates online, or digitally, a place where we may be able to collaborate together or keep in touch, even when we don't live close to each other. I think any platform where you can interact with many people individually or in groups through technology would be a social media.

However, she then contradicted this statement saying, "collaboration in a closed place, like within Blackboard and such I would not consider social media, as it is limited to the participants within a class and is not open to the public."

Moreover, there was confusion particularly about YouTube. This platform was originally developed for the one-way Web 1; however, when Web 2 emerged, social and interactive features were added. Some participants thought YouTube was not social media but a form of one-way communication. Kalen's responses were contradictory in that he said that he did not use social media in education: "I use SM daily, but more for a social aspect and not so much for the education." However, he indicated he used different kinds of social media such as YouTube a lot to help him learn. Kalen indicated he did not consider Canvas, Blackboard, text messaging, discussion board, Google Docs, and email as social media; he thought those were only a written form of communication.

When I asked Belle for her definition of social media, she responded, “I think social media is a portal for putting information on the web and making it accessible to anyone anywhere. So it could be news information, how to do things, sharing information about your family. It just encompasses so much.” Lisa contributed the following definition of social media: “Social media to me is any platform which you can obtain information in a way that isn’t written in a book or isn’t tangible to hold on to. It can be something very fluid and updated regularly.” Iman’s definition of social media was “a way to connect many minds to solve a problem in seconds.” Sara, however, felt “social media is something that has to be available online, and you get to interact with people that you may or may not know.” She did not think Canvas or Blackboard was a kind of social media, stating, “I don’t think of Canvas/Blackboard etc. is social media, but thinking about it, I do interact with my professors and my students via these platforms.”

Overall, the definitions of social media that participants expressed in interviews were inconsistent and lend credibility to the concern that inconsistent understandings and definitions of SM may limit student’s perceptions of its usefulness for higher learning. However, it is notable that regardless of the inconsistencies and contradictions, all of the participants used SM applications, as defined by Boyd and Ellison (2008), in their studies.

5.2. Preliminary review of artifacts and screenshots

Before reviewing the interview transcripts in depth, I created folders for each participant and noted my initial responses to their drawings and screen shots. The participants shared their views freely and appeared to be enthusiastic about using SM for learning. This is clearly evidenced in Helens work.

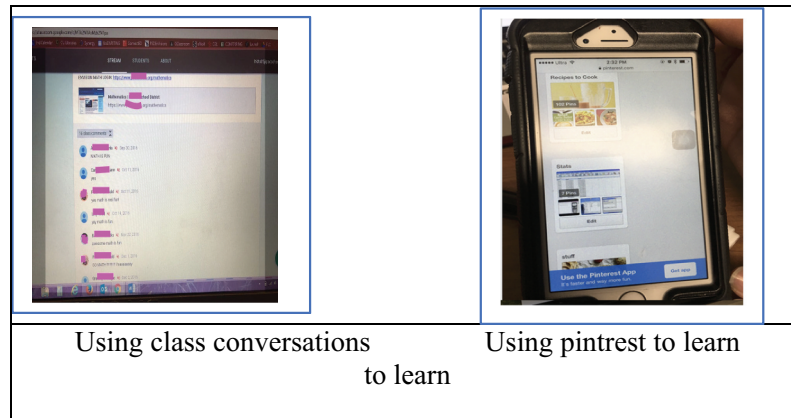
Helen, a graduate student who identified herself as a young adult, is from the United States and is also a wife and mother of five children. Her husband, whom she met in the USA is from Egypt, and her children are bilingual (English/Arabic). She described how SM helped her adjust to the culture in Egypt as well as with her graduate studies. Moreover, SM played a large role in maintaining cross-cultural, long-distance relationships with family and friends as she traveled back and forth from the USA to Egypt so that her children could spend time with their relatives.

Observation: When I asked whether she used social media, she immediately and enthusiastically responded, “Yes, Yes! I [do]! I use a lot of different social media, so on the list, I use Facebook, Google a lot, and Twitter, YouTube, things like this. A lot of the social media I use is to keep in touch with others.” Her confidence and assurance in talking about using social media reflected this interest and passion. Her attitude and body language demonstrated her excitement and enjoyment when she talked about how different kinds of social media helped her accomplish her goals. In answering the interview questions, she would often grab her cellphone, saying, “Look, look! I will show you!” Actually, she could hardly contain her excitement as she showed me app after app. Finally, I asked her to show me with her device how she does her homework (see [Figure 1](#)).

When I asked her to draw what she thought of being a university student and using different kinds of social media, she eagerly and immediately started to draw. In [Figure 2](#), she emphasized how social media allowed her to access anywhere and at any time, connecting learners “to increase the relevance and engagement of learners.”

Helen’s drawing is very precise; it presents a chain circle connected by many people holding the chain together to connect learners surrounding the Earth; a dark key in the center is surrounded with different platform icons such as YouTube, Twitter, Facebook, and Pinterest. The key is used as a metaphor as she stated it “unlocks knowledge” and “has the potential to increase relevance of learning and engagement of learners.” She also wrote the following words in a circle shape

Figure 1. Devices Helen used to learn.



between the Earth and people who are holding the chains: Connected, Global Citizens, Efficiency (saves time), Diversity, Relevant, Motivating, Bridge Misunderstandings, Expand Network, Collaboration, Support, Relational, Productivity, and Unlimited Access to Knowledge.

