Social Media in Educational Practice:
A Case Study of an Ontario School of Nursing

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Abstract

Social media can provide a tool for nursing students, who frequently transition between learning in the classroom and clinical contexts, to consolidate both their formal and informal learning experiences. Furthermore, the majority of baccalaureate nursing students fall within the millennial generation, meaning that they have grown up with computers and other digital tools and likely already use them to share educational resources and maintain contact with their peers. We know little about how health professions outside of Medicine use social media in teaching and learning, especially outside the context of the classroom and assignments. This pragmatic three-phase sequential mixed methods case study explores nursing students' perceptions of using social media to support their learning and teaching. Phase 1 involves a survey of nursing students at Nipissing University to understand their use of social media for teaching and learning purposes. Phase 2 consists of a digital artifact collection, which involves following nursing students' social media accounts to see what content they share related to teaching and learning in nursing education. Finally, Phase 3 involves semi-structured interviews to gain a deeper understanding of what motivates nursing students' decisions to use social media for teaching and learning purposes. Overall, the findings show that nursing students at Nipissing University's School of Nursing use social media in their formal and informal teaching and learning; they also use it as a 'third space' to supplement existing educational and institutional structures. The findings also demonstrate that while nursing students are relatively motivated to use social media in their teaching and learning, issues of quality and reliability of evidence, professionalism, and faculty or program attitudes can influence nursing students' decisions to use or not to use social media for teaching and learning purposes. Finally, the findings suggest that nursing students share content related to advocacy, health education, and their perceptions and realities of nursing

practice. This study contributes practically to the existing conversations regarding teaching and learning, critical inquiry, communication and collaboration, and professionalism in nursing education and practice.

Keywords: Social media; nursing students; nursing education; teaching; learning

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Chapter One: Introduction

Statement of the Problem

Social media involve the use of internet-based tools for the purposes of communication, collaboration, and information sharing (D'Souza et al., 2017; Giordano & Giordano, 2011; Kind, Patel, Lie, & Chretien, 2014; Ventola, 2014). These functions make social media ideal teaching and learning tools for students and faculty members within health professions education (HPE). Social media can enhance professional networking, educational activities, and patient care (Giordano & Giordano, 2011; Ventola, 2014). Moreover, social media can promote a student-centred approach to HPE, as students are central in knowledge networks and information exchanges. Furthermore, social media enable virtual communities of practice within HPE (Choo et al., 2015). Learning occurs through social interactions, with opportunities to apply course content to the complexities of practice and lived experiences (Evans, Yeung, Markoulakis, & Guilcher, 2014).

Social media also benefit formal and informal teaching and learning opportunities (Bell, 2011). Formal learning can be understood and defined as learning that occurs within the institutional, chronological, graded, and hierarchical educational system (Duke et al., 2017). Informal learning can be defined as the lifelong process by which people acquire and accumulate knowledge, skills, attitudes, and insights from daily experiences (Duke et al., 2017). Kassens-Noor (2012) added that informal learning is a course-related activity that occurs outside the classroom and centres around students' self-directed and independent learning activities and peer-to-peer interactions. For example, web-enabled learning allows individuals to engage in independent, informal learning on their own terms and in places of formal education, work, or broader social circles (Bell, 2011). Informal learning using social media encourages students to

cultivate skills “outside” the formal curriculum, like life-long learning, personal knowledge and information management, and digital literacies (Rowe, 2016). Furthermore, connections made online can translate to opportunities for mentorship and scholarship (Pereira, Cunningham, Moreau, Sherbino, & Jalali, 2015).

The Canadian Association of Schools of Nursing (CASN) identified core competencies for Canadian nursing programs, which relate to six domains: (1) foundational, in-depth, and advanced knowledge; (2) research, methodologies, critical inquiry, and evidence; (3) nursing practice; (4) communication and collaboration; (5) professionalism; and (6) leadership (CASN, 2015a). To achieve these competency domains, Bachelor of Science in Nursing programs in Ontario require students to take a combination of courses and clinical placements but the number and years in which students complete them vary by school (Brock University, 2018; Nipissing University, 2018a; Queen's University, 2018; University of Ottawa, 2018). As such, social media can provide an interesting tool for nursing students, who frequently transition between learning in the classroom and clinical settings, to consolidate both their formal and informal learning experiences. Furthermore, the majority of currently enrolled baccalaureate nursing students fall within the millennial generation, meaning that they have grown up with computers, videogames, and other digital tools and likely already use them to share educational resources and maintain contact with their peers (Green, Wyllie, & Jackson, 2014; Gunberg Ross, 2015; Ross & Myers, 2017). The US National Centre for Education Statistics indicates that one in ten US students are enrolled in exclusively online courses (Johnson, Adams Becker, Estrada, & Freeman, 2015). With the growing interest in online learning, postsecondary institutions are increasingly turning to options like blended learning – the combination of online and face-to-face instruction – as an accessible learning option for students (Johnson et al., 2015).

Current US postsecondary technology requirements include communication technologies that allow students to be both active users and producers of digital content (Alexander, Adams Becker, & Cummins, 2016). Despite this exposure to technology, many millennials lack the digital literacies and the critical thinking skills to effectively use social media to support their learning (Green et al., 2014). Young people may not need incentives to adopt technologies for educational purposes but do require guidance on how to use these technologies effectively in digitally literate ways (MediaSmarts, 2019). Digital literacies refer to the functional skills required to navigate, operate, and communicate in digital spaces (e.g., reading and writing digital texts); they also refer to the knowledge of how media and technologies affect the world (Hague & Williamson, 2009). Moreover, students require knowledge, values, and a range of critical thinking, communication, and information management skills specific to digital environments (MediaSmarts, 2019). Teaching digital literacies is one way of ensuring that all students can use technology meaningfully and be fully included in digital cultures (Hague & Williamson, 2009). Understanding how a tool works is only one aspect of digital literacies. Students should also be able to explain why the tool is useful to the real world and when it is appropriate to use it (Alexander et al., 2016). Being able to quickly look up any information online requires students to critically evaluate the quality and reliability of that information (Hague & Williamson, 2009).

Social media has changed the context of nursing education. The future of nursing practice appears to be one of technology over pathology (Green et al., 2014) and nursing students must prepare for the technological challenges they will likely face in their clinical practice. Using social media in nursing education has the potential to form a ‘classroom without walls’ where active learning can happen both synchronously and asynchronously (Sinclair, McLoughlin, & Warne, 2015). Further, platforms such as Twitter allow for quick contact with noteworthy

clinicians and scientists who are otherwise difficult to reach (Forgie, Duff, & Ross, 2013). Numerous studies describe the frequent use of social media within medical education (Harrison, 2014; Ventola, 2014; von Muhlen & Ohno-Machado, 2012) but we know little about how health professions outside of Medicine use social media in teaching and learning, especially outside the context of the classroom and assignments (Gagnon, Sabus, Robertson, & Derrick, 2016; Sinclair et al., 2015). Specifically, very few studies have looked at nursing students' perceptions of using social media to support their learning. Therefore, the goal of this study was to explore how students at one Ontario school of nursing use social media (e.g., YouTube, Twitter, Facebook) for the purposes of learning. In this study, I investigated the types of social media selected, who selected them, and how they were used in nursing education.

Contributions to the Field

This research contributes to theory, methods, and nursing education. Social media is a prominent and emerging tool in HPE. Little is currently known about how social media is used for teaching and learning in nursing education. This study is among the first to explore the use of social media in nursing education from the perspectives of students in formal and informal settings, specifically how nursing students use social media both in their formal courses and for assignments as well as for informal teaching and learning purposes in their day-to-day lives. Methodologically, it is among the first studies to collect digital artifacts from nursing students; in my literature review, I only identified studies that reviewed student social media postings within the context of a course or workshop assignment and were restricted to Twitter hashtag analytics. Theoretically, the use of pragmatism as a paradigm for this mixed-methods case study is novel; I did not identify any studies that employed a pragmatic paradigm in my literature review. I also draw upon the social learning theories of social constructivism and connectivism to inform my

conceptual framework. Practically, if nursing education is becoming one of technology over pathology (Green et al., 2014), understanding how and why students choose to use (or not use) social media in teaching and learning is important. This study contributes to the existing conversations regarding connected teaching and learning – both formally and informally, critical inquiry, communication and collaboration, the hidden curriculum, and professionalism in nursing education and practice.

Overview of the Dissertation

To achieve the stated contributions to methods, theory, and educational practice, I have organized this dissertation into nine chapters. Following this introductory chapter is the comprehensive review of the literature that informed my theoretical and conceptual framework, research questions, data collection instruments, and analysis techniques. This literature review in Chapter 2 integrates research relating to social media use in HPE and nursing education and explores the benefits and challenges of using social media for teaching and learning purposes in nursing education. Next, Chapter 3 provides an overview of the theoretical and conceptual framework and the research questions that guided this study. Chapter 4 outlines my study and theoretical assumptions. In this chapter, I describe the research context, my position within this research context, and the philosophical approach.

Chapters 5, 6, and 7 all present the findings of this study. Chapter 5 outlines the results of the first study phase. In Phase 1, I surveyed nursing students at one School of Nursing (SoN) to understand whether nursing students were using social media for teaching and learning purposes and if so, how they were using it. Phase 1 also enabled me to explore what motivated nursing students' decisions to use or not to use social media for teaching and learning purposes. Chapter 6 presents the findings of the second phase of this study. In Phase 2, I explored what digital

artifacts students from one SoN posted to social media related to nursing education. In this phase, I followed nursing students' social media accounts for a period of five months to observe what content they posted related to teaching and learning in nursing. Chapter 7 provides an overview of the findings of Phase 3, which involved one-on-one semi-structured interviews with the same nursing students who participated in Phase 2 of the present study. The objective of Phase 3 was to expand on the findings from the previous two phases of data collection and elucidate further details related to whether and how nursing students use social media for teaching and learning purposes, what motivates them to do so, and what content they choose to share for these purposes.

Chapter 8 weaves together a narrative of the overall case. This chapter integrates the findings from across these three aforementioned chapters into one coherent case through a process of explanation building. In this chapter, I discuss the findings of all chapters with reference to the published literature. I also provide an overview of study strengths and limitations. In the final chapter, Chapter 9, I highlight key implications and recommendations for policy and practice in nursing education and HPE more broadly when considering social media use in educational practice. I also outline directions for future research and concluding remarks on social media use for teaching and learning purposes in nursing education.

Chapter Two: Literature Review

The purpose of Chapter Two is to review the existing literature that relates to social media use in health professions education and nursing specifically. In this chapter, I integrate and further define the previously discussed key concepts of curriculum, teaching and learning, social media, and health professions education by drawing on peer-reviewed literature in the field. My intent in this chapter is to start with a broad exploration of social media and its applications for education generally and HPE specifically before focusing on the literature related to social media use in nursing education. I begin this chapter by defining curricula and social media as concepts. I then provide an overview of current applications of social media for teaching and learning in health professions education and discuss these in the context of formal and informal teaching and learning. I discuss the benefits and challenges of social media use in health professions education, how social media can contribute to the existing understanding of scholarship and provide an overview of the current state of knowledge on social media use for teaching and learning purposes in nursing education. I conclude this chapter by outlining the conceptual framework that informed my research questions and the subsequent phases of my study.

Types of Curricula

Before proceeding, I will clarify some terminology around teaching and learning. The term curriculum typically refers to a series of planned events that have educational consequences for one or many students (Edmunds, Nickel, & Badley, 2015). Curriculum deals with content and process objectives: what we should teach and how we should teach it (Edmunds et al., 2015). Health professions education is a multi-faceted learning environment comprising the formal curriculum of the classroom, the informal curriculum of the clinical environment, and the hidden curricula inherent to both (Gofton & Regehr, 2006).

Formal curriculum. Thomas, Kern, Hughes, and Chen (2016) define the formal curriculum as a planned educational experience, which includes single or multiple sessions on specific subjects, full-year courses, clinical rotations, or entire training programs. The formal curriculum refers to activities allotted time in the daily schedule (Edmunds et al., 2015). The formal curriculum is fairly explicit, wherein educators plan and deliver content designed to meet set learning objectives (Edmunds et al., 2015).

Informal curriculum. The informal curriculum refers to what is learned through extracurricular activities and experiences (Edmunds et al., 2015). Both the formal and informal curricula involve an educator imparting knowledge and behaviours to students (Gofton & Regehr, 2006; Thomas et al., 2016). According to Gofton and Regehr (2006), the informal curriculum is particularly important to students' clinical education; it is how students learn clinical practice and how trainees' abstract clinical knowledge become concrete skills and abilities. To Gofton and Regehr (2006), the informal curriculum is "the process by which a learners' knowledge and skills become situated in the context of daily work" (p. 20). It is important, however, not to connote an informal curriculum with a particular setting. Hafferty and Castellani (2009) advised that:

> [T]he labels formal, informal, and hidden and so on, not be unyieldingly linked to given settings, situations, or roles. Although the medical literature frequently labels 'the classroom' as formal and 'the clinic' as informal, the classroom (as a physical place) can (and almost always does) contain all kinds of curricula (informal, hidden, null, and so forth), just as the clinic can be a site of many important formal learning opportunities. (p. 24).

Hidden curriculum. Hafferty and Castellani (2009) describe the hidden curriculum as one half of a dichotomy (formal vs. hidden) where lessons outside the formal stand in opposition to what is being acquired within the stated curriculum. For Thomas et al. (2016), the unplanned sociopsychological interactions between students and teachers can create a learning environment with unintended consequences on learners' thoughts and behaviours. This hidden curriculum is important to teaching and learning; it includes all of the unintended learning outcomes, the unofficial expectations, values, and the unstated organizational or professional socialization processes that occur within learning environments (Edmunds et al., 2015; Ozolins, Hall, & Peterson, 2008). Much of the literature positions the hidden curriculum as something that is transmitted from teachers to students but in reality, it is transmitted peer-to-peer, faculty member to student, and institution to faculty member or student. These forms of transmission can have implications both for student and faculty development (Hafler et al., 2011). Gofton and Regehr (2006) explain that the hidden curriculum reflects the institution's widely held values but more so the values of those individuals surrounding the trainee personally.

The hidden curriculum can be either something tacit, so students and faculty remain unaware of its existence; or it may be overt (Bennett et al., 2004). The hidden curriculum may be either positive or negative. It can reinforce the formal curriculum, program objectives, and best practices. It may also exert a powerful countervailing influence (Bennett et al., 2004). The hidden curriculum can also be found within the slang used by a field or institution; for instance, the terms 'problem patient' and 'non-compliant' patient demonstrate how language creates perceptions of the 'self' and 'others' when describing the challenges health professionals face in meeting diverse expectations (Bennett et al., 2004). It also defines what is tolerated as acceptable discourse and behaviour (Bennett et al., 2004).

These concepts of formal, informal, and hidden curricula are important in HPE because they influence what and how educators teach, and the content learners purposefully or inadvertently learn. The formal, informal, and hidden curricula are prevalent in face-to-face educational encounters, as outlined above, and also influence education delivered through online platforms, including social media. In the next section, I define the term social media and discuss social media's implications for education.