Another participant shared a similar experience. Iman, a Doctor of Philosophy student in early middle age, is from Libya and is studying in the United States as an international student. When asked whether she used social media, she immediately responded, “Yes, for sure!” with enthusiasm and eagerness. Her confidence and assurance in talking about using social media reflected this enthusiasm. However, she also noted that being an international student was not easy; using social media with different platforms helped her become more confident chatting inside the classroom and outside, decreasing the tensions she initially felt. The final part of the interview was for her to use her device to demonstrate how she did her homework. She also drew what she thought of being a university student using different kinds of social media.

The drawing in [Figure 3](#) depicts a student trying to study and thinking about using different social media platforms: “I do not know what it means; I should use students’ 911.” By the title “*Student 911*,” she is referencing a quick, immediate, and efficient way to answer questions. Iman’s drawing indicates that if she has any question, she goes immediately to different kinds of social media platforms and looks for an explanation, answer, or clarification. Several of the main ideas from Iman’s interview were discerned in this drawing. In [Figure 3](#), she included many icons for social media platforms such as Twitter, Facebook, Snapshot, YouTube, Instagram and LinkedIn.

Observation: Iman was very excited when she talked about using different social media to help her communicate with her instructors, classmates, and friends to accomplish her assignments quickly and easily. She showed me many different platforms on her smartphone and talked about platforms for chatting and for viewing videos only to understand the concepts ([Figure 4](#)). She eagerly demonstrated app after app that she used in her education on her cellphone. She clearly summarized her positive thoughts and feelings about using social media for learning through her drawing.

Generally, these ideas were consistent across all of the individual files. See **Supplemental Materials Section C** for descriptions of each of the participants and images of their artifacts. All of the drawings (except one) showed a YouTube icon. Also, most of the drawings contained arrows and people. Four of the seven included stick figures depicted using SM for learning. Finally, most of the drawings, in one way or another, implied how SM could be used to answer questions and reduce confusion. All of the participants used their cell phones to provide screen-captured images of SM applications and examples of how they used them. They all used YouTube, Facebook, and

Figure 2. Helen's perception of social media.



Twitter, as well as other platforms, on their devices. During the sessions, the participants demonstrated how they found quick ways to solve problems through SM platforms or applications.

5.3. Thematic analysis

The themes that emerged during the integrated analysis are categorized as they relate to the research questions: experience, cross-cultural perceptions, advantages and disadvantages, and suggestions. Thirteen main themes emerged. For overall experience, *major source of learning and motivating and engaging* emerged as main themes. The themes related to cross-cultural aspects were *facilitates cross-cultural adaptation* and *increases global/cross-cultural communication and interaction skills*. The themes for the primary advantages of SM were *convenience, collaboration/connection, and transcends geographical boundaries*. The primary disadvantages were that SM could be *overwhelming/boring, distracting/time consuming, and involve interpersonal challenges*. The *credibility of resources* can also be an issue. In terms of suggestions, *educators' integration of social media (for classwork)* and *students' management of social media* were the main themes.

Each theme was further defined by consistent subthemes that appeared, as expressed in interviews, drawings, screenshots, and notes from my observations. Tables 2–5 contain the emergent themes, any subthemes that are associated with each, and exemplary quotes that support the theme/subtheme.

Table 2 displays the participants' perceptions of their overall experiences with SM as a learning space.

Table 1. Participant demographics

Pseudonym	Gender	Age	Home Country	Language	Departments		Interview
							location
Iman	Female	35-44	Libya	Arabic	Educational technology		University campus
Sara	Female	25-34	Mexico	Spanish	Applied statistics & research methods		University campus
					Educational		Coffee
Helen	Female	35-44	United States	English	leadership & policy studies		shop
Lisa	Female	35-44	United States	English	Counselor education & supervision		University campus
					Higher education & student affairs		University campus
Belle	Female	35-44	United States	English	leadership		
Kalen	Male	25-34	United States	English	Applied statistics & research methods		University campus
Hamad	Male	35-44	Saudi Arabia	Arabic	Educational tech.		Online

Figure 3. Iman's perception of using social media.



As a major source of learning, subthemes highlighting how SM facilitates access to information to clarify concepts or learn processes and obtain immediate feedback illustrated how the participants used SM both to find information and to share it with others. Participants unanimously remarked about the volume of easily accessed information available using SM. They also emphasized that having access to information about the same topic from different places and through different modalities is helpful for facilitating clarification. For most, SM had become an indispensable tool, and all of the participants used the YouTube platform to find quick answers.

The participants' interview responses frequently indicated that SM applications increased their *motivation* to learn and facilitated *engagement*, emphasizing the values of access to multiple sensory and learning modalities and ease of sharing information with others. Some participants highlighted how SM allowed for easier and more frequent interactions with both instructors and other students. Others indicated that SM helped students who are hesitant to "speak up" in face-to-face situations to participate more frequently and to be heard. This relates to the question regarding cultural and geographical perspectives about using SM for learning.

Table 3 illustrates the participants' experiences with respect to perceived cross-cultural aspects of using SM for learning. All of the participants noted that SM helps to transcend cultural boundaries and adjust to different cultures. Their comments also strongly indicated that SM facilitates

Table 2. Students' overall experience with SM as a learning space

Main Theme	Subtheme	Exemplary Quote
Source of learning	<p><i>Social media is a powerful, easily accessed tool.</i></p>	<p>Lisa: For me, it's this fluid ability, like the fluid ability to gather and obtain information. Sara: Fast, easy, access to information I may not have in my daily life. Helen: A professor I had that had an online course used social media through posting his lectures on YouTube, a place where we could repeatedly view the content, even after the course was over. For a doctoral program, this was especially helpful as much of the content in our courses overlap and require interactive knowledge from many different courses. If you are not recalling something, these videos are easily accessible. Hamad: Because my iPhone is a smartphone and with me everywhere and it's easy to find information anytime and anywhere. I'm using my laptop in my classroom and my office and the library and my home and it's easy to carry my laptop with me. Hamad: Social media makes the world a smaller place where it's easier to reach anyone at any time when I have questions.</p>
	<p><i>Social media is a helpful tool for clarification.</i></p>	<p>Iman: I think when I get the immediate response, [it is good] to clarify if I am correct or not, so I am successful. Iman: When I get confused in some information or I [am] stuck with many terms that I don't know, ... I can directly go to YouTube to clarify something.</p>

(Continued)

Table2. (Continued)

Main Theme	Subtheme	Exemplary Quote
	Quick learning and Problem solving	<p>Kalen: YouTube to find video tutorials on how to learn software or how to do something that I don't know how to do for more basic subjects and software.</p> <p>Iman: When I get confused in some information or I [am] stuck with many terms that I don't know, ... I can directly go to YouTube to clarify something.</p> <p>Iman: I consider it as 911 for students and educators as well, because you will have a response for whatever you ask. Sometimes you're stuck in a point and you need to answer it, you need to read maybe 3 or 5 paragraphs to get the answer. Sometimes your friend has an experience with this point; you can go quickly and ask her or ask your professor and give the response very quickly.</p>
Motivation and engagement	Leverages multiple sensory and learning modalities and provides access to different perspectives.	<p>Kalen: It is a great service; I have sent videos to students to get a different perspective on how to ... understand how to do certain stats.</p> <p>Helen: I do appreciate the emphasis within the different platforms.</p> <p>Lisa: [I] like access to multiple forms of information; [this] provides alternatives even to my own view. I need more than one way to integrate information for it to make sense, and social media provides an additional experience in a multisensory way for me to gain information. It provides a different arena for learning for me specifically because I am very much a visual learner. Just standing up and having lecture materials and taking tasks doesn't resonate as much with me. I tend to learn more when there are other media like other forms of learning or experiences.</p> <p>Iman: Social media scaffolds my learning process by providing visualization facility, providing more than one format for the same information so you can choose the ones that are suitable for your learning.</p>

(Continued)

Table2. (Continued)

Main Theme	Subtheme	Exemplary Quote
	<p><i>Social media applications increased motivation to learn and facilitated student engagement.</i></p>	<p>Helen: One professor I had used Google sites to engage the class in learning. We helped to create and add resources to this website so that it was interactive for all of us as a class. It also served as a place where we could access our work years into the future. This helped to make our class interesting as it engaged us through learning in different modalities. It was interactive and helped to extend our learning of what we talked about in the classroom.</p>
	<p><i>Facilitates increased interaction</i></p>	<p>Hamad: One the most important [things] is [that social media] encourages interaction between students. This is especially helpful in a college environment.</p>
	<p><i>Immediate feedback and comprehension.</i></p>	<p>Iman: I think when I get the immediate response to clarify if I am correct or not, so I am successful in this case, because it [SM] is a part of our technological world that provides you with information from around the world in seconds.</p>

Figure 4. Icons Iman used for social media platforms.



cross-cultural adaptation and potentially decreases the shock associated with immersion in a new culture. Moreover, the participants expressed that SM helps raise global communication and citizenship skills by facilitating cross-cultural understanding and interaction.

The participants' responses regarding cross-cultural aspects were mainly positive, although some still expressed concerns with potential difficulties with communicating in an open environment where people may not always observe appropriate behavior. This issue was addressed by Q3, advantages and disadvantages of SM for learning, displayed in [Table 4](#).

Regarding the advantages of SM for learning, *convenience, collaboration and connection, and transcends geographical boundaries* were the main themes. For convenience, the subthemes emphasized the ease of access, portability, and time-saving features that SM applications offer. The participants repeatedly emphasized how much time they saved by using SM. They also valued the portability and accessibility of their devices and how this allowed them to use their preferred SM platforms anytime and anywhere, transcending geographical boundaries.