Defining Social Media

Before I can discuss the literature relating to social media use in health professions education, it is first important to define and understand social media as a concept. Social media are constantly evolving. boyd and Ellison (2007) define social media 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). Typically, social media facilitate electronic communication, social networking, and real-time collaboration (Duke et al., 2017; Ventola, 2014). Social media platforms vary in terms of the features they offer: some offer photo- or image-sharing, encrypted messaging, or built-in blogging (boyd & Ellison, 2007). The growth of social media platforms has allowed users with varying technical abilities to produce information, whether this information is an online presence, comments, tagging objects, remixing others' content (e.g., editing together different existing videos, editing existing text or image content), or creating original content (Bell, 2011). Social media are attractive in education because they permit users to create, engage, and share user-generated and existing content freely and openly (Bodell & Hook, 2014; Giordano & Giordano, 2011). Social media may engage geographically dispersed individuals to create or share content, collaborate in groups, and

ultimately form a virtual community (Sherbino, 2015). How and where this collaboration and community building happens in online spaces has implications for education. To facilitate the exploration of these implications, I have provided an overview of the major types of social media referenced in the literature (refer to Table 1).

Table 1

Overview of Social Media Types

Term	Overview
Blogs and Microblogs	The word 'blog' is an abbreviation of web log, which functions as an online diary; blog posts tend to be short and in reverse chronological order (Bodell, Hook, Penman, & Wade, 2009; Erardi & Hartmann, 2008; Tan, Ladyshewsky, & Gardner, 2010). Blogging is attractive to health professions educators because it enables discourse rather than focusing on extended monologues or other traditional methods of learning (Bodell et al., 2009). Blogging creates an environment where peers can engage in a supported and guided constructivist approach to learning, with a focus on reflection and introspection (Tan et al., 2010; Wright & Lundy, 2012). Twitter is a widely used free micro-blogging tool that allows people to share information in real-time (Maclean, Jones, Carin-Levy, & Hunter, 2013). Until recently, users had been able to post 140-character updates, termed a 'tweet', which was the character limit for most short messaging systems (SMS) on cell phones (Forgie et al., 2013; Junco, Elavsky, & Heiberger, 2013). In early November of 2017, Twitter expanded their character limit to 280, allowing for longer tweets (Busby, 2017).
Wikis	According to Craig and Wong (2013), wikis were first introduced in 1994 as a freely expandable collection of linked webpages that could be edited by any user. Using wikis for educational purposes fosters discussion and allows students to view how others collaborating on the same wiki approach problems (Snodgrass, 2011). Wikis provide students and educators the opportunity to collaborate and contribute to online repositories using a shared editing process (Craig & Wong, 2013).
Audio and Video Sharing	Podcasting is a way to distribute content in either video or audio formats (Erardi & Hartmann, 2008). YouTube is the leading website for video sharing. Their mission is to 'give everyone a voice and to show them the world' (YouTube, 2018). Viewers have immediate access to video clips, movies, news stories, music, and personal accounts (May, Wedgeworth, & Bigham, 2013). YouTube is organized into channels and is playable from most mobile devices. Vimeo is another example of a video sharing platform (Vimeo, 2018).

Social Networking Sites (SNS)	Facebook is an interactive social networking tool that allows users to communicate both synchronously and asynchronously (Gunberg Ross, 2015; Kind et al., 2014). Facebook chat is an example of a synchronous discussion platform, while groups allow for asynchronous collaboration (VanDoorn, 2013). Google+ and LinkedIn are social networking sites where users can access and share information; LinkedIn is focused on business-oriented social networking while Google+ is more social (Gagnon et al., 2016).
Discussion Boards	Discussion boards function as online bulletin boards where users can post messages and seek replies from others. Discussion boards allow for asynchronous user access, which increases users' ability to participate intermittently as their time permits (Erardi & Hartmann, 2008).
Image Sharing	Instagram allows users to edit and share photographs, videos, and messages with friends and family (Instagram, 2018). Snapchat allows users to take, edit, and share pictures. Users can also send texts, which are deleted by default (Snapchat, 2018). Pinterest functions like a pin board and allows users to save, categorize, and share images (i.e., pins), which link to other content (Pinterest, 2018).

As mentioned, how and where collaboration and community building occur online has implications for education. Social media provide a space for users to connect that is separate from their home and workspaces. Oldenburg (1999) described these spaces where users can cultivate connections for socializing in and with niche communities as 'third spaces' (Oldenburg as cited in McArthur & White, 2016). This third space is characterized as a "home away from home – neither the office nor the residence – but a place in which social capital can be realized and applied" (McArthur & White, 2016, p. 2). In education, third spaces blur formal boundaries between the 'first space' of people's community and peer networks with the 'second space' of their formal school environment (Aaen & Dalsgaard, 2016). McArthur and White (2016) postulated that social media users may be establishing digital third spaces by creating regular opportunities for collective conversation. Aaen and Dalsgaard (2016) found that student-run Facebook groups could create an effective third space for secondary students by blending the academic with social and personal communication, thus creating communication that does not

take place in either the first or second spaces (i.e., at home or at school). Third spaces bring a potential for disruption and can open new possibilities for understanding relationships, offering different groupings, and highlighting disparities between lived experiences and formal structures (Whitchurch, 2013).

Third spaces allow users to create an identity for themselves – as well as a shared group identity – in relation to a common experience, which may include an educational endeavour like a health professions program. Social media platforms, as defined in Table 1, can provide online spaces for students to explore and create these third spaces. Now that I have defined and contextualized social media as a concept, I will broadly discuss the current applications of social media in HPE as outlined in the current literature. This literature review starts with a broad investigation of social media use in HPE before focusing specifically on social media use in nursing education.

Current Applications of Social Media in Health Professions Education

Healthcare professionals, students, and educators use social media in a variety of ways and for different purposes. In a survey of medical educators, El Bialy and Jalali (2015) found that educators use social media to post opinions, share videos, chat, engage in medical education activities, take surveys, and play games. Other health professions educators select social media as a teaching tool because it aligns with program requirements. For instance, Tan et al. (2010) indicated that physiotherapy programs must provide evidence of reflective practice in their curriculum to meet professional standards; blogging provides a platform to achieve this educational requirement. Gagnon (2015) found that students use social media for personal reasons, such as sharing updates about their lives and following friends and family; academically, students use social media to communicate with classmates and instructors about

academic work and share information related to courses and assignments. Students also indicated that they use social media to network with health professionals and potential employers and to access articles and websites to use in clinical practice (Giordano & Giordano, 2011). Healthcare professionals reported using social media to share information, debate healthcare policy and practice issues, engage with the public, and for continuing education (Choo et al., 2015; Ventola, 2014). According to Choo et al. (2015), Twitter may also have psychological benefits for healthcare providers, allowing them to share discouraging experiences or professional challenges and gain feedback or validation from their peers. Finally, Batt (2016) found that 88% (n=219) of their healthcare professional survey respondents felt that self-directed activities like reading a blog, watching a webinar, or listening to a podcast constituted professional development activities.

Social media has many applications for teaching and learning, such as question-and-answer sessions, problem-solving clinical scenarios, exploring complex topics collaboratively, learning about professionalism, and networking with international practitioners (Cohn & Plack, 2017; Craig & Wong, 2013; Erardi & Hartmann, 2008). Forgie et al. (2013) suggested that instructors can use Twitter to provide students with formative feedback in assessment. In addition to assessment, Kind et al. (2014) proposed that medical educators can use social media to stimulate reflection and sharing, to share daily learning goals, to hold journal clubs, and to orient learners to clinical sites and educational rotations.

Social media has many applications for teaching and learning in HPE, as will be discussed in detail in this chapter. First, I will explore the benefits and challenges of using social media as a teaching and learning tool in HPE.

Exploration of the Benefits and Challenges of using Social Media in HPE

Social media has numerous benefits and challenges for teaching and learning in HPE.

Benefits. Social media use influences the transactional nature of teaching and learning; learning is often purported to be more internally-driven and thus, learners experience greater autonomy and teachers serve the role of facilitators (El Bialy & Jalali, 2015). It also allows scholars, clinical educators, and students to easily disseminate their work to wider audiences, through approaches like Twitter threads and link sharing, increasing overall education potential (Forgie et al., 2013; Kind et al., 2014; Sherbino et al., 2015). In this section, I will explore how social media benefits HPE. Notably, I will explore issues of accessibility, improvements in teaching and learning, and student engagement as outlined in the peer-reviewed literature.

Accessibility. Accessibility is defined and interpreted in several ways in the literature; for instance, accessibility refers both to students' access to their peers and colleagues via social media and to students' ability to access course content asynchronously and from diverse geographical locations (Shibu, Rajab, & Eldabi, 2015). The increased accessibility of educational content available to students via social media can be beneficial since students can connect with experts in their fields and learn about the professional world from practitioners. Students can also "meet" their professors through social media before they meet them on campus (El Bialy & Jalali, 2015; Harrison, 2014) . Jones, Garrity, VanderZwan, Epstein, and Burla de la Rocha (2016) found many nursing students benefited from gaining wider perspectives from social media since many health professionals are accessible online and willing to help student nurses.

Students can also access educational material through social media asynchronously, at times convenient for them. Batt (2016) explained that social media can facilitate individual interactive instruction, which allows learners to consume material at their own pace. Erardi and

Hartmann (2008) noted that using discussion boards as a form of asynchronous communication enhanced participation at the convenience of users. Some educators and researchers, like Bahner, Adkins, et al. (2012), have experimented with push technologies in medical education. Push technologies can be used on social media platforms like Twitter to push information out to users at pre-determined times rather than having to pull users in to explore the content (Bahner, Adkins, et al., 2012). Social media use in teaching and learning can benefit students' clinical practice since their course content and learning materials are readily accessible to them. Students can use social media and their mobile devices to access point-of-care resources like drug references, enhanced clinical learning, and patient safety resources (Hay, Carr, Dawe, & Clark-Burg, 2017). Further, social media allow students to access educational materials regardless of their geographical location; this is beneficial to students living in rural and remote areas (Shibu et al., 2015).

Improved teaching and learning. The literature on social media in HPE indicates that social media has the potential to improve teaching and learning processes. Gagnon (2015) argued that Twitter's openness and lack of a reciprocal 'friend' structure makes it an attractive form of social media for education because it can facilitate both formal and informal learning, support student engagement, and promote student interactions beyond scheduled class time (Gagnon, 2015; Snodgrass, 2011). In the same study, Gagnon (2015) indicated that the 36 physiotherapy students who were required to use Twitter as part of their course increased their usage sharply for all purposes following the completion of their course.

According to Junco et al. (2013), social media provides students a low-stress way to ask questions to their peers and educators. Maloney, Moss, and Ilic (2014) found that physiotherapy students appreciated using YouTube in addition to traditional learning since it provides a

practical illustration of many class concepts. Ravindran, Kashyap, Lilis, Vivekanantham, and Phoenix (2014) used a Facebook group to supplement key concepts from the medical school curriculum so that students could return to these concepts at any stage of their medical education. It also provided a forum for learners to share experiences and learn from others' experiences using a peer-to-peer teaching method. Ravindran et al. (2014) found that students agreed that it was easier to ask questions on the Facebook group as compared with ward rounds or clinics since they felt less likely to be embarrassed by seniors.

Finally, several studies identified blogging as a way to improve teaching and learning outcomes in HPE. For instance, Jones et al. (2016) argued that blogging was advantageous for nursing education since it builds confidence through participation and discussion; nursing students reflect and share ideas, seek further information to understand complex concepts, and increase their ability to confidently articulate their positions. Since many HPE programs require reflective thinking and clinical reasoning, many studies highlighted blogging as an effective medium to cultivate these skills (Hills et al., 2016; Rowe, 2016; Tan et al., 2010; Wright & Lundy, 2012). However, these findings should be interpreted cautiously. As D'Souza et al. (2017) found, users of social media (n=116/136, 85.3%) agreed that it had the capacity to improve educational practice, but nonusers (n=70/125, 56.0%) were more skeptical of social media's impact on student learning.

Engagement. D'Souza et al. (2017) found that social media use contributes to increased engagement, active participation, and opportunities for feedback. According to El Bialy and Jalali (2015) a major advantage of social media use in medical education is the creation of community. For example, hashtags like #ILookLikeASurgeon – which were created to address issues of sex stereotypes in surgery – have the power to unite individuals within and across

speciality boundaries (Ovaere, Zimmerman, & Brady, 2018). Hills et al. (2016) extended this idea by introducing social media-based Communities of Practice (CoPs) in occupational therapy. The creation of virtual CoPs has become more prevalent with the advent of Twitter (Choo et al., 2015; Hills et al., 2016). Not only does the literature show that social media engage students and health professionals, but it also highlights the empowering nature of a connection to a worldwide online community of practice (Choo et al., 2015; El Bialy & Jalali, 2015; Maloney et al., 2014; Tan et al., 2010). These CoPs help advance healthcare education by sharing links to learning resources and disseminating clinical pearls to trainees (Choo et al., 2015).

Cole et al. (2017) found that their students who participated in case-based learning (CBL) on social media demonstrated increased engagement when they began linking their learning and issues raised in their cases to wider health issues and contemporary affairs. Gagnon (2015) found that students agreed that using Twitter in their learning helped enhance collaborative relationships, increased their engagement with course content, and contributed to the quality of the course. Kind et al. (2014) argued that when used well, social media could increase engagement in learning by health professionals and enhance the public good.

The peer-reviewed literature identified several benefits relating to social media use in HPE, particularly relating to the accessibility of learning opportunities, improved teaching and learning, and student engagement in learning. In the next section, I will explore the challenges of using social media for teaching and learning identified in the literature.

Challenges. The literature on social media use in HPE outlines challenges for students and educators. D'Souza et al. (2017) conducted a cross-sectional study of the attitudes of health professions educators toward social media use in teaching. They found that among non-users, the greatest perceived barriers included a lack of understanding of how to integrate social media into

their teaching, lack of institutional/departmental support, and a lack of technological skills. Several studies found that while educators perceived social media as reaching students in their area of familiarity, many students believed that social media should be kept as a social tool and not be forced upon them for teaching and learning (Maloney et al., 2014; VanDoorn, 2013). Another challenge outlined in the literature is a lack of reliability of information found on social media (Flynn, Jalali, & Moreau, 2015; Ventola, 2014). Social media can create an echo chamber since students and educators naturally seek out people with opinions and views similar to their own (Choo et al., 2015). Cohn and Plack (2017) indicated that faculty using social media in teaching and learning must ensure that students have the necessary self-reflection and self-regulation skills to help them overcome some of the challenges related the hidden curriculum and negative online role models. In this section, I will explore the challenges associated with using social media in HPE. Notably, I will explore issues of buy-in, professionalism, and scholarship outlined in the peer-reviewed literature.