All of the participants indicated that SM offered support in terms of building positive, collaborative relationships and connections with others. They consistently expressed that interacting with others during the learning process provided opportunities for them to get needed clarification about topics, concepts, or process, allowing them to interact with others without meeting in person. Additionally, some indicated that SM platforms were particularly helpful to international students because they facilitated both learning and cultural adjustments.

A primary disadvantage that emerged was that SM is potentially *overwhelming*, even to the point of becoming *boring*. It can also be *distracting* and *time consuming*, leading to inefficiencies if it is not used effectively and in a focused fashion. The participants indicated that huge amounts of information could simultaneously create distraction, boredom, and confusion. Substantial amounts of time could be lost searching and wandering through cyberspace.

Table 3. Cross-cultural perspectives

Main Theme	Subtheme	Exemplary Quote
Facilitates Cross-Cultural Adaptation		
	<i>Helps ease transition stress for international students</i>	Actually, maybe for international students, social media makes the shock of being international goes down because the chatting about the problems in the classroom via the social media, I think for me and I think I'm sure for other students decreases the shock of being from different cultures in many students, especially international students.
	<i>Helps students learn foreign languages and traditions.</i>	<p>Hamad: International students, they're using Snapchat, they're using Twitter, they're using WhatsApp, they're using Facebook. There is a lot of people, they want to teach through this social media channels, and they help international student[s]. They are speaking English as a second language to learn from them how can they pronounce the word, and how can they connect with others, and how can they learn a new word, and how can they use it in a completed sentence.</p> <p>Helen: Connect me with the world, I gain knowledge of different culture, different language, and different aspects. Make the world smaller which helped me learn more.</p> <p>Hamad: SM help me learn English language faster.</p>
Increases Global/Cross-Cultural Communication and Interaction Skills		<p>Iman: Actually, for international students, social media breaks the ice; it helps me feel less shy talking.</p> <p>Hamad: He taught us about Google classroom. We worked in the classroom on work out of [the] classroom in same program and when we are in his class we are working in a laptop or a desktop with our account and help each other and ask each other and do what he want us to do. There were things we trying to go to this application and work inside the application and discover what is the application and help each other as international student and citizen students.</p> <p>Helen: Connect me with the world, I gain knowledge of different culture, different language. and different aspects. Make the world smaller witch helped me learn more.</p>

Potential *interpersonal challenges* emerged among the remarks about disadvantages of SM. Some participants expressed concerns about disagreements that become disjointed and unproductive; others were concerned about the possibility of rejection or deception. The *credibility of resources* that are found via SM can also be questionable. The participants indicated that establishing the credibility of resources and ensuring they used accurate information for learning can be challenging because the volume of available information creates somewhat of a “double-edged sword” in that one could be easily overwhelmed, distracted, or even lulled into boredom by information overload. Moreover, the ease of posting content on SM platforms allows a person with any level of expertise to contribute to information in text or conversations.

The overall analysis revealed suggestions to both educators and other students about how to use SM effectively for education (see [Table 5](#)). Thus, participants’ suggestions for the use of SM in learning related to two main themes: (a) *educators’ integration of social media into the classroom* and (b) *students’ management of social media*. Their comments indicated that they encouraged the idea of using SM platforms in the classroom. However, effective use involves focus and discipline from both students and educators.

Most participants wanted their instructors to integrate SM into classes. Comments indicated that instructors should let students use their devices during class time. The results also indicated that instructors must know how to use SM platforms effectively for teaching. This involves knowing which platforms are appropriate for different assignments and using the most relevant platforms. Several remarks also indicated that instructors need to ensure all of their students know how to use the platforms included in the class as well as how to use the platforms themselves.

Beyond technical skill, however, *students’ management of social media* emerged as a strong theme in that participants suggested that students take responsibility for the appropriate and effective use of SM. Their comments identified several student attitudes and attributes that facilitated their effective use of SM platforms for learning. The subthemes associated with student management of SM included (a) *responsibility and respect for others*, (b) *use of credible sources*, and (c) *time management*.

Time management was a notable subtheme in that all of the students recommended to other students that they must build self-control to avoid distraction and time lost. Comments indicated self-management skills were critical in maintaining focus and quality while using SM for assignments. The participants also indicated that students must practice good digital citizenship, taking care to respect the needs and perspectives of others. Moreover, students must learn to identify credible sources and be responsible for the quality of the information that they use.

6. Discussion

The results of this qualitative inquiry provide support for the use of SM as a learning space in higher education contexts. The participants expressed that SM extended their reach in terms of finding and accessing information. Comments illustrated that finding information presented in different ways—such as video, chat, or text—and accessing multiple perspectives about a concept provided them with tools to clarify ideas they did not at first understand. The participants also expressed that SM could be a source of motivation and engagement by providing opportunities to interact and share feedback easily, and they favored the use of SM platforms actively during class time. However, inconsistencies in how these advanced students defined SM indicate that it is important to establish specific, consensual understanding regarding definitions of SM platforms in ongoing research and efforts to integrate these platforms into advanced learning situations.

6.1. Limited conceptions of social media

The perceptions expressed by most participants reflected a limited conceptual understanding about the meaning of social media and its use in formal learning contexts, substantiating the issue raised by Li (2014) and Scialdone (2014). Many thought social media meant only to

Table 4. Advantages and disadvantages of SM for learning

Main Theme	Subtheme	Exemplary Quote
Advantages		
Convenience	<i>Access to a Variety of Sources Anywhere Anytime/Portable</i>	<p>Helen: I really appreciate social media as a way to stay connected to those people I care about, who may not be near me. I also find it convenient as a way to efficiently share information and work together with someone without having to meet in person.</p>
	<i>Saves Time</i>	<p>Iman:It speeds my assignments. Also, it saves my time because sometimes reading about something is time consuming; by asking your friend or your educator, you will save time.</p> <p>Belle: You know if you are somewhere and get on YouTube and want to find a video on how to do something. Right away, boom; you can get it.</p> <p>Helen: I have five kids and I work a full-time job . . . so to be able to connect with people about school, this saves me a lot of time.</p>
Transcends Geographical Boundaries	<i>Social media applications allow access to information regardless of time and space.</i>	<p>Hamad: Social media makes the world a smaller place where it's easier to reach anyone at any time when I have questions.</p> <p>Iman: Social media allows access to information needed anytime and anywhere; hence, there is no restrictions on time to learn.</p> <p>Hamad: Because my iPhone is a smartphone and with me everywhere and it's easy to find information anytime and everywhere. I'm using my laptop in my classroom and my office and the library and my home and it's easy to carry my laptop with me.</p> <p>Sarah: If there is a procedure I am not familiar I don't get anxious because I know I can find something online, or even ask stats bloggers on Twitter all over the world for their advice.</p> <p>Helen: I sometimes think about technology is a great way to bring the world into the classroom without having to take students out to the world. Using social media or using technology instructors could maybe find an expert to speak to the class without him having to be there, or showing people something that's relevant, and even to connect experts from around the world with students. Instead of having a guest speaker come into the classroom, the classroom can "go" to the expert in the real environment using technology and social media platforms.</p>

(Continued)

Table 4. (Continued)

Main Theme	Subtheme	Exemplary Quote
<p>Collaboration/ Connection</p>		<p>Hamad: Social media, it's helped me to connect with all my friends and all my students related to my major and ... find the information ... easily to get as a group in Facebook or a Twitter or a WhatsApp or any kind of social media. And it's big, big jump for education to using social media in education. I think this makes learning easier when I can connect with others working in the same field.</p> <p>Lisa: SM is good because it allows Blackboard and Canvas to work in groups that wouldn't typically be able to work with.</p>
		<p>Kalen: The term SM, to me as a student, is just a way for me to connect through the internet with other students and other faculty.</p> <p>Helen: Part of it, I think, is to collaborate, to keep in touch with different classmates and to work on assignments with people when we're not necessarily together. I wouldn't have gotten assignments done if I wouldn't have had the social media because I wouldn't have had the time to be able to collaborate with people. I think my successes come from being able to communicate and collaborate with people.</p> <p>Helen: As a student, I think about social media as a place where I can connect with my classmates online, or digitally. A place where we may be able to collaborate together or keep in touch, even when we don't live close to each other.</p> <p>Lisa: I think [a good use of SM] is to collaborate, to keep in touch with different classmates and to work on assignments with people when we're not necessarily together.</p> <p>Sara: It helps me connect with other statisticians (with stats bloggers for example) with my own professors and classmates.</p>
<p>Disadvantages of SM</p>		
<p>Overwhelming/ Boring</p>		<p>Lisa: I personally felt infiltrated. I felt overly saturated with the information that was coming.</p> <p>Kalen: Too much information or long videos could be boring.</p> <p>Lisa: There was a social through Blackboard—there was a lecture component and it was a mixed media. It was part time lecture in class and then part time online course, I can't even think what they are called right now and it was a research course. We had to all of us come together as a class on a Monday evening +for an hour to hear a lecture and it was painful, like it was not helpful.</p>

(Continued)

Table 4. (Continued)

Main Theme	Subtheme	Exemplary Quote
<p>Distracting/Time consuming</p>		<p>Sara: I like social media in a personal way because it keeps me in touch with people I no longer see daily. However, this can be <i>distracting</i> as a student.</p> <p>Belle: If I am using SM to research an assignment ... there are links to all other things and things pop up. So don't fall into that little trap of, oh this looks neat and then go off here and then go off there.</p> <p>Hamad: It's very bad if you will use it all times. [It's a] waste [of] your time to sit and use social media to contact with your friends and others, and to read a lot of things you don't need to read.</p> <p>Lisa: If you don't have good boundaries around that [you can waste time]. I know because I've been guilty of that.</p>
		<p>Helen: "It can be wasted time if used TOO often--or if I get distracted from my purpose for using it."</p>
<p>Interpersonal Challenges</p>		<p>Lisa: In general, I think it can serve both a very positive purpose to getting information out, and I also believe that it can be oppressive. For me, I do believe it's important that I don't say things that I wouldn't say to someone's face. I feel like right now, social media is not good at that middle piece of like, can we have a balance and respect one another ... My feeling is that often times if you are not for us, you are against us. That's not something I particularly like being a part of, which is why I removed myself from Facebook specifically. I mean I do disagree with some of it. More so, for me it's one person says one thing and then they get in a fight with 10 other people and then their thing keeps coming up and coming up. If you and I were having a discussion on Facebook and I said something that angered you and you commented on it, then that would repeat in my feed again and then you would comment back and it would repeat in my feed again. Toward the end there are 20 comments where people are fighting back and forth, not face to face with one another saying things that I just can't be part of.</p> <p>Kalen: Starting to intertwine social media with my professional life, I don't think is appropriate. You have to think about what you're posting, what you're putting out there. There's always that potential that you post the wrong thing, and people get fired.</p>