Buy-in. Educators present reasons why they do not buy in to the use of social media for teaching and learning. One challenge outlined in the literature is distraction. First, faculty members are wary of social media causing distraction since students may use social media during lectures rather than focusing on the content delivered, even if the classroom structure incorporates social media (D'Souza et al., 2017). Educators who choose not to use social media in their teaching practices indicate that they do so because of concerns related to privacy and time-wasting (D'Souza et al., 2017; El Bialy & Jalali, 2015; Maloney et al., 2014; Ventola, 2014). D'Souza et al. (2017) clarified that with social media, the distinction between the personal and the professional is blurred, and health professionals must consider both their private and professional social media platforms from a lens of professionalism and appropriate behaviour.

VanDoorn (2013) reported that the time-consuming nature of social media also affected educators' decision to use social media for teaching and learning because there was an increased pressure to be online and reply to students as soon as possible.

Among students, buy-in also presents a challenge to the uptake of social media for teaching and learning. Maloney et al. (2014) reported that the students in their study preferred to keep their social media use separate from their formal education because it represented distraction; they felt that they could better keep their professional and personal lives separate if they did not use social media in education. Technological abilities also limited some students' participation in social media-based learning activities. For example, in a nursing class where the professor implemented a collaborative wiki textbook, 7 out of 25 students enrolled in the class withdrew before the end of the term (Stutsky & Doak, 2013). Craig and Wong (2013) also found that students spend approximately twice the anticipated time completing assignments that involve social media due to formatting struggles or lack of appropriate training at the onset. Moreover, Hills et al. (2016) noted that students' computer skills might not be automatically transferable to education. They also found that social media-based innovations were dependent on the skills of the educators, and not all faculty members were proficient or comfortable with social media.

Professionalism. The majority of studies focused on social media and professionalism. Cohn and Plack (2017) found that social media can help students actualize professionalism in practice, especially since many educators focus on cognitive and psychomotor skills rather than the affective skills of professional practice. Many studies noted concerns with student behaviour on social media (Basevi, Reid, & Godbold, 2014; Chaudry & Kargas, 2015; Duke et al., 2017; Harrison, 2014; Jalali & Wood, 2014; Kind et al., 2014), while others outlined interventions

where educators used social media to teach students about professionalism online (Gagnon, 2015; Pereira et al., 2015; Rowe, 2016). A study by Duke et al. (2017) showed that 90.7% of students and 71.4% of faculty members used privacy features on their social media. Still, 100% of students and 14% of faculty members reported that they had posted information that they would not want a prospective employer or academic staff to view. Laliberte et al. (2015) found, in their study of health care professionals' online behaviour, that almost all participants had colleagues or former colleagues as friends on Facebook and 21% of participants had patients as Facebook friends.

Lapses in online professionalism were purported to have negative consequences for both the reputations and licensure of healthcare professionals (Kind et al., 2014; Laliberte et al., 2015; Ventola, 2014). In 2015, the Saskatchewan Registered Nurses Association (SRNA) found Carolyn Strom guilty of professional misconduct for venting about the quality of end-of-life care her grandfather received at a Saskatchewan nursing home on Facebook and Twitter (Canadian Broadcasting Corporation, 2016). Nursing students across the country wrote an open letter to the SRNA stating that the decision was concerning since it silences nurses who speak up about the quality of patient care (Hill, 2018). The verdict also has implications for social media use in nursing education since regulatory bodies set the standards and guidelines for online professionalism and online behaviour of nurses whether they are on- or off- duty. It also provides a 'teachable moment' for health professions educators to discuss ethics and moral agency as it pertains not only to patient care but to online discussions relating to patients.

There are clearly several benefits and challenges to using social media for teaching and learning purposes in HPE. Social media use can improve teaching and learning, student engagement, and access to learning opportunities. For social media to benefit teaching and

learning, certain conditions – like adequate internet access – need to be met. Social media also presents challenges to professionalism and the traditional notion of scholarship. Further, not all students and educators want to use social media for teaching and learning purposes. The literature presents a variety of reasons why students and educators choose not to use social media for teaching and learning, many of which are important challenges to consider when researching social media in HPE. The next section explores how social media contributes to the existing understanding of scholarship in HPE.

Scholarship. Sherbino et al. (2015) found that many clinical educators were reluctant to use social media in their teaching, learning, and research activities because they did not view it as serious scholarship. Seventeen articles – the product of one research agenda by the MedEd Life Research Collaborative - specifically demonstrate the scholarly potential of social media. In a series of studies, this collaborative has attempted to quantify the growth and development of blogs and podcasts as scholarly activities in HPE (Cadogan, Thoma, Chan, & Lin, 2014; Purdy, Thoma, Bednarczyk, Migneault, & Sherbino, 2015; Thoma, Chan, Benitez, & Lin, 2014). They attempted to quantify the impact of these platforms (Thoma, Sanders, et al., 2015) and then proceeded to outline ways to improve their quality and rigour (Paterson, Thoma, Milne, Lin, & Chan, 2015; Sidalak et al., 2017; Thoma, Chan, Desouza, & Lin, 2015). They have subsequently developed and validated tools to assess the quality of social media postings, particularly blogs and podcasts, as scholarly material (Chan, Grock, et al., 2016; Chan, Thoma, et al., 2016; Colmers, Paterson, Lin, Thoma, & Chan; Krishnan, Thoma, Trueger, Lin, & Chan, 2017; Lin et al., 2015; Thoma, Chan, Paterson, et al., 2015). They also compared the reliability of the different social media-based scholarship quality indicators, specifically average gestalt against the METRIQ-8 indicator, the ALIEM AIR (Academic Life in Emergency Medicine Approved

Instructional Resources), and the Social Media Index (Thoma, Chan, et al., 2018; Thoma, Paddock, et al., 2017; Thoma, Sebok-Syer, et al., 2018; Thoma, Sebok-Syer, et al., 2017). This program of research is important in HPE because it demonstrates that social media-based scholarship can undergo similar quality review processes, including prepublication peer review, as other scholarly activities used in teaching and learning.

As part of the MedEd Life Research Collaborative, Sherbino et al. (2015), alongside 52 health professions educators from 20 organizations, developed a consensus of four determinants of social media-based scholarship. Social media scholarship must: (1) be original; (2) advance the field of HPE; (3) be archived and disseminated; and (4) provide the HPE community with the ability to comment on and provide feedback in a transparent way that encourages discussion (p. 552). Additionally, Lin et al. (2015) used a modified Delphi process to develop quality criteria to assess the content shared via blogs and podcasts. These quality indicators relate to the following domains: (1) credibility, (2) bias, (3) transparency, (4) content, (5) academic rigor, (6) design, (7) functionality, (8) professionalism, (9) orientation, and (10) use of other resources (p. 548). Social media-based scholarship introduces new methods of dissemination and measuring impact that differ from those typically used in traditional scholarship (Sherbino et al., 2015). These differences may lead to initial or ongoing resistance to participate in social media-based scholarship from faculty members and students, especially because it is still relatively new and disruptive.

The notion of scholarship in HPE draws on the work of Boyer (1990) and Glassick, Taylor Huber, and Maeroff (1997). In 1990, Boyer redefined scholarship as having four separate, yet overlapping, functions: the scholarship of discovery, the scholarship of integration, the scholarship of application, and the scholarship of teaching (Boyer, 1990). The scholarship of

discovery contributes both to human knowledge and to the intellectual climate of the university. The scholarship of integration is closely related to discovery and involves doing research at the boundaries where fields converge, which, according to Boyer (1990), is increasingly important "as traditional disciplinary categories prove confining, forcing new topologies of knowledge" (p. 19). According to Boyer (1990), [as of the 1990s], more than any time in recent memory, researchers feel the need to move beyond traditional disciplinary boundaries, communicate with colleagues in other fields, and discover patterns that connect. The scholarship of integration also means interpretation, fitting one's own research or the research of others into larger intellectual patterns. For Boyer (1990), the scholarship of discovery and integration of knowledge both reflect the investigative and synthesizing traditions of academic life. Social media can provide a platform for researchers to interact with international peers and colleagues and engage in knowledge translation/knowledge mobilization (Choo et al., 2015).

The third form of scholarship, the application of knowledge, shifts the conversation towards engagement by reflecting on how knowledge can be responsibly applied to consequential problems and how it can be helpful to individuals as well as to institutions. Boyer (1990) argues that "to be considered scholarship, service activities must be tied directly to one's special field of knowledge and relate to, and flow directly out of, this professional activity" (p. 22). Social media-based service might include live tweeting at conferences to reach audiences beyond those present in the venue (Cocchio & Awad, 2014).

Finally, the scholarship of teaching refers to the education and enticement of future scholars (Boyer, 1990). Good teaching means that faculty are also learners; teaching, to Boyer (1990), means transforming and extending knowledge as well as transmitting it. Teaching through social media might consist of the creation and publication of blog posts or sharing

relevant clinical pearls through YouTube or Twitter, as well as podcasts discussing and debating the most recent literature and evidence-based practice (Cocchio & Awad, 2014).

According to Glassick et al. (1997), Boyer's categories lacked specificity but expanding the definition of scholarship was attractive and innovative. To address the lack of specificity in how the quality of scholarship should be assessed, Glassick et al. (1997) developed six standards that could be applied to all four forms of scholarship proposed by Boyer (1990). These standards include: clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique (Glassick et al., 1997).

Within nursing, CASN released a position statement on what should be considered scholarship. They base their definition of scholarship on both Boyer (1990) and Glassick et al. (1997). CASN (2014) advised that in differentiating scholarship from scholarly works, the following questions should be asked:

1) Has the work been made public?
2) Is the work peer reviewed/critiqued?
3) Can the work be built upon and reproduced by other scholars as a result of dissemination?

For CASN, scholarship must meet all three criteria above. It is unclear, according to this position statement, whether pre- or post-publication peer-reviewed social media activities, like blogs and podcasts qualify as scholarship.

Social Media in Nursing Education

In this chapter thus far, I have defined and discussed the use of social media broadly within HPE. I have explored the benefits and challenges of using social media in HPE alongside

the implications for scholarship. At this point, I will examine social media use for teaching and learning purposes specifically within nursing education.

The literature on social media use in nursing education appears thematically similar to that focused on social media use for teaching and learning by other health professions. Much of the focus at the undergraduate level was on the use of social media for teaching online professionalism to students (Barnable, Cunning, & Parcon, 2018; Englund, Chappy, Jambunathan, & Gohdes, 2012; Green et al., 2014; Marnocha & Pilliow, 2015). As with HPE generally, the literature on social media in nursing education commonly reported blogging for the purposes of reflection (Arbour, Kaspar, & Teall, 2015; Chu, Chan, & Tiwari, 2012; Garrity, Jones, VanderZwan, de la Rocha, & Epstein, 2014; Reed, 2012; Thomas, Bertram, & Allen, 2012). Nursing education often draws on reflections as a teaching strategy for topics such as cultural competence, empathy and the therapeutic relationship, and self-care. The feedback system of the blogging interface provides students with opportunities to practice their reflection and problem-solving skills (Chu et al., 2012; Reed, 2012). Moreover, several articles indicated that wikis provide a platform for collaborative work.

Another focus in the nursing literature was on using social media for exam preparation. Two studies indicated the benefits of using Facebook to practice exam questions, like the National Council Licensure Examination [NCLEX], collaboratively (Morales, 2017; Tower, Latimer, & Hewitt, 2014). In a survey of students who used Facebook to prepare for the NCLEX, Tower et al. (2014) found that 88.6% of respondents agreed that Facebook was an innovative and supportive method of preparing for an exam. May et al. (2013) focused on how clinical educators can use YouTube as a teaching strategy, particularly when clinical sites are unavailable or when patient acuity is low. YouTube offers visual access to illnesses and diseases that students may

not encounter during their clinical rotations. May et al. (2013) proposed that YouTube videos have the ability to address the three learning domains of Bloom's Taxonomy: cognitive, affective, and psychomotor. Educators who make the videos they include in their courses interactive by following up with NCLEX-style questions - using a handheld device or survey tool - based on the content encourage students to apply the information learned in the video (May et al., 2013).

In addition, students and faculty members can use social media to simulate patient encounters or transition experiences for nurses. For instance, Gunberg Ross (2015) developed a simulated patient on Facebook. The course instructor expected students to 'friend' the patient to receive updates on the patient's progress in their personal newsfeeds. Over time, the students started discussing the virtual patient without prompting outside the class context, indicating engagement and a deep understanding of the patient and her case (Gunberg Ross, 2015). Thomas et al. (2012) also used social media for simulation purposes. They used a blog to simulate a new nurse who had just transitioned to practice. Thomas et al. (2012) wrote the blog from the new nurse's perspective to help final year nursing students consider issues of delegating and supervising, adapting to change, risk and quality management, and legal and ethical issues as they prepared to transition to practice. Students were required to read the blog and post responses. Most of the nursing education literature focused on what social media platforms nursing students currently use. Few articles discussed students' formal or informal social media-related teaching or learning strategies.

Across the literature, students responded positively to social media use in nursing education. Many students and faculty members within HPE already use social media in various ways, including for personal and academic purposes (Gagnon et al., 2016; Giordano & Giordano,

2011; Laliberté et al., 2015). Much of the current literature quantitatively focuses on which types of social media are used, by whom, and how often. Many studies focus on, for example, the use of social media at conferences or its use for professional networking or engaging with the public. Very few studies explore how nursing students are using social media for formal and informal teaching and learning purposes, if they are using it at all. Fewer studies compare what motivates nursing students' decisions to use or not use social media for teaching and learning or what content both groups share, especially outside the confines of a course or assignment. To address these gaps, the objective of this study was to explore the use of social media for teaching and learning purposes by students in a school of nursing. By considering how students use social media in teaching and learning, we can gain a better understanding of the formal, informal, and hidden curricular contexts that influence nursing students' decision-making regarding social media use.

Summary

Social media has several applications for HPE, as evidenced by the extant literature. The learning theory to which schools or instructors ascribe influences whether and how social media is used in formal learning and what, if any, hidden curricula are associated with this learning. Social media can also be used to mitigate any effects of the hidden curriculum in HPE. Several studies show that social media use in HPE can benefit students' formal and informal learning, however a gap exists in explicitly showing how this is done, particularly within nursing education.

The literature also demonstrates that social media can be beneficial for health professions students' access to learning materials, quality of teaching and learning, and engagement in their learning processes. Challenges that need to be mitigated include factors that limit students' buy-

in to the use of social media in their learning, issues of professionalism, and the quality and reliability of evidence available on social media. The issue of whether social media can be considered as serious scholarship is addressed in one major program of research by the MedEd Life Research collaborative and shows that there is a growing interest in using metrics to assess the quality of online resources, including pre- and post-publication peer-review for blogs and podcasts. To what extent social media is considered scholarly in nursing education remains to be known.