(Continued)

Table 4. (Continued)

Main Theme	Subtheme	Exemplary Quote
Credibility of sources		<p>Iman: [The main problem is] copy rights issues and trustworthiness of the information.</p> <p>Belle: I think you have to be very careful about what you believe and what you don't believe. Information like news information comes out, fake news versus real news; I think personally you have to take a vested interest in going and searching that out and making sure it is a real thing.</p> <p>Hamad: [SM] opens up the visibility for hackers to commit fraud, and launch spam and virus attacks. [It] increases the risk of people falling prey to online scams that seems resulting in data or identity theft.</p>

communicate informally via different platforms or applications. They did not view many formal communication platforms as being social media including email, text messaging, discussion boards in LMSs (Blackboard, Canvas), and other formal LMPs. However, they often contradicted themselves. The mental separation of formal and informal learning environments potentially contributed to the confusion regarding what was and was not social media.

According to Greenhow and Lewin (2016), formal learning refers to situations in which an agent such as a teacher, an LMP, or a software program directs student learning; whereas, informal learning is “described as that which is not directed by school or externally mandated but is learner controlled” (p. 10). However, Colley et al. (2003) conducted an extensive review of literature and research involving the use of the terms “formal” and “informal” in learning situations. They found almost all learning environments contained formal and informal characteristics or attributes. The researchers also concluded that in reality, there was a balance of these attributes and how they interrelated varied across different learning contexts. While the results of the current study illustrated many areas where students benefited from using SM in learning contexts, their limited conceptions potentially hindered their inclinations and ability to use it as a learning tool or fully integrate it into learning contexts. Thus, this study contributes new qualitative data that clarifies how inconsistent views regarding SM and its use for learning can influence whether and the degree to which various applications are optimally used in higher education.

6.2. Theoretical considerations

In response to concerns regarding the lack of theoretical foundation for how SM applications could enhance learning in higher education (Greenhow & Lewin, 2016), my findings support the value of the general framework of constructivism and specifically social learning theories for research about SM in learning (Lutta, 2019) in that interaction and collaboration emerged as primary themes. Social media platforms were consistently reported as being central to working with others to solve problems and to clarify concepts and issues during learning. The importance of connection and collaboration in the learning process reported by the participants in this study provide support for social learning theory as posited by Deaton (2018), Duffy and Cunningham (1996), and Reiser and Dempsey (2012) because students and instructors interacted with each other to create a rich learning experience. For example, Helen’s drawing reflected how different SM platforms broadened her world and connected her with new concepts, people, and places. Interactions via SM created a new reality for her, demonstrating how people coconstruct meanings with the physical environment and other people, building their own meanings via SM by interacting and building relationships with others.

Table 5. Recommendations for best practices

Main Theme	Subtheme	Exemplary Quote
Educators' Integration of SM in class	Allow students to use their devices in class	<p>Helen: Maybe using videos or examples in classrooms within their instruction. Then, while the instructor is talking or teaching you something, the class can make comments ... and [synthesize] their learning better while the teacher is instructing.</p> <p>Lisa: Instructors must encourage students to use social media in class [perhaps] to do some research in class.</p> <p>Hamad: My professor, he used Google Classroom. He used that to explain his lecture through the application, and he focused on how much we can learn from each other and from him without test, without using book, without using anything ... it's amazing.</p>
	Instructors need training and skill in SM integration.	<p>Helen: Professors need to be skilled, have training, and to take time to teach the students how to use social media.</p> <p>Iman: When professors provide us with inappropriate applications that didn't help me to meet the requirements that my adviser wants. They [instructors] have to make sure that all students in the classroom are able to use this or they know how to use it in order to provide them with the most appropriate application.</p> <p>Lisa: My recommendation is to make sure that ... educators need to understand their students' needs and skills in order to provide them with the most appropriate application.</p>
Students' management of social media	Use relevant social media.	<p>Helen: Finding something that's relevant to what we're learning. I sometimes think ... technology is a great way to bring the world into the classroom without having to take students out to the world ... instructors could maybe find an expert to speak to the class [without] him having to be there, or showing people something that's relevant.</p>
	Students' attitudes and attributes	(Continued)

Table 5. (Continued)