Finally, my literature review revealed several creative uses of social media within nursing education to simulate patient encounters or guide students through their transition to practice. Most of the literature focused on how social media is used for formal learning purposes within nursing education; very little research discussed informal learning or any hidden curriculum implications. Furthermore, the literature largely explored students' preferred platforms and usage patterns rather than their perceptions of the educational value of social media. Based on this comprehensive review of the literature, I developed a conceptual framework outlining the relationship between the key concepts and theories that informed this study on social media use in nursing education. I have outlined this conceptual framework in Chapter 3.

Chapter 3: Conceptual Framework

My study focused on how nursing students use social media for teaching and learning purposes. My conceptual framework consists of three levels: (1) the theoretical underpinnings, (2) teaching and learning, and (3) the logical flow of my study. I describe each level herein.

At the first level, two learning theories – connectivism and social constructivism – informed my conceptual framework. These are appropriate learning theories for social media use in teaching and learning. According to Creswell (2003), social constructivism claims knowledge is acquired when subjective meanings are created in interaction with others. Social constructivists view knowledge as a conveyer of culture, historical context, and language (Reich, 2009). Dewey (1916) theorized that human beings use material from previous experiences to guide their learning and that education is an active and constructive process.

Connectivism is similar to social constructivism but focused on digital interactions and learning. According to (Goldie, 2016), connectivism is one of the most prominent network learning theories developed for digital learning environments. It views learning as a network phenomenon influenced by technology and socialization (Siemens, 2006). In connectivism, learning occurs when learners connect to and participate in a learning community; the learning community is described as a node, which is always part of a larger network (Goldie, 2016). According to Marais (2010), people gain skills and competencies from connecting to and interacting with others in online spaces. Online learning does not depend on knowledge diffusion from an educator to a student; learning can occur between and amongst peers (Marais, 2010).

The second level of my conceptual framework consists of influences on teaching and learning, like the formal, informal, and hidden curricula discussed and defined in Chapter 2. The type of curriculum, the learning theory applied, and the students' digital literacy skills all impact

social media as a teaching and learning tool. In a formal curriculum, social media may simply be the tool used to achieve stated learning objectives whereas with a hidden curriculum, unintended learning outcomes may arise because of social media's use as a learning tool. Social constructivism and connectivism as learning theories also encourage a range of formal and informal learning.

Finally, the third level of my conceptual framework outlines the logical flow of my study, which was derived from my literature review. Figure 1 depicts how I integrated each component of my study into a single guiding conceptual framework. The concept of teaching and learning - including formal, informal, and hidden-curricula - is central to my study and thus depicted as a cloud encompassing every component. Finally, I have situated my study's core concepts within the cloud shape to demonstrate that each component has been informed both by theories of teaching and learning and by the literature on social media in nursing education and HPE.

My conceptual framework informed the development of my research tools and analysis processes. Each component of this framework influenced my survey and interview questions as well as the coding structure for all three phases of data collection. I developed and revisited my conceptual framework throughout the study in a reflective and iterative process; it changed and evolved alongside my study as new components and relationships emerged or become further defined (Miles, Huberman, & Saldana, 2014).

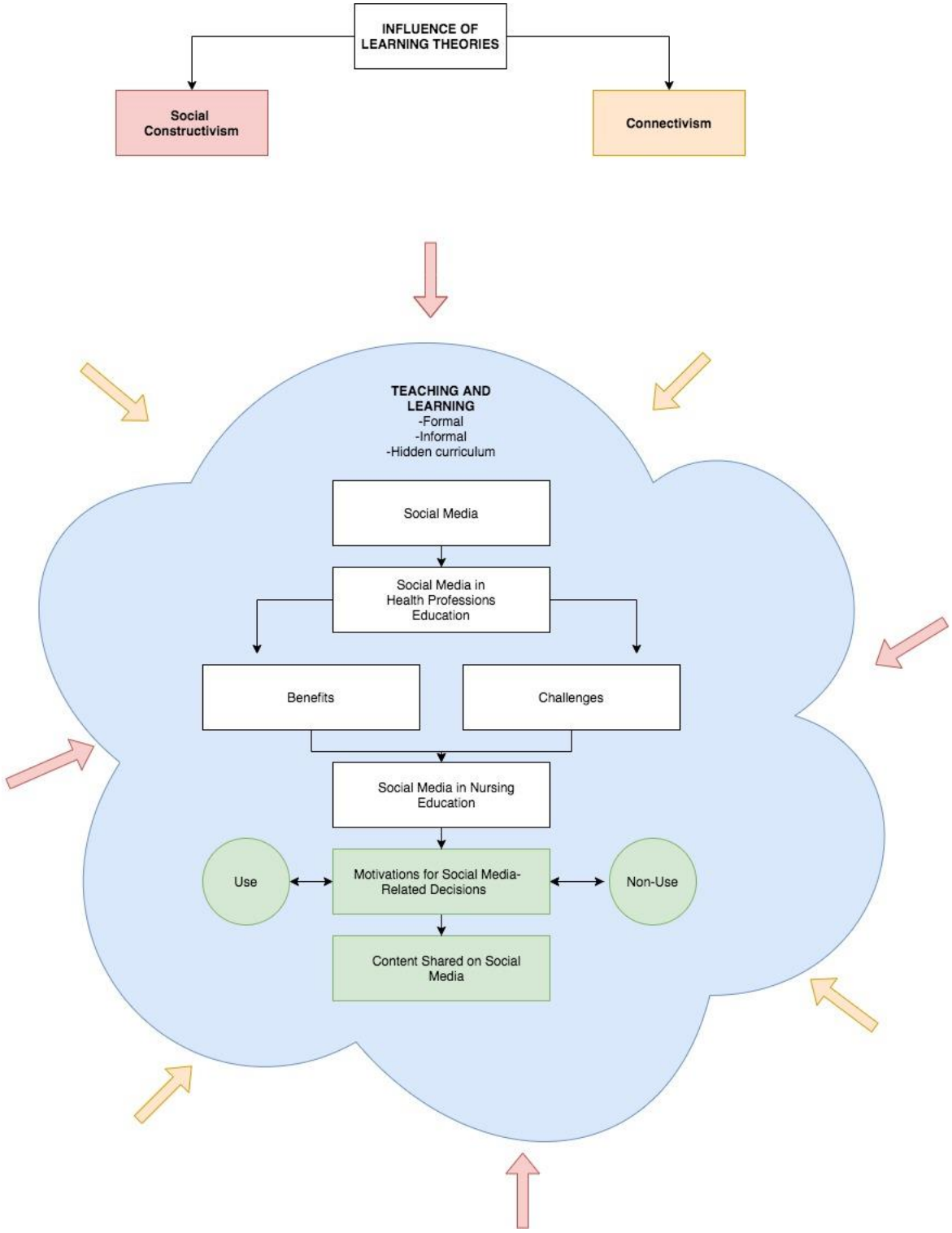

Figure 1. **Conceptual framework.** Note: White flowchart boxes indicate what is already known based on current peer reviewed literature. Green flowchart boxes reflect what remains to be known regarding social media use in nursing education.

Overview of Research Questions

Building on my conceptual framework, and to address the gaps identified in my literature review, I explored the use of social media by students in a school of nursing. I have outlined my research questions (RQ) herein.

1. How do the students in a school of nursing use social media for learning purposes?
2. What motivates students in a school of nursing to use or not to use social media for learning purposes?
3. What content do students in a school of nursing post to social media related to learning?

Chapter Four: Overview of the Study Design and Philosophical Assumptions

In this chapter, I provide an overview of the design and philosophical assumptions of my three-phase mixed methods single case study. I describe the context of my research, starting with an overview of nursing education in Canada and then focusing on my case study site, which is Nipissing University School of Nursing (NU SoN). I then provide the rationale for why I chose to employ a mixed methods approach to my single case study. Finally, I conclude by discussing the ethical considerations of my study.

Context of Nursing Education in Canada

According to the Canadian Nurses Association (2019), the knowledge, skills, and attributes that registered nurses (RNs) require to meet the demands of the contemporary health system can only be acquired through broad-based Bachelor of Nursing programs. The baccalaureate degree in nursing is intended to prepare a generalist nurse for entry-to-practice while also meeting the standards for higher education that apply across disciplines (CASN, 2015a). The Canadian Association of Schools of Nursing (CASN) outlines the additional pathways to baccalaureate degrees in nursing available in Canada. These programs include second-entry programs, fast-track programs, and baccalaureate programs for practical nurses (CASN, 2015a). Nursing education is intended to prepare graduates for professional roles, including entry-to-practice or advanced roles like nurse researchers and scholars (CASN, 2015a).

In Canada, all provinces and territories, except Quebec, require a bachelor's degree for entry-to-practice as an RN . Nursing degree programs can be completed in two to four (or more) years, depending on whether the student is engaged in an accelerated, condensed, advanced entry, or part-time program (Canadian Nurses Association, 2019). According to the CNA (2019),

approximately one-third of all diploma educated RNs eventually return to school to obtain their Bachelor of Nursing degree.

As outlined in Chapter 1, CASN identified core expectations for Canadian nursing programs, which relate to six domains (CASN, 2015a). Table 2 provides an overview of CASN's guiding principles and essential components for each of the six domains (CASN, 2015a).

Table 2

Overview of CASN's Essential Components for Baccalaureate Education

Domain	Guiding Principle	Summary of Essential Components
Knowledge	Programs provide a broad knowledge base in nursing and nursing related disciplines to support a generalist preparation	Students are expected to gain knowledge relating to nursing history; nursing theories; human development; health-related needs of diverse populations in rural and urban settings and across the lifespan; professional and organizational settings; information technology use in nursing care; relational practice; ethical nursing practice; primary healthcare; social determinants of health; healthy work environments; and the art and science of professional caring for persons, families, and communities
Research, methodologies, critical inquiry, and evidence	Programs foster the development of critical thinking and research abilities to use evidence to inform nursing practice	Students are expected to demonstrate an appreciation of the importance of inquiry to the nursing profession; the ability to seek, locate, and interpret a range of information, evidence, methodologies, and practice observations; critical thinking skills to use relevant information and communication technologies to support evidence-informed nursing care; the ability to formulate research questions; the ability to compose a written academic argument
Nursing practice	Programs provide practice learning experiences to develop safe, competent, compassionate, ethical, and culturally safe entry-level nurses	Students will demonstrate comprehensive assessment of diverse clients and the ability to plan for and provide safe, ethical, and compassionate care; the use of clinical reasoning, knowledge, and other evidence to inform decision-making; the ability to synthesize findings to develop or modify a person-centred care plan; the ability to recognize and respond safely, competently, and ethically to changing client conditions; the ability to monitor and manage complex care using multiple technologies; the use of information technologies to support quality patient care; the ability to counsel and educate clients to promote health, symptom, and disease management; the coordination of patient care and ability to facilitate client navigation through healthcare services; health promotion skills; patient safety and quality care
Communication and collaboration	Programs prepare students to communicate and collaborate	Students will demonstrate the ability to communicate and collaborate effectively with diverse clients and members of the healthcare team; the ability to self-monitor values, beliefs, and assumptions; the ability to

	effectively with clients and members of the healthcare team	communicate using information technologies to support engagement with patients/clients and the interprofessional team; the ability to articulate a nursing perspective and the scope of practice of the RN in the context of a care team; the ability to collaborate with diverse clients, adapt relational approaches effectively, and accommodate contextual factors in diverse practice situations; the ability to contribute to positive healthcare team functioning
Professionalism	Programs prepare students to meet standards of professional nursing practice and conduct and become lifelong learners	Students will demonstrate the ability to practice within the context of professional standards of practice, ethical, regulatory, and legal codes; an understanding of the significance of fitness to practice as it relates to self-care and lifelong learning; the ability to maintain professional boundaries with clients and other members of the healthcare team; the ability to ensure client confidentiality and privacy, including in the context of social media; an understanding of the importance of participating in a professional nursing organization; foundational knowledge and skills required to pursue graduate studies as desired
Leadership	Programs prepare students to coordinate and influence change within the context of nursing care	Students will demonstrate the ability to influence the development of programs to improve health outcomes; leadership abilities in the coordination of a healthcare team; the ability to collaborate with and act as a resource for practical nurses and other members of the care team; the ability to analyze and influence public health policy; the ability to advocate for change to address issues of social justice, health equity, and other disparities affecting population health

Note: Adapted from CASN's National Nursing Education Framework.

According to CASN (2016), baccalaureate programs provide the "foundation for sound clinical reasoning and clinical judgment, critical thinking, and a strong ethical component in nursing" (p. 2). Learners are encouraged and assisted to develop a broad knowledge base and to critically reflect on, integrate, and apply various forms of knowledge in diverse healthcare settings; programs prepare students for emerging information technologies and new approaches to patient safety, quality, and issues of global citizenship (CASN, 2016).

As part of nursing education, students are required to complete clinical placements. CASN describes how nursing, like medicine, law, and pharmacy, was founded on the apprenticeship model of education (CASN, 2015b). Currently, clinical placement sites represent the broad spectrum of healthcare delivery in Canada, including acute care settings, long term care and ambulatory care settings, and community care (CASN, 2015b). During clinical placements, students are able and encouraged to bring their knowledge, judgment, attitudes, and skills to the real-life, unplanned situations over which instructors have little control (CASN, 2015b). Each nursing program can offer clinical placements according to their individual program structures, however CASN (2015b) requires that nursing programs pay attention to:

- The timing of the practice experience within the program;
- The length, frequency, and continuity of the practice experience;
- The selection of the practice experience;
- The quality of the instruction; and
- The pedagogical process.

Now that I have provided an overview of the context of nursing education in Canada, I will turn to a description of nursing education at Nipissing University, the site for this mixed methods single case study.

Nursing Education at Nipissing University

This study took place at Nipissing University, which is a small university in Northeastern Ontario with a student population of approximately 5,090 students (Universities Canada, 2019). The School of Nursing at Nipissing University offers four distinct, English-language, options for students to complete their Bachelor of Science in Nursing (BScN) degree. These options include the Collaborative Program, the Registered Practical Nurse (RPN) to BScN Bridging Program, the RPN to BScN Blended Learning Program, and the Scholar Practitioner Program (SPP). I have provided a brief overview of each program herein.

Collaborative program. Nipissing University and Canadore College offer the 4-year BScN program as a collaboration between their two institutions. Students take courses through both institutions (located on the same campus) and participate in clinical experiences at the North Bay Regional Health Sciences Centre and at various agencies in the City of North Bay. This study focuses exclusively on the Nipissing University components.

Registered Practical Nurse (RPN) to BScN bridging program. This program is for students who already hold an RPN diploma and have registered with the College of Nurses of Ontario. Nipissing University offers a 3-year on-campus bridging program where students can complete a semester of bridging courses before integrating into year 2 of the 4-year on-campus program.

RPN to BScN blended learning program. This program is a part-time, distance program that students can complete over 5 years. The School of Nursing allows RPNs who work with identified partner agencies from across Ontario to study part-time towards their BScN degree while continuing to work at their healthcare organization. The program offers theory-

based courses by online delivery and clinical placements occur either within the students' workplace or at another partner healthcare organization.