Main Theme	Subtheme	Exemplary Quote
	Responsible and Respectful	<p>Lisa: I think we are all responsible for our own learning and we need to be respectful of the ways in which other people learn. To help you learn as a student when using social media you have to be respectful, intentional, use different resources, [and] respect opinion[s] and different point[s] of view.</p> <p>Lisa: I am very much aware. I try to do more research than someone else because I strive and in my professional practice as well as a student and as a human being to be as culturally aware as possible. All students [need] to be open to different points of view. We have unlimited access to all the information in the world—how can we be respectful with that open information?</p>
	Seeks credible sources	<p>Lisa: If I'm going to use it as a student I will back it [up]. It may start with a.com but then I go to more substantial credible sources. Since there is some misinformation ... available to students, [you must know] how to be intentional about what you are researching and be on a quest to find factual information, I mean be aware, research more. To decide, to make an educated choice. Just before I formed an opinion, I would just want to know more information.</p> <p>Lisa: I would suggest to other students do research both over the internet and through social media before [they] relay or communicate information or pass information along and do research about it.</p> <p>Belle: I think personally you have to take a vested interest in going and searching that out and making sure it is a real thing. Not believing every single thing you read. And then if it is important to you and it is something you want to learn more about, you need to investigate that on your own.</p>
	Time management	<p>Belle: As long as I stay focused and I don't start clicking links and going off and reading all different things. So stay on task. If I am using social media to research an assignment on social media there are links to all other things and things pop up. So don't fall into that little trap of, oh this looks neat and then go off here and then go off here.</p>

6.3. Empirical considerations

Similar to the findings of quantitative and survey research in the area (Ansari & Khan, 2020; Bista, 2015; Chawinga, 2017; O'Brien & Glowatz, 2013; Odom et al., 2013), the results of this study strongly indicate that SM platforms offered legitimate learning opportunities and graduate students already use SM platforms to learn in both formal and informal contexts. The participants expressed that SM technologies were a source of vast amounts of easily accessed information. Moreover, the availability of information presented in different formats and modalities was perceived as supporting different learning styles and perspectives.

However, Ansari and Khan (2020) focused on undergraduate students in India, using a quantitative analysis of survey data. Facebook, YouTube, and Twitter were mentioned in the background material, but these researchers did not indicate a specific definition for SM or report on specific platforms that were used other than “number of friends on Facebook.” Bista (2015) focused on graduate students and provided qualitative data but studied only Twitter. Also using SM for learning was mandatory for the study, which introduces potential bias in the results.

Limited considerations in defining SM and the inclusion of only popular platforms are characteristic of many of the studies on SM in higher education. Also, only a few studies have focused specifically on graduate or postgraduate students' use of SM for advanced studies. For example, Odom et al. (2013) considered Facebook, Twitter, blogging, and Wiggio to be SM applications in their study and presented quantitative data that consisted of responses from participants on questions related to their comfort level and frequency of use of only those social media tools, again missing opportunities that could rest in diverse views regarding what is or is not SM. Similarly, O'Brien and Glowatz (2013) focused specifically on student engagement among postgraduates but considered only Facebook, without exploring issues such as privacy, appropriate behavior, and guidelines for using SM for learning. Chawinga (2017) evaluated undergraduates' use of Twitter and blogs, but using the platforms was mandatory for the class and the results indicated that the findings were influenced by the desire on the part of the students to get a good grade. The results of the current study help to establish broader generalizability of the data regarding the use of SM for learning by accessing the natural beliefs, self-initiated use, and lived experiences of the participants, without imposing the researcher's views via either a standard survey or a limited list of applications to consider.

The results of this study also support the perspective advanced by Chen (2012), Croucher (2011), Sawyer and Chen (2012), and Zaw (2018) that SM potentially helps to reduce culture shock and facilitates cross-cultural adaptation among international students. The potential for SM to assist cross-cultural adaptation and global knowledge and communications skills was strongly present in the participants' comments and drawings in the present study, indicating that SM applications are especially helpful to international students as sojourners while they complete advanced degrees. Using SM applications helped these students learn facts as well as common cultural aspects of a different country, thus reducing the shock of immersion in a different culture. The participants' remarks frequently echoed comments from the students in Zaw's (2018) study (e.g., “I love reading experiences that users sharing on social media. That helps me to understand China and its culture.” Helen's experience with SM is similar in that it has helped her establish and maintain her family relationships across both cultures and borders. She used social media for both learning and support to build and maintain family relationships in the US and Egypt, as well as to help her learn about and participate in Egyptian culture, and several participants noted various ways that they learned language and culture via SM.

However, Chen (2012) and Sawyer and Chen (2012) presented a limited list of SM applications, (Facebook, Twitter, YouTube, iPhone) and asked only whether and how often the participants used them, and their interview questions were limited to the topic of cultural adaptation without any reference to using SM for advanced learning. Although Zaw (2018) also showed positive aspects of SM for cross-cultural adaptation, the study was limited in that it did not directly address the aspect

of using SM for advanced learning and most popular SM applications are not available in China. Importantly, none of these three studies clearly defined a baseline concept for social media and neither specified applications from the outset. Also, the studies used generalized descriptions of SM rather than a clear conceptual definition. Thus, the current study contributes new information in that the researcher probed the personal views of graduate students about what they believe to be SM applications as opposed to providing an established survey or checklist that presumes a definition. Also, the study focused on the self-initiated use of such applications specifically for advanced learning.