BScN scholar practitioner program. The Scholar Practitioner Program is a second-degree program for university graduates who would like to pursue a BScN degree. Nipissing advertises the premise of this program as being that nurses need to be clinically competent and theoretically critical thinkers as developing 'scholar practitioners' (Nipissing University, 2018b). This program takes place in Toronto, rather than in North Bay.

Positionality Statement

Positionality – whether a researcher is a member or an outsider of the group under study - is important to consider, especially within HPE research. Outsiders are not part of the social group they are investigating (Moore, 2012). Insiders, in contrast, are defined as professionals or researchers with a working knowledge of the topic that comes from occupational closeness (Morse, 2010). I have considered my positionality in my study examining the issue of social media use for teaching and learning purposes in nursing education. Firstly, I do not hold a Bachelor of Science in Nursing (BScN) degree or any other nursing credentials. I am a non-clinician HPE researcher trained in the science of education. I have previously been employed by one program stream in NU SoN in the role of Program Evaluation Coordinator. My previous experience in this role allowed me to gain meaningful administrative contacts and thus initiate discussions related to conducting my study at Nipissing University. I was not employed by NU SoN at the time of my study nor did I know any of the faculty members in three of the four nursing program streams. I did not know any students enrolled in any nursing program at NU SoN. According to the definitions provided by Moore (2012) and Morse (2010), I would categorize myself as an outsider-researcher.

Being an outsider-researcher has benefits. Academic researchers with no clinical background can approach interviews without preconceptions and better elicit detailed explanations from participants (Coar & Sim, 2006). Additionally, outsider-researchers are less likely than insiders to experience a 'conceptual blindness' where the interviewer's own feelings and professional experiences influence the data (Coar & Sim, 2006; Helmich, Boerebach, Arah, & Lingard, 2015). Despite my outsider position within nursing and NU SoN, I still practiced reflexivity as a researcher by memoing any surprising findings in MAXQDA and by keeping a study log where I tracked my progress and reflections on my findings and analysis processes; I also worked to ensure that my data collection and analysis processes were credible, dependable, confirmable, and transferable (Guba, 1981; Lincoln & Guba, 1985). I will expand on this point further in a section on trustworthiness later in this chapter.

Overview of Case Study Research

The objective of this study was to explore how students at one Ontario school of nursing use social media in their teaching and learning. I addressed this objective through a sequential mixed methods single case study. Yin (2014) describes a case study as an empirical inquiry that investigates a contemporary phenomenon in depth within its real-world context even when the boundaries between the context and phenomenon may not be evident. Yin (2014) also describes how the phenomenon and context are not always distinguishable in real-world contexts and thus, case studies cope with the technically distinctive situation where there will be many more variables of interest than data points. Case studies also rely on multiple sources of evidence, with data needing to converge in a triangulating manner. Lastly, case studies benefit from the prior development of theoretical propositions to guide data collection and analysis (Yin, 2014).

Case studies comprise an all-encompassing method, which influences the logic of design, data collection techniques, and approaches to data analyses. Yin (2014) highlights five essential components of a case study research design. These include: (1) a case study's questions; (2) its propositions, if any; (3) its unit(s) of analysis; (4) the logic linking the data to the propositions; and (5) the criteria for interpreting the findings. Case study research is particularly useful for answering "how" and "why" questions (Yin, 2014). My study utilizes a single case study structure. Single case studies are appropriate for cases that are critical, unusual, common, revelatory, and longitudinal (Yin, 2014). My choice of study site as a single case study represented a critical case since the variety of program delivery methods and modalities were critically aligned with my selected learning theories and theoretical propositions. I also collected data from multiple sources at multiple time points. My case study site also represented an unusual case since one of the BScN program streams is unique in that it offers a part-time blended learning experience to RPNs studying towards a BScN while maintaining their employment as an RPN. I have not found any similar programs in Canada. A single case study only needs a single rationale; my choice of Nipissing University as a single case was supported by three justifications as outlined by Yin (2014), as described above.

Case study research can embrace different epistemological orientations and can include both quantitative and qualitative evidence (Yin, 2014). I will expand further on the role of theory and how philosophical paradigms relate to the data collected in the case study in the following two sections of this chapter. For Yin (2014), one major advantage of case study research is the ability to use and triangulate many different sources of evidence. In the next section, I will provide an overview of mixed methods research and how I applied this approach to my single case study.

Overview of Mixed Methods Research

In mixed methods research (MMR), researchers combine quantitative and qualitative methods to answer their research questions (Burke Johnson & Onwuegbuzie, 2004). Researchers have historically questioned the compatibility of mixing qualitative and quantitative approaches, which have contradictory epistemological and ontological positions (Doyle, Brady, & Byrne, 2009; Howe, 1988; Lincoln & Guba, 1985). Doyle et al. (2009) defined the concept of paradigm as a worldview distinguished by epistemology, ontology, axiology, and methodology. Paradigms influence what we know, how we interpret reality, and our values and methodological predilections. Biomedical research is frequently positivist, meaning it ascribes to an objective Truth. Qualitative educational research tends to be constructivist, allowing for multiple experiences and personal truths (Morgan, 2014; Onwuegbuzie, 2012).

According to Giddings (2006), mixed methods approaches emerged in the 1990s to extend the capacities of social science and health research. Burke Johnson and Onwuegbuzie (2004) presented MMR as a third research paradigm that draws on the strengths and minimizes the weaknesses of both qualitative and quantitative approaches, resulting in a superior product. Current consensus is that MMR must include at least one qualitative method and one quantitative method (Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 1998). I agree with this consensus and acknowledge multi-method research, which is like MMR but can include several data collection techniques from within the same paradigm (Creswell & Plano Clark, 2011; Creswell & Plano Clark, 2018; Morse, 2003; Tashakkori & Teddlie, 1998).

Definition of MMR. According to Creswell and Plano Clark (2018), MMR has four core characteristics and combines a mixed methods research design and philosophy orientation. In MMR, the researcher:

- Collects and analyzes both qualitative and quantitative data rigorously in response to research questions and hypotheses,
- Integrates (or mixes or combines) the two forms of data and their results,
- Organizes these procedures into specific research designs that provide the logic and procedures for conducting the study, and
- Frames these procedures within theory and philosophy. (p. 5)

Tashakkori and Teddlie (2003) described how with MMR, researchers have the option of mixing multiple sampling techniques which presents a greater diversity of views. MMR also practically allows researchers to use all possible methods to answer the research question; furthermore, the use of both qualitative and quantitative methods strengthens the research approach (Creswell & Plano Clark, 2011).

Timing and Integration. I used a sequential explanatory MMR design in this single case study. This approach is characterized by the collection and analysis of quantitative data followed by the collection and analysis of qualitative data (Creswell, 2003). Priority is typically given to the quantitative data, although I focused on the sequencing of collecting my quantitative data before my qualitative data rather than assigning specific priority to either data type in the analysis (Creswell, 2003). In a sequential explanatory MMR design, integration of the quantitative and qualitative data occurs during the interpretation phase of data analysis (Creswell, 2003). I will provide a detailed overview of how I analyzed and integrated the data from the different phases of my study later in this chapter. Typically, mixed methods researchers do not focus on a particular epistemology but demonstrate a clear pragmatism in their work instead (Bryman, 2007). Pragmatism's practical orientation toward answering the research question aligns well with MMR, which collects, analyzes, and integrates both qualitative and

quantitative approaches in the same study (Doyle et al., 2009; Tashakkori & Teddlie, 1998). This is the approach that I have taken in my study of social media use for teaching and learning purposes in nursing education. I will explore my philosophical approach to my study in detail in the next section.

Philosophical Approach

I employed a pragmatic paradigm in my mixed methods case study. According to Biesta (2009), pragmatism claims that we acquire knowledge through action and reflection. Pragmatists propose that multiple paradigms can address research problems as long as they work. The research questions influence the selection of data collection methods (Creswell & Plano Clark, 2011; Doyle et al., 2009). Historically, the incompatibility thesis suggested that qualitative and quantitative paradigms and methods could not be mixed (Burke Johnson & Onwuegbuzie, 2004; Howe, 1988). Positivist and interpretivist epistemologies underlie quantitative and qualitative inquiry respectively; the two paradigms were viewed as incompatible and thus the two methods are as well (Howe, 1988). Pragmatism can overcome seemingly incompatible assumptions because it does not require the researcher to resolve any epistemological contradictions before using diverse research methodologies (Greene & Caracelli, 1997). This point is important because I undertook a mixed methods case study that encompassed three phases of quantitative and qualitative data collection and analysis techniques. Using a pragmatic paradigm permitted me to employ the necessary methodological approaches for my data collection and analyses.

Study Design

The School of Nursing at Nipissing University represented one case. I selected Nipissing University for this case study because they offer four different program variations for their Bachelor of Science in Nursing (BScN) degree consisting of a mixture of face-to-face, blended,

and bridged learning options. Furthermore, while Nipissing University boasts four program streams from which students could choose, these were only four out of 110 Bachelor of Nursing program options in Canada. I chose to consider NU SoN as one distinct case because although the findings from these four program streams at this one SoN will not be generalizable to the rest of the Canadian nursing education context, the findings from the SoN as one case may be transferable to other similar contexts.

While qualitative data was more prevalent in my study, I chose to focus on the sequencing of collecting quantitative data followed by qualitative data to answer my research questions rather than on assigning a specific priority to either data type for the purposes of analysis (Creswell & Plano Clark, 2011). Table 3 demonstrates the alignment between my research questions and my methods. I undertook three phases of data collection. Phase 1 included a survey of students at NU SoN, Phase 2 consisted of collecting digital artifacts posted to social media by students, and Phase 3 included follow-up interviews with the students who participated in Phase 2. I analyzed each data source separately and then integrated my findings in my discussion section (Creswell & Plano Clark, 2011).

Table 3

Overview of Methodological Framework

Question	Purpose	Sample	Instruments
How do the students in a school of nursing use social media for learning?	-To determine the types of social media being used -To understand the purposes for using different types of social media in nursing education -To determine the learning strategies associated with social media use	-BScN students at Nipissing University	-Survey for students with closed- and open-ended questions -Qualitative one-on-one interviews for students
What motivates students' decisions to use or not to use social media for learning?	-To explore why students choose to use/not use social media for learning -To explore the contexts where students choose to use or not use social media for learning (e.g., institutional, personal, geographical, linguistic)	-BScN students at Nipissing University	-Survey for students with closed- and open-ended questions -Qualitative one-on-one interviews for students
What content is posted by students in a school of nursing for learning?	-To identify what information is posted to social media by nursing students related to learning	-BScN students at Nipissing University	- Digital artifacts

Integration and Analysis of Phase 1, 2, and 3 Data

After conducting initial, separate, analyses of my Phase 1, 2, and 3 data, I integrated my findings using explanation building. The iterative nature of explanation building consisted of making an initial theoretical statement or proposition, comparing the findings of an initial case

against such a statement or proposition; revising the statement or proposition; comparing other details of the case against the revision; comparing the revision to the findings from a second, third, or more cases; and repeating the process as many times as is needed (Yin, 2014). Through explanation building, I narratively wove together my findings in order to explain the phenomenon of social media use in teaching and learning at one school of nursing. I also considered all data from all phases simultaneously, thus allowing me to triangulate sources like social media postings and survey responses. To strengthen this analysis, I linked the findings to my theoretical propositions outlined in my conceptual framework and considered any rival explanations (Yin, 2014). Figure 2 graphically depicts how all lines of evidence combine to form one cohesive case.

Trustworthiness

I ensured that my analyses are credible, dependable, confirmable, and transferable (Guba, 1981; Lincoln & Guba, 1985). I used overlapping methods, which allowed me to triangulate the findings from across my phases (Guba, 1981). I also engaged in member-checking, wherein I fed my participants back a copy of their interview transcript so that they could ensure that I accurately represented their statements during transcription (Creswell & Plano Clark, 2011; Guba, 1981). I also engaged in peer debriefing with my thesis advisor. Finally, I considered all rival explanations in my analysis (Guba, 1981; Yin, 2014). I also ensured a high quality case study. Creswell (2013) provided a list of questions to consider when evaluating case study research (refer to Appendix A). I considered each question carefully alongside Yin's (2014) four criteria for a high-quality case study analysis (Appendix B).

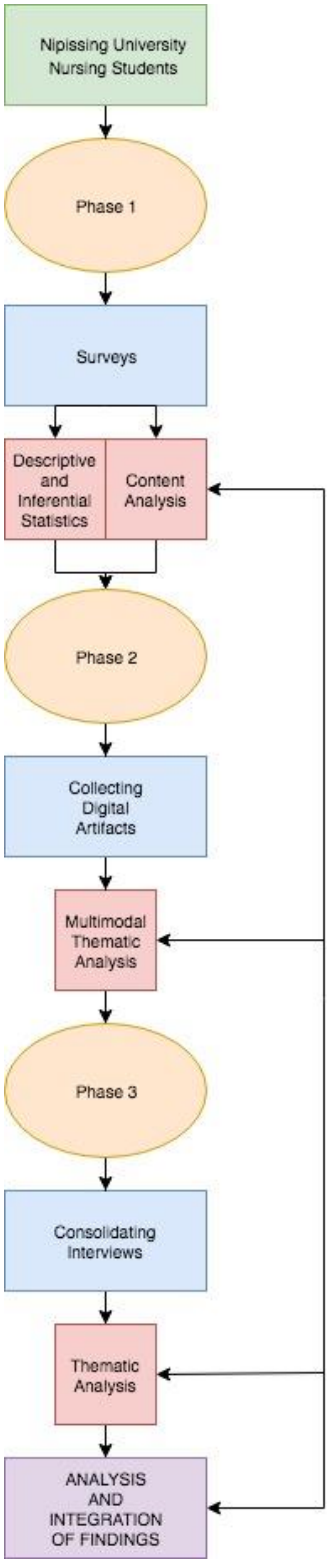

Figure 2. Lines of Evidence

Ethical Considerations

This social media-based study had some interesting ethical considerations, which I describe herein. Phases 1 and 3 followed standard ethics procedures wherein I provided participants with a Participant Information Letter (PIL) and they provided informed consent to participate in each Phase either through responding to the Phase 1 survey or by signing a consent form for Phase 3 interviews. Phase 2 of this study had some unique ethical considerations. I met with a member of the University of Ottawa Research Ethics Board (REB) in March 2018 to clarify what might be required ethically for my Phase 2 digital artifact collection.

The University of Ottawa REB determined that any public social media posts (e.g., a public Twitter account) did not require me to obtain consent from participants before collecting data. However, any social media posts I accessed from private or personal social media accounts required me to send participants a PIL and required them to provide informed consent to participate in the study. The University of Ottawa REB also determined that beyond sending participants a PIL, I would send them a request for my research social media accounts to 'friend' or follow their personal social media accounts. Participants' acceptance of my request to 'friend' or follow them constituted informed consent to participate in Phase 2 of this study. Participants had the opportunity to terminate their participation in the study at any point by notifying me through email or by 'unfriending' or unfollowing my research accounts. In this instance, I would remove their data from the analysis. For my Phase 2 digital artifact collection, I indicated in my PIL and my REB application that I would not display any videos, images, or other identifying information that participants posted to their social media accounts during the five-month data collection period in any conference presentations or publications.

I obtained REB approval from the University of Ottawa and from Nipissing University's REB for the first two phases of my study in August 2018. I submitted a modification to both the University of Ottawa and Nipissing University's REB for Phase 3 of my study in July 2019, following the analysis of my first two phases of data and subsequent development of my Phase 3 interview protocol. I received REB approval from both Ethics boards in August 2019.

Summary

Nipissing University's School of Nursing provided an excellent single case study site for this study on social media use for teaching and learning purposes in nursing education. They offer four distinct program streams for students to achieve their BScN degree, including face-to-face, bridged, and blended learning options. In this chapter, I described the context of nursing education in Canada and provided a rationale for my use of a mixed methods single case study. I defined and justified my use of an MMR approach within my single case study. I outlined both the philosophical assumptions and ethical considerations that are present in my study. My three-phase study is pragmatic in nature; each phase builds off of the previous phase in an effort to address my research questions. In Phase 1, I explored whether students at NU SoN are using social media for learning purposes and if so, what types of social media are they using and for what purposes. The purpose of Phase 2 was to identify what information nursing students post to social media related to learning. Finally, Phase 3 expanded on both previous phases and delved into the contexts and reasons for which students choose to use or not to use social media for learning purposes. I provide further detail on how I conducted and analyzed each phase in Chapters 5, 6, and 7. In each chapter, I describe and discuss the sample, instrument development,

data collection procedures, data analysis procedures, and results or findings for each phase of data collection.

Chapter Five: Phase One

This chapter describes the methods and results used in the first phase of this study. Phase 1 consists of a survey of nursing students from the Collaborative Program, the RPN to BScN Bridging Program, the RPN to BScN Blended Learning Program, and the Scholar Practitioner Program at NU SoN. The purpose of this phase was to understand whether students in a school of nursing use social media for learning and if so, how they use social media for these purposes. I also aimed to explore what motivated nursing students' decisions to use or not to use social media in their learning. Phase 1 focused on the following research questions:

- How do the students in a school of nursing use social media for learning purposes?
- What motivates students' decisions to use or not to use social media in a school of nursing for learning purposes?

The first phase of this study was exploratory in nature. It explored whether and how nursing students use social media for learning. It also started to look at nursing students' motivations for using social media as a learning tool. This exploratory phase helped preface Phases 2 and 3 of this study, which explored in detail the types of content that nursing students choose to share related to learning in nursing and their motivations for doing so.

Sample

I intended to obtain a representative sample of nursing students from across all four BScN program streams at NU SoN for Phase 1. The Director of NU SoN presented my study at Nipissing University's School Council meeting in December 2018. I gave a recruitment presentation in mid-January of 2019 to the faculty members of one of Nipissing University's BScN program streams and Program Directors from two other BScN program streams circulated

the script for my presentation by email to their respective faculty members and students (refer to Appendix C for the presentation script). The goal of this presentation was to increase potential participation rate in my study by emphasizing the importance of my study to potential participants and by answering any questions that they had prior to participation.

In 2016, Nipissing University reported a total headcount of 1191 students enrolled either full-time or part-time in the School of Nursing, which consists of the four program streams described in Chapter 3. I aimed to recruit at least 30% of the nursing student population, which equated to a sample of 357 students.

Instrument Development

The literature review, combined with my conceptual framework, guided my instrument development. The instrument required for Phase 1 included one online survey tailored to nursing students. The survey consisted of closed and open-ended questions. Table 4 depicts the alignment between my conceptual framework and my survey dimensions.

Table 4

Dimension Alignment with Conceptual Framework

Component Subcomponent	**Aligning Dimension for Survey**
Social Media	User Type Intended audience Purposes (i.e., teaching, learning, research, professional development)
Social Media in Nursing Education Student Characteristics	Program delivery method University technological climate Participants' beliefs about social media Participants' technological experience
Factors Motivating Social Media-Related Decisions Regarding Use/Non-Use Benefits and Challenges	Accessibility Engagement Buy-In Time Perceptions

Refer to Table 5 for my survey blueprint, which links my dimensions numerically to the questions I asked on the survey.

Table 5

Student Survey Blueprint

Research Question	Dimension	Survey Item Number
1. How do students in a school of nursing use social media for learning?	-User	1, 3
	-Type	2, 4
	-Intended Audience	6
	-Purposes (teaching, learning, research, professional development)	5, 7
2. What motivates students' decisions to use or not to use social media for learning?	-Program delivery method	18
	-University technological climate	8, 9, 10
	-Students' beliefs about social media	11
	-Students' technological experiences	12
	-Structural factors (i.e., Accessibility, Engagement, Buy-in, Time)	13, 14, 15
	-Perceptions	16

Appendix D contains my survey. I piloted my nursing student survey with two University of Ottawa nursing students. Additionally, my thesis advisory committee reviewed the survey.

Data Collection Procedures

I adhered to Yin's (2014) four principles of case study data collection, which include using multiple sources of evidence, creating a study database, maintaining a chain of evidence, and exercising care when using electronic sources. Survey data collection took place during February 2019. An administrative assistant at NU SoN sent an email containing my participant information letter (refer to Appendix E) and the link to my survey (via Qualtrics) on my behalf to all nursing students. The survey was open for 30 days, beginning on January 29th, 2019, after students had started their semester. I followed a modified version of Dillman's Tailored Design Method (depicted in Table 6), which included multiple follow-ups to the survey participants.

Specifically, I sent the participants reminder emails on the 14th day and the 28th day of the data collection period (Dillman, 2000, 2008). This approach is known to achieve high response rates (Dillman, 2000). Participation in the survey signified consent to participate in the study. This survey took participants approximately 15-20 minutes to complete. All questions were optional, so participants had the option to skip any questions they did not wish to answer.

Table 6

Modified Version of Dillman's Tailored Design Method

First Email		Date
Time point	Day 1	January 29, 2019
Contents	Email copy of participant information letter and provide a link to the survey	
Second Email		
Time point	Day 14	February 12, 2019
Contents	Thank you email expressing appreciation for participating in the survey, indicating that if the survey has not yet been completed, I hope that it will be soon	
Third Email		
Time point	Day 28	February 26, 2019
Contents	Redistribute survey link and participant information letter	

Data Analysis

My literature review, conceptual framework, and research questions guided my data analyses. Phase 1 of this study consisted of both closed and open-ended responses, which I analyzed separately. I then integrated the findings of both analyses in the summary of this chapter.

Closed-ended data analysis. I used IBM SPSS (v. 24) to calculate frequency counts. I also conducted cross tabulations, Chi-Square Tests for Independence, and Spearman

Correlations. The Chi-Square Test for Independence is used to test whether there is a relationship between two variables (Gravetter & Wallnau, 2017). I was interested in exploring whether there were any significant relationships between the students' programs, their age categories, and their decisions regarding social media use for learning. I elected to use nonparametric tests, like contingency table analyses, resulting in chi-squares, that rely on frequencies rather than parametric tests, such as the Analysis of Variance (ANOVA), due to the prevalence of nominal and ordinal Likert data captured by my survey (Gravetter & Wallnau, 2017). I also performed Spearman correlations on the rank survey items to identify any correlations between items like students' levels of experience, knowledge, interest, and comfort with using social media as a learning tool. The Spearman correlation is used to measure the relationship between two variables when both variables are measured on an ordinal scale, as is the case in my survey (Gravetter & Wallnau, 2017).

Open-ended data analysis. I conducted a modified directed content analysis on all open-ended response data (Hsieh & Shannon, 2005). According to Hsieh and Shannon (2005), the goal of a directed content analysis is "to validate or extend conceptually a theoretical framework or theory" (p. 1281). The existing theory can help focus the research question, provide predictions about the relationships between variables, and help determine the initial coding scheme (Hsieh & Shannon, 2005). I used MAXQDA (v.18.2) to conduct a modified directed content analysis that consisted of reviewing all open-ended responses word-by-word to generate codes. I used a combination of deductive and inductive coding; first, I developed a preliminary codebook based on my conceptual framework, research questions, and survey dimensions. I deductively coded all open-text responses using my codebook. I identified codes inductively through a second cycle of coding. I then generated frequencies of word use and combined codes into categories for further

analysis (Hsieh & Shannon, 2005). Following the coding process, I generated a comparison matrix to compare findings across the four BScN program streams (Miles et al., 2014). I then visually displayed my qualitative findings (Miles et al., 2014).

Findings

I will provide an overview of the survey participants before discussing my findings by research question. A total of 294 nursing students responded to my survey. I excluded 74 incomplete responses where participants had only answered the first few questions before exiting the survey. The final sample size was 220 nursing students and a final response rate of 20%. This survey had some missing data resulting in totals of less than 220 for certain questions due to the logic of the survey and the fact that not all participants answered every question.

Table 7 provides an overview of the survey participants' demographic information.

Table 7

Demographic Information (n=220)

Demographic Indicator	Frequency
Nursing Program	
Collaborative	73
Bridging	45
Blended	75
SPP	25
Total	218
Year of Program	
First Year	62
Second Year	57
Third Year	53
Fourth Year	31
Fifth Year	5
Prefer not to specify	3
Other	2
Total	213
Age Group	
18-25 years	103
26-29 years	37
30-35 years	33
36-39 years	12
40-45 years	16
46-49 years	4
50 years and older	4
I prefer not to specify	4
Total	213

Participants also identified whether they use social media for personal purposes (n=208, 94.5%) and for learning purposes (n=197, 90%). Figure 3 depicts the social media platforms that the survey participants indicated using both for personal and for learning purposes.

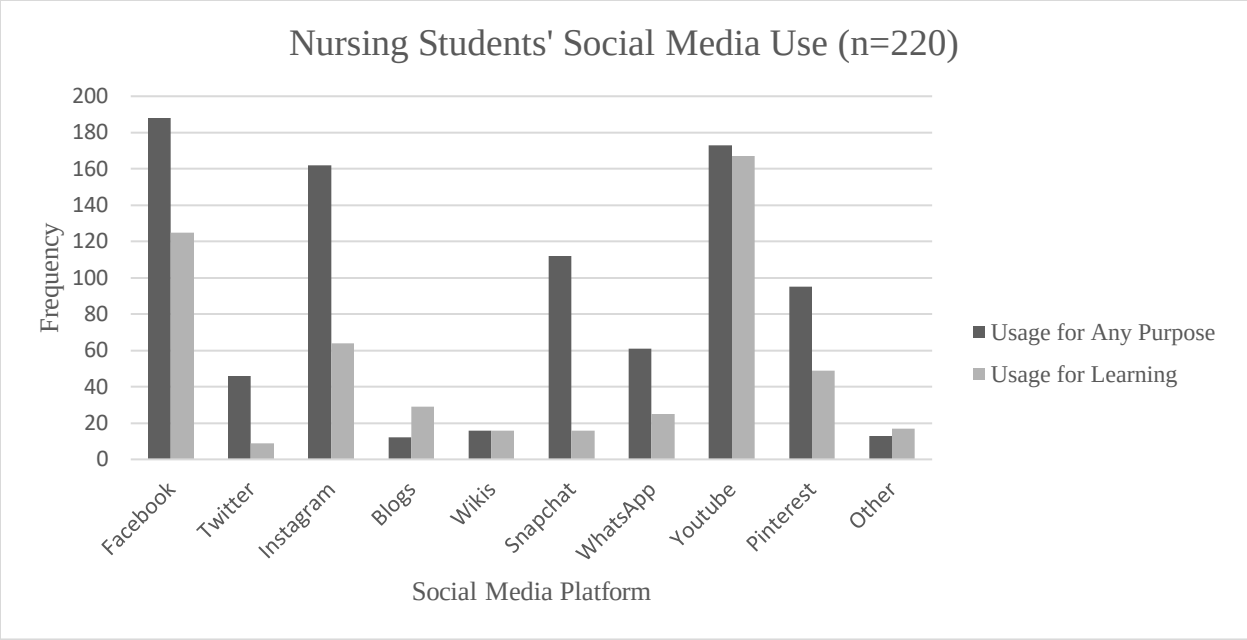

Figure 3. Nursing Students' Social Media Use

As shown in Figure 3, nursing students at NU SoN use a variety of social media platforms for both personal and learning purposes. Several participants also provided additional social media platforms that they use for learning purposes. These included Tumblr, Reddit, Podcasts, and LinkedIn. The next section explores how students use social media for learning in detail.

Closed-ended results. The results of Phase 1 show that nursing students across all four BScN program streams at NU SoN use social media for both personal and learning purposes. In this section, I explore quantitatively how students use social media for their learning purposes.

RQ1: How do the students in a school of nursing use social media for learning purposes?

Firstly, I tested whether there were any significant relationships between the students' program streams and their decisions to use social media for personal or learning purposes using Chi-Square Tests for Independence. To conduct all Chi-Square Tests for Independence, I combined the 'strongly agree' and 'agree' categories together and the 'strongly disagree' and 'disagree' categories together. Doing so ensured that the expected frequency of each cell was more than 5.

With small expected frequencies, minor discrepancies between observed and expected frequencies can result in large chi-square values (Gravetter & Wallnau, 2017). One limitation of this approach is that by combining categories, I was unable to highlight specific differences between students who strongly agreed or agreed with a statement. I was similarly unable to highlight specific differences between students who strongly disagreed or disagreed with a statement.

There are no significant relationships between the students' program streams and whether they use social media for personal purposes, $x^2(3, n = 218) = 5.443$, $p = .142$. Similarly, there are no significant relationships between the students' program streams and whether they use social media for learning purposes, $x^2(3, n = 217) = 3.792$, $p = .285$. There is, however, a significant relationship between the students' age groups and whether they use social media for personal purposes, $x^2(7, n = 213) = 22.488$, $\boldsymbol{p = .002}$. Testing students' age groups and whether they use social media for learning purposes yielded no significant relationships, $x^2(7, n = 212) = 10.675$, $p = .153$. I also tested for any relationships between students' identified year in their nursing program and their use of social media. There are no significant relationships between the students' stated program year and whether they use social media for any purpose, $x^2(6, n=213)= 5.204$, $p = .518$. Similarly, there are no significant relationships between students' stated program year and whether they use social media for learning, $x^2(6, n=212)= 3.511$, $p = .742$.

Participants indicated that a variety of audiences interact with their social media posts, including their friends (n=158, 71.8%), their classmates (n=143, 65%), their families (n=100, 45.5%), Nurses (n=38, 17.3%), their professors (n=12, 5.5%), researchers (n=6, 2.7%), and others (n=7, 3.2%). Table 8 depicts the purposes for which the participants indicated using social media for learning.