The notable similarity in what the participants reported across these studies is important because they were obtained from students who were using completely different applications in a vastly different context. By using similar methodology in a different learning context, this study provides convergent evidence that supports the generalizability of the argument that using SM for learning assists cross-cultural adaptation and the acquisition of global knowledge and communications skills.

The results of this study indicate that the fluid exchange of information across geographical boundaries that involve both time and space is beneficial to both domestic and foreign students as they interact and learn about and from one another. Sawyer and Chen (2012) and Zaw (2018) noted that international students in China used SM to make new friends within the country as well as to communicate with friends and family across the world. The comments from this study shared much in common with those made by Sawyer & Chen's (2012) participants (e.g., "I use social media to maintain contact with people here and in India. After coming to the U.S., I started using social media so I never lost contact with my old friends or family in India."; "Social media helped me a lot to get adjusted to American life to overcome the cultural gap."; "It's good to link people across countries so that they can understand each other, and I would recommend using social media, from my personal experience, in adjusting to life in the U.S."). However, as suggested by the findings of Johnson et al. (2021) and Vivakaran and Neelamalar (2018) students in developing countries may lack access to needed Internet and communication technologies. This is an important issue in educational reform; however, it was not directly evaluated in the present study.

Consistent with other findings regarding enhanced interactivity when using SM for learning (Ansari & Khan, 2020; Bista, 2015; Chawinga, 2017; Hamid et al., 2015), convenience and collaboration/connection were main themes associated with advantages of using SM for learning. Participants also indicated that multiple information modalities and the interactive qualities of SM were motivating and engaging for them. Two primary disadvantages of SM emerged: (a) it can become distracting and time consuming and (b) there is the potential for cyberbullying or other incidents of negative interpersonal interaction, again adding convergent validity to the findings of others (Ansari & Khan, 2020; Chawinga, 2017; Dunning, 2019).

The results of this study strongly suggest SM platforms can be powerful tools for both teaching and learning in higher education, but the participants had clear suggestions for both educators and students about how best to use SM for learning. First, educators need proactive training in SM use and they should set specific guidelines for the use of SM in a given class to maintain focus and productivity. Also, educators should limit the number of different platforms they use and ensure that everyone in the class knows how to use the needed SM platforms. These results concur with those from recent studies indicating the importance of both student and instructor access to and training for using SM applications in learning spaces (Albrahim, 2020; Dumpit & Fernandez, 2017; Fidalgo et al., 2020; Johnson et al., 2021; Vivakaran & Neelamalar, 2018).

For students, time management skills and focus are critical to avoid losing large amounts of time "surfing" through vast amounts of information. Students also need to know how to establish the credibility of the information they find via SM platforms. Finally, good digital citizenship practices are critical so that students can interact globally in a diplomatic and professional fashion.

7. Conclusions and implications

In carefully considering how definitions of SM may vary and eliciting graduate students' lived experiences with their self-initiated use of SM for learning this study adds breadth and depth to the existing research regarding the integration of SM applications in advanced learning contexts (graduate students) as well as contributes needed qualitative research on this subject. The value of teaching practices that are more facilitative and interactive than didactic was strongly reinforced in most participants' comments. The importance of SM to cross-cultural understanding and adaptation were also clearly evidenced in this study. Using SM applications helped students learn a new language, find and summarize information in formats they could understand, and build and maintain relationships in both the home and host countries. Domestic students also benefit from increased interaction and engagement with people from other cultures in problem-solving and socializing.

Most fundamentally, the findings of this study provide rich qualitative data that provide convergent support for the generalizability of the findings from quantitative survey studies as well as providing insight into how varying conceptualizations of SM can influence participants' responses in research and their actual use of various applications. Also, the specific focus on graduate students adds to the limited number of studies that have been conducted with students at this level. In as much as the current study uses a graduate student sample in the specific context of graduate studies, it broadens the scope of the current research about the use of SM for learning. Overall, the results demonstrate how SM platforms offer tools that educators need to transition traditional classrooms into the interactive learning environments that are advocated by social learning theories (Deaton, 2018; Duffy & Cunningham, 1996; Ertmer & Newby, 2013; Heilporn et al., 2021; Lutta, 2019; Reiser & Dempsey, 2012). Moreover, the importance of global citizenship emerged strongly, implying that educators should consider the value of specific classes or learning modules that target digital-citizenship skills. Efforts in this area will help to reduce the potential difficulties that can emerge during interactions via SM applications. With appropriate guidance regarding various applications and responsible use, SM can facilitate collaborative learning environments, cross-cultural relationships, and professional growth among students and educators. However, it is important for future research to establish clarity with respect participants' understanding of SM to reduce potential confusion that may influence their related perceptions and behaviors.

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Availability of data and materials

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