Table 8

Social Media Use by Nursing Students for Learning (n=220)

Purpose	Frequency
To communicate with classmates or instructors about coursework	174
To communicate with classmates or instructors about clinical placements	123
To network with current and/or prominent nurses in the field	72
To prepare for licensure and entry-to-practice (i.e., NCLEX prep)	107
To stay up to date on upcoming professional development activities	98
None of the above	2
Other	26

Next, I will explore nursing students' motivations for using social media for learning purposes.

RQ2: What motivates students' decisions to use or not to use social media in a school of nursing for learning purposes? I explored whether nursing students at NU SoN felt that social media was encouraged by their nursing program. Sixty-nine nursing students (31.7%) agreed that social media is encouraged by their nursing program whereas 63 (28.9%) disagreed and 86 (39.4%) were unsure. When asked if their professors incorporated social media into their courses, 93 nursing students (42.5%) agreed while 110 (50.2%) disagreed and 16 (7%) were unsure. There is a significant relationship between the students' program streams and their perception of whether their professors incorporate social media into their courses, $x^2(6, n = 218) = 21.002$, $\boldsymbol{p = .002}$.

Table 9 depicts the participants' perceptions of their programs' position towards social media use for learning and their personal position towards social media use for learning purposes.

Table 9

Perceived Position Towards Social Media (n=220)

Position	Frequency	
	Program Position	Personal Position
Very opposed to using social media	8	7
Opposed to using social media	25	11
Neutral	77	27
Supportive of using social media	58	84
Very supportive of using social media	20	77
I don't know	19	4
Other	3	1
Total	210	211

There is a significant relationship between the students' program streams and their perceptions of whether social media use is encouraged by their program, $x^2(6, n = 217) = 12.805$, $\boldsymbol{p = .046}$. Similarly, testing the students' personal positions towards social media use and their program streams yielded a significant relationship, $x^2(6, n = 205) = 16.675$, $\boldsymbol{p = .011}$.

I also investigated participants' perceptions of their experience level using social media for learning purposes and how accessible the internet is for them. Tables 10 and 11 provide an overview of both items. As with the Chi-Square Tests for Independence, I combined the 'strongly agree' and 'agree' categories together and the 'strongly disagree' and 'disagree' categories together to conduct Spearman correlations to ensure that each category had more than five responses.

Table 10

Experience with Social Media (n=220)

Experience Level	Frequency
Very inexperienced	2
Inexperienced	19
Neutral	56
Experienced	95
Very experienced	43
I don't know	1
Other	2
Total	218

Table 11

Reported Internet Accessibility (n=220)

Level of Accessibility	Frequency
Very inaccessible	22
Inaccessible	0
Neutral	2
Accessible	34
Very accessible	160
Other	0
Total	218

There is also a significant correlation between the students' personal position towards social media and their self-reported experience level using social media, $r_s = +.345$, $n = 211$, $\boldsymbol{p < .001}$, two tailed. I found the students' self-reported experience level using social media and how accessible the internet is for them to be significantly correlated, $r_s = +.275$, $n = 218$, $\boldsymbol{p < .001}$, two tailed.

I explored drivers that influenced nursing students' decision to use social media for learning purposes. Table 12 provides an overview of these decision drivers.

Table 12

Decision Drivers (n=220)

Driver	Frequency						Total
	Very low influence	Low influence	Neutral	High influence	Very high influence	Don't know	
Level of knowledge of social media use	6	12	39	92	64	4	217
Level of comfort with social media use	8	7	31	101	69	1	217
Level of interest in social media use	6	10	48	96	55	1	216
Amount of time it takes to use social media	7	21	36	90	61	2	217
Concerns about professionalism on social media	4	21	51	69	69	3	217
Concerns about privacy on social media	2	21	48	59	86	1	217
Other	1	1	12	2	4	12	32

Experience. A Spearman correlation revealed a significant correlation between students' perceived experience level using social media and the extent to which their knowledge of social media would influence their decisions to use it as a learning tool, $r_s = +.237$, $n = 217$, $\boldsymbol{p < .001}$, two tailed. Similarly, students' perceived experience level using social media and the extent to which their comfort with social media would influence their decisions to use it as a learning tool are also significantly correlated, $r_s = +.255$, $n = 217$, $\boldsymbol{p < .001}$, two tailed. Testing students' perceived experience level using social media and the extent to which the amount of time it takes to use social media would influence their decisions to use it as a learning tool yielded a significant correlation, $r_s = +.232$, $n = 217$, $\boldsymbol{p = .001}$, two tailed. There is no significant correlation between students' perceived experience level using social media and the extent to which their concerns about privacy or professionalism on social media would influence their decisions to use it as a learning tool.

Knowledge. There is also a significant correlation between students' level of knowledge about and level of comfort with social media, $r_s = +.719$, $n = 217$, $\boldsymbol{p < .001}$, two tailed. Students' level of knowledge about and level of interest in social media are also significantly correlated, $r_s = +.513$, $n = 216$, $\boldsymbol{p < .001}$, two tailed. Finally, there is a significant correlation between students' level of knowledge about social media and the amount of time that it takes them to use social media, $r_s = +.454$, $n = 217$, $\boldsymbol{p < .001}$, two tailed. There are no significant correlations between students' level of knowledge about social media and their concerns about privacy and professionalism on social media.

The last item that I explored was participants' perceptions of social media's effect on their learning (refer to Table 13).

Table 13

Perceived Effect on Learning (n=220)

Effect	Frequency
No effect	16
A Small Effect	41
A Moderate Effect	90
A Great Effect	55
Don't Know	7
Total	209

A Chi-Square Test for Independence revealed a significant relationship between students' program streams and the self-reported effect that social media has on their learning, $x^2(9, n = 201) = 26.620$, $\boldsymbol{p = .002}$.

Summary of closed-ended findings. The closed-ended findings of Phase 1 of this study address how nursing students use social media for learning as well as what motivates them to use social media for these purposes. The participants indicated that they use a wide variety of social media platforms for learning purposes, although they use social media for personal reasons more frequently than for learning. The data also demonstrate a significant relationship between the participants' age categories and social media use for personal purposes. Finally, participants indicated that they mostly use social media as a collaboration tool; they also appear to use it to prepare for their NCLEX exams and entry-to-practice with some frequency.

In terms of what motivates participants to use social media, participants' level of knowledge of social media and level of experience with social media were significantly related. The data also revealed a significant relationship between students' perceptions of their programs' position toward social media and their program stream, which is an interesting finding given that the four program streams are all delivered differently, with various degrees of face-to-face and online learning. Further to this point, the data revealed a significant relationship between the

students' program streams and their perceptions of social media's effect on their learning. I now turn to an exploration of the open-ended survey responses through a modified directed content analysis.

Open-ended findings. Several survey items provided participants with the opportunity to expand on their Likert rating or forced-choice responses through open-ended responses. Additionally, three survey items consisted of open-text fields. This section explores how nursing students in NU SoN use social media for learning purposes and their motivations for doing so based on their open-ended survey responses.

I generated a final list of 19 codes through two cycles of coding during my modified directed content analysis. Figure 4 depicts the final codes in a code cloud; note that the word size is indicative of the comparative frequency of each code.

Figure 4. Modified Directed Content Analysis Code Cloud

After coding in MAXQDA, I organized the data into a comparison matrix to compare findings across the different BScN program streams, following Miles, Huberman, and Saldana (2014). Appendix F contains my comparison matrix.

RQ1: How do the students in a school of nursing use social media for learning purposes? The findings demonstrate that participants use social media for both formal and informal learning purposes. The codes that address my first research question relate to nursing students' personal interest and self-directed learning, reinforcing topics previously learned in class, tools and resources, and collaboration and networking.

Personal learning objectives and self-directed learning. One way that students expressed that they use social media is for meeting their personal learning objectives or engaging in self-directed learning opportunities. One nursing student shared that "I follow nursing & medical pages on Instagram that are of personal interest to me and keep me thinking about the nursing profession when I am enjoying social media in my personal time". Another participant similarly shared that "[social media] is not my primary source of information for learning, but it is a useful tool for communication and personal interest about nursing/medical topics", demonstrating how students are currently using it for informal learning purposes outside of their class objectives and expectations. In addition to meeting informal personal learning goals, some students used social media as a self-directed learning strategy to enhance their knowledge of course concepts or program technologies. One participant explained that "I learned how to use the blackboard system and some key concepts about online learning through social media that was not part of my instructions from the university". Another student outlined how "[social media] is a quick way to search for videos of certain illnesses and prepares me for meeting clients and provides me with information on what to expect. However, I am cautious of believing what I see on social

media as I am aware that it can be fake and can incorrectly guide me to provide the wrong information to clients".

Reinforce topics taught in class. Another way that nursing students seem to be using social media is to reinforce topics or content that they have previously been taught in class. One student explained that "[social media] helps me to understand things that my professors might have gone through quickly, but I might need more time on the aspect of the lecture". Several students outlined how social media provided an opportunity for them to review information in a different format than their course textbook. For them, the different media helped promote understanding and retention of the material. In other instances, students outlined how they had an opportunity to practice skills in a simulation lab but may not have opportunities to practice those same skills again before either being tested or going on a clinical placement. YouTube provided a platform for students to review procedures and re-learn pertinent information. One student explained how "Youtube often provides in depth videos on how to preform [sic] skills we have learned in lab. If we forget how to do a step and do not have access to a lab or the tools we can visualize the procedure so we can fully understand the task at hand."

Tools and resources. Another way that students use social media is to look for nursing tools and resources. Several students cited using social media as a way to find flashcards, to locate YouTube tutorials, to find quick learning guides, and to study for their NCLEX (licencing exam). One student explained that "I used a lot of youtube videos to review for skills testing, and tumblr song rewrittings [sic] to help remember pharmacology terms". Another student outlined how they used social media to "get study notes on prominent topics, study motivation, videos on harder concepts of health assessment, tips from nurses and recommendations for nursing podcasts/blogs; free nursing templates for while on the floor or in the community".

Collaboration and networking. Finally, the participants shared how they used social media for collaboration and networking purposes. Nursing students used social media as a collaboration and networking tool for both formal and informal learning purposes. Several students indicated that they had a Facebook group just for the nursing students in their program where they could share information about their courses, their professors, their assignments, and other expectations and events. Participants expressed that social media was a valuable tool for collaborating with classmates on assignments and connecting with classmates who live across the province. Of course, not all students were in favour of using social media. One student outlined how they used social media more out of necessity than out of preference. They explained "I'd rather not use it at all. Only way to communicate with some of my classmates and get info about courses and school. I would rather avoid it all together". Others were more supportive of social media as a collaborative tool. Another student expressed how "I seek answers to questions or provide answers for others as a way of feeling connected to similar people with the same struggles as me". Several students spoke about how social media provided a venue for peer-to-peer learning. One student explained that "I learn so much from other classmates and people in the field. I follow many education medical accounts on instagram and learn so much from their photos and stories". Finally, some students spoke about how social media could be used collaboratively to access information when instructors were unavailable. One student explained that "[i]f instructors were more available I would not use it. Peers have been more helpful and have taught me more." Another student agreed, adding that "[s]ocial media has been my teacher, teachers just put material up and do not give feedback. I have received more feedback from social media."

Based on the data, it is clear that nursing students at NU SoN are using social media for a variety of formal and informal learning purposes. Even if they are not in favour of social media, several students have expressed a need to use social media as a collaborative tool to keep in contact with their classmates. In the next section, I will explore what motivates nursing students' decisions to use social media for learning.

RQ2: What motivates students' decisions to use or not to use social media in a school of nursing for learning purposes? The findings demonstrate several motivations for nursing students to use or not to use social media for learning purposes. The codes that relate to my second research question include: convenience and accessibility, faculty members' beliefs about social media, multimodal teaching and learning, program delivery method, potential for distraction, privacy, quality and reliability, opportunity to share different perspectives, and student engagement.

Convenience and accessibility. Firstly, participants indicated that they favoured using social media as a learning tool because it is convenient and accessible. One participant explained that "[s]ocial media posts tend to use simpler language and be more engaging than, say, a research article. Seeing how other people study and getting ideas, plus good tips related to different content in simpler language is very helpful". Other students expressed how they were on social media constantly and thus, it provided them a convenient and familiar learning platform. One student outlined how "it also provides 'random' learning opportunities throughout the day when not intending to be learning - just browsing social media". Another participant highlighted the familiarity of social media platforms, stating "[s]ocial media can be a faster and more straight foreword way to communicate with peers compared to the school platform". One nursing student indicated that having everything in one space was an effective organizational

strategy. They explained “I think a lot of people are already comfortable with the platforms and how to use them. For example: Facebook wall posts are much easier to navigate vs. blackboard discussion posts. File sharing is also very easy to do on mediums like Facebook. I also like having all of my interests (personal & school) in the same spot; one less thing to check or window to open”.

Faculty member attitudes and beliefs. Faculty member attitudes and beliefs towards social media was another motivator of nursing students’ decision to use or not to use social media for learning purposes. The open-ended responses to this survey were mixed regarding students’ perceptions of their professors’ attitudes towards social media. Some participants explained how some faculty members encouraged them to share relevant articles on Facebook or to look up instructional videos on YouTube. Other students indicated that their professors referred them to social media as a way to collaborate with their classmates. Conversely, some participants expressed that their professors advised them to stay off social media. One student explained how their professors used social media “[p]rimarily as cautionary tales: ‘Look at this stupid nurse who used facebook once. Never do that’”. Another participant explained how “the professors are not open to using social media. We are not encouraged to have our phones as they are seen as distractions not tools. The same goes with laptops. I know of some professors that are sceptics about students typing and doing work on laptops because they are distracting.” Other participants shared how their professors had policies limiting technology use in class or in the simulation lab.

Multimodal teaching and learning. The next code, multimodal teaching and learning, is related to faculty members’ attitudes and beliefs towards social media. The participants expressed that often, social media use was a requirement for their courses. Students cited

YouTube videos as the social media platform that their professors would most frequently integrate into their courses. One student explained that "they [the professors] often add short videos to lectures or encourage us to further our learning by looking into topics on our own time to help increase our understanding." Another participant elaborated on this point, explaining that professors will often encourage students to use videos as well as non-social media-based technology to enhance their learning. The student outlined how "[t]hey will guide us towards youtube videos that can reiterate their points and that we can use while studying. Also study tools such as HESI and EAQ are integrated into our curriculum to help us prepare for exams for that specific class as well as NCLEX questions". Several students also spoke about how social media influenced their personal learning. One participant explained how "I'm a visual learner so I really like videos. Also each video producer has their own style and explains the same concepts in different ways. I find the videos produced are way more creative than what you get from textbooks or even those clinical DVDs".

Program delivery method. Another motivator of nursing students' decision to use social media for learning was their program delivery method. Students in the RPN to BScN Blended Learning program, which is predominantly online, expressed – qualitatively – that social media was an important learning tool. One student explained that "I am in a distance program - we use a lot of media to access information, support arguments and interact with students". Students in the RPN to BScN Blended Learning program indicated that they used social media as a way to connect with their online classmates, who are geographically dispersed across the province. Another participant expressed how "I have had a positive experience with social media in my program (RPN-BScN Blended Learning) because it is an online program our classmates are spread out across Ontario." They also expressed that social media like YouTube provided a

venue to consolidate class content, especially since students do not meet with their theory professors face-to-face. One student explained how they "[f]ind YouTube videos very helpful for learning. Since I am in a online classroom with my prof, YouTube videos are a good replacement and I find khan academy great".

Distraction. Participants discussed social media's potential to be distracting. Participants agreed that this was a driver of their decision to not use social media. One student explained how "[a]ccess to devices is not helpful when studying so much because I get distracted on alternative websites that are not used for learning". Similarly, another student outlined how "[s]ometimes I will get caught up in my social media use for recreational purposes and lose track of time and doing school work but not often". Other participants expressed that social media could be a distraction in class when they felt compelled to check their social media accounts rather than listening to their professors teach.

Privacy, quality, and reliability. Other reasons that students may choose not to use social media for learning purposes included issues relating to privacy, quality, and reliability**.** One student explained how "I think it intersects with personal things. May lead to confusion. The only learning I used from any media is youtube". Other participants indicated that they questioned the reliability of the information that they found on social media; they were not sure if they could trust the accuracy of the information online. One student outlined how "there is a lot of fake stories on social media, there is no vetting process for the information shared on social media". Lastly, several participants spoke about the need to use scholarly evidence in nursing practice and how social media may not meet that need. One participant explained the "need to be careful on social media and as a nursing profession it is a requirement to utilize evidence based and scholarly reviewed information - social media may not provide that".

Student engagement and perspective-sharing. The last set of codes related to student engagement and willingness to share different perspectives. One student explained how social media is "geared to a younger generation which is the new way of learning. Our generation is used to scrolling through Facebook, instead of looking at pointless post if we were looking at school work i find we would be more interesting because it is on a platform we know very well". Another participant put the sentiment another way by stating, "[i]t's less dull than traditional methods like reading text books or watching videos like Taylor's Video Guide to Clinical Nursing Skills videos." Several students expressed appreciation for the opportunity to receive a diverse range of feedback and perspectives on social media. One participant expressed how "[social media] can raise some different insights that the professor or other students have not thought of and could raise important and different points in terms of perspective". Another participant outlined the potential knowledge translation benefits of social media by stating "I think it's a great tool to learn and teach people about our profession". Finally, several participants recognized that social media was an engaging learning option for students. One student summarized this point by stating, "I feel like using social media for learning is a great resource. There are a ton of great youtube videos on different topics that enable you to see the topic from a different perspective. It is not something we have to have, it is just a great additional resource that is there if we need it".

Unintended effects. The participants also spoke about some unintended effects of using social media for learning as well. For instance, one participant explained how "I think it is great to connect with other students for help, but it can have drawbacks as well. Sometimes too much information is shared". Another student further clarified this point, stating:

> People use social media to ask questions they can easily find answers to themselves; answers provided to classmates are not always factual and discourage independent learning and thinking; people tend to say things over an electronic platform they wouldn't say in person; in general social media is tailored to individual likes and biases and provides news and information that is congruent with a persons [sic] way of thinking which also discourages independent thought.

Other students described how social media could lead them to become lazier students. One student indicated that social media could easily become a venue for complaining; they outlined how "[i]t's not all good, all the time. There is a lot of negativity and complaining from both classmates and instructors. Tone and meaning is sometimes hard to decipher".

Summary of open-ended findings. The open-ended findings demonstrate that social media is used by students for both formal and informal learning purposes. The nursing students who completed this survey used social media in a variety of ways and for a variety of purposes; notably, participants used social media for personal or self-directed learning, collaboration and networking, and finding tools and resources related to nursing. The participants in this study also shared several drivers that motivated their decision to use or not to use social media for learning purposes. Figure 5 provides a visual summary of these drivers, based on my modified open-ended content analysis and comparison matrix.

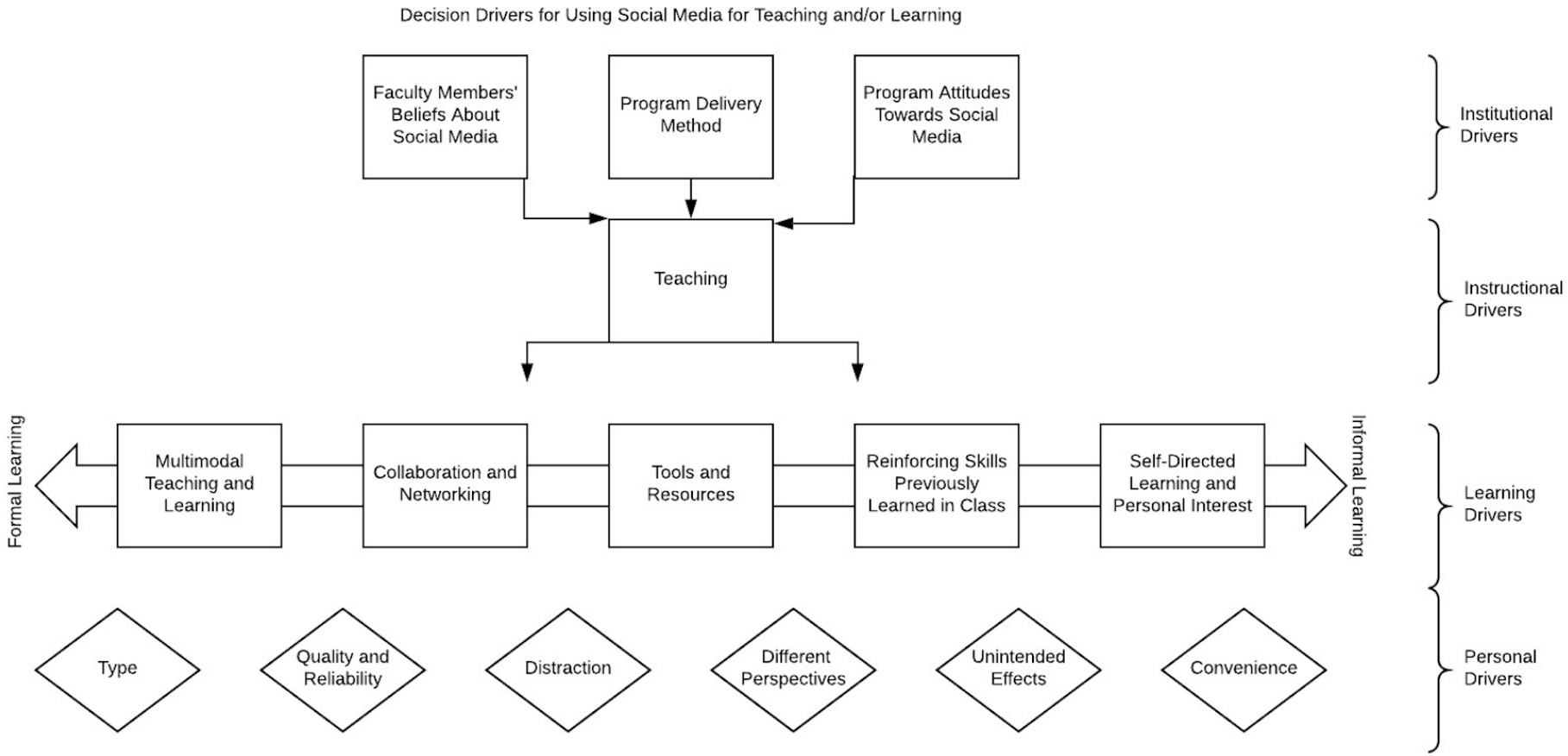

Figure 5. Decision Drivers for Using Social Media for Teaching and Learning

Figure 5 depicts the visual interaction between the codes at the different levels of each decision driver. Decision drivers take a top-down approach in this model, starting at the institutional level and drilling down to the personal or individual level. It is important to note as well that the learning drivers occur on a spectrum, ranging from formal learning to informal learning. Based on the open-ended findings of this study, it is reasonable to conclude that nursing students' decisions to use or not to use social media for teaching or learning purposes and the ways in which they use social media as a learning tool are influenced by their institution, their instructors, their learning needs, and their personal characteristics.

Summary for Phase 1

In total, 220 nursing students from all four BScN program streams at NU SoN participated in Phase 1 of this project. Over 90% of participants used a wide range of social media platforms for both personal and learning purposes. The data demonstrate a significant relationship between social media use for personal purposes and the participants' age categories.

The data are mixed with regard to students' perceptions of whether their nursing programs encourage the use of social media for learning purposes. Nearly 32% of nursing students agreed that social media is encouraged by their programs while nearly 29% disagree and 39% are unsure. Students expressed in their open-ended responses that their programs had certain policies surrounding the use of social media or technology in general (e.g., no pictures in the simulation lab) that influenced their ability to use social media for learning. Other students indicated that while their program did not actively encourage social media use for learning, they also did not actively discourage it.

While the data did not demonstrate any statistically significant relationships between the nursing students' program streams and their use of social media for personal or learning

purposes, the open-ended responses demonstrated that students enrolled in the RPN to BScN Blended Learning Program - which is predominantly online – found social media to be helpful to their formal learning and collaboration with classmates. Perhaps unsurprisingly, there is a statistically significant relationship between the students' program streams and their perception of whether their professors incorporate social media into their courses. Students shared how their professors incorporated videos into their courses to enhance learning and would sometimes direct them to videos for further learning. Other students expressed that their professors discouraged their use of social media on the basis of professionalism.

The data revealed that nursing students use social media for collaboration, communication, and networking purposes most frequently. Participants indicated that social media was a useful tool for collaborating with peers on group projects or for finding program-related information that may not have been widely advertised through other channels. Students also expressed that social media provided a venue for peer-to-peer teaching and learning where they could gain feedback and clarify course content that may be unclear. Students in the RPN to BScN Blended Learning program expressed that social media allowed them to connect with their classmates who live across Ontario.

There is a significant correlation between the participants' perceived experience level using social media and their knowledge of social media; similarly, there is a significant correlation between participants' knowledge of social media and the extent to which their comfort with social media would influence their decision to use it as a learning tool. Finally, participants' perceived experience level and the amount of time it takes them to use social media are significantly correlated. Other drivers that motivated nursing students' decisions to use or not to use social media for learning purposes included issues of privacy, quality, and reliability;

distraction; convenience and accessibility; and the opportunity to share different perspectives. Participants also shared a variety of formal and informal learning drivers like collaboration and networking, sharing tools and resources, reinforcing skills previously learned in class, and engaging in self-directed learning. Lastly, institutional and instructional drivers like faculty members' attitudes towards social media, their programs' attitudes towards social media, and how social media is used in teaching all influenced nursing students' decisions to use social media as a learning tool.

Phase 1 of this study was exploratory in nature; it focused on whether nursing students at NU SoN were using social media for learning purposes and what motivated their decisions regarding social media use. Phase 1 established that nursing students at Nipissing University do in fact use social media for both formal and informal learning purposes; they also have a number of drivers motivating their decisions to use or not to use social media for these purposes. The next chapter describes Phase 2 of this study, where I explored in detail the types of content that nursing students chose to share on their social media accounts.

Chapter Six: Phase Two

This chapter describes the methods and findings of Phase 2 of the present study. The purpose of Phase 2 was to explore what digital artifacts students from NU SoN posted to social media related to nursing education. The term *digital artifacts*, in this context, refers to the content that nursing student participants posted to their social media accounts including but not limited to videos, pictures, memes, text, news articles, academic articles, and personal comments and reflections. The term *post* refers to the act of adding original content to a social media platform. The term *share* refers to the act of circulating pre-existing posts on a social media platform (e.g., retweeting, sharing a Facebook post). Users may also add their own unique posts to shared social media content. For instance, a user may choose to post their perspective or comments on a news article they have shared. Phase 2 focused on the following research question:

- What content do students in a school of nursing post to social media related to learning?

Phase 2 was exploratory in nature; it focused on understanding the types of content nursing students post on their social media accounts for the purposes of learning in nursing education, if they post anything at all. Phase 2 expanded on the survey in Phase 1, which established whether and how nursing students use social media as a learning tool. Phase 2 explored in greater depth how students at NU SoN use social media for their learning purposes by exploring the content that they chose to share with others.

Sample

I included a question on my Phase 1 survey (question 17) that provided respondents with information about Phase 2 and asked if they were interested in participating in it. I embedded the

link to the participant information letter for Phase 2 in my above-mentioned survey. In this participant information letter, I requested permission to follow nursing students on social media using my accounts designed specifically for this project (refer to Appendix G). If the survey respondents indicated interest, Qualtrics prompted them to provide their names, email addresses, and social media handles for me to follow. I included students who answered 'yes' to Question 3 (i.e., that they use social media for their learning purposes) on their survey and who agreed to participate in Phase 2. I sent each participant a request to follow their social media accounts and their acceptance of that request signified their consent. I aimed to recruit between 20 and 30 nursing students for Phase 2. Twenty-four out of 220 nursing students consented to participate in Phase 2.

Data Collection Procedures

As mentioned, I developed various social media accounts specifically for this study. I chose the top three listed platforms from the Phase 1 survey to focus on in Phase 2. These platforms included Facebook, Twitter, and Instagram. Phase 2 launched on March 18, 2019. I followed participants' social media accounts for a period of five months, until August 30, 2019. I recorded notes on my social media data extraction form for each participant at the end of every week during the five-month Phase 2 period (refer to Appendix H). The notes and data I extracted focused on the nature and content of the social media posting. Specifically, I noted the learning elements alongside images, text, sounds, music, gestures, and use of space in the posting (Machin, 2007). I did not collect any identifiable information (e.g., names, names of institutions, photos, videos) on my data extraction sheet for each participant. I focused my data extractions on the posts that the Phase 2 participants shared rather than any posts or comments shared by their

friends or followers who had not consented to participate in this study. I then uploaded my completed data extraction forms to MAXQDA (v.18.2) for analysis.

Data Analysis

I analyzed my Phase 2 data in two sequences. First, I conducted an initial data analysis while data collection was ongoing. I extracted data at the end of each week of the data collection period and conducted a modified directed content analysis of the information on my data extraction forms for each participant (Hsieh & Shannon, 2005). I conducted an initial round of coding in my data extraction form at the end of each month. I used a combination of deductive coding using a codebook that I developed based on my conceptual framework and literature review and inductive coding to identify new codes that were not originally captured by my codebook. A process of monthly analytic memoing detailed subcategories that arose in the participants' social media posts that month and noted my reflections on any surprising findings to enhance my reflexivity as a researcher. This process generated a unique document each month to contribute to my analysis. Initial data analysis occurred at the end of each month.

I imported all my data into MAXQDA at the end of the five-month data collection period for a modified directed content analysis of the entire data set. Following the data collection period, I conducted two cycles of deductive and inductive coding on the entire data set using MAXQDA and analyzed all Phase 2 data prior to starting Phase 3. Figure 6 depicts my Phase 2 analysis process.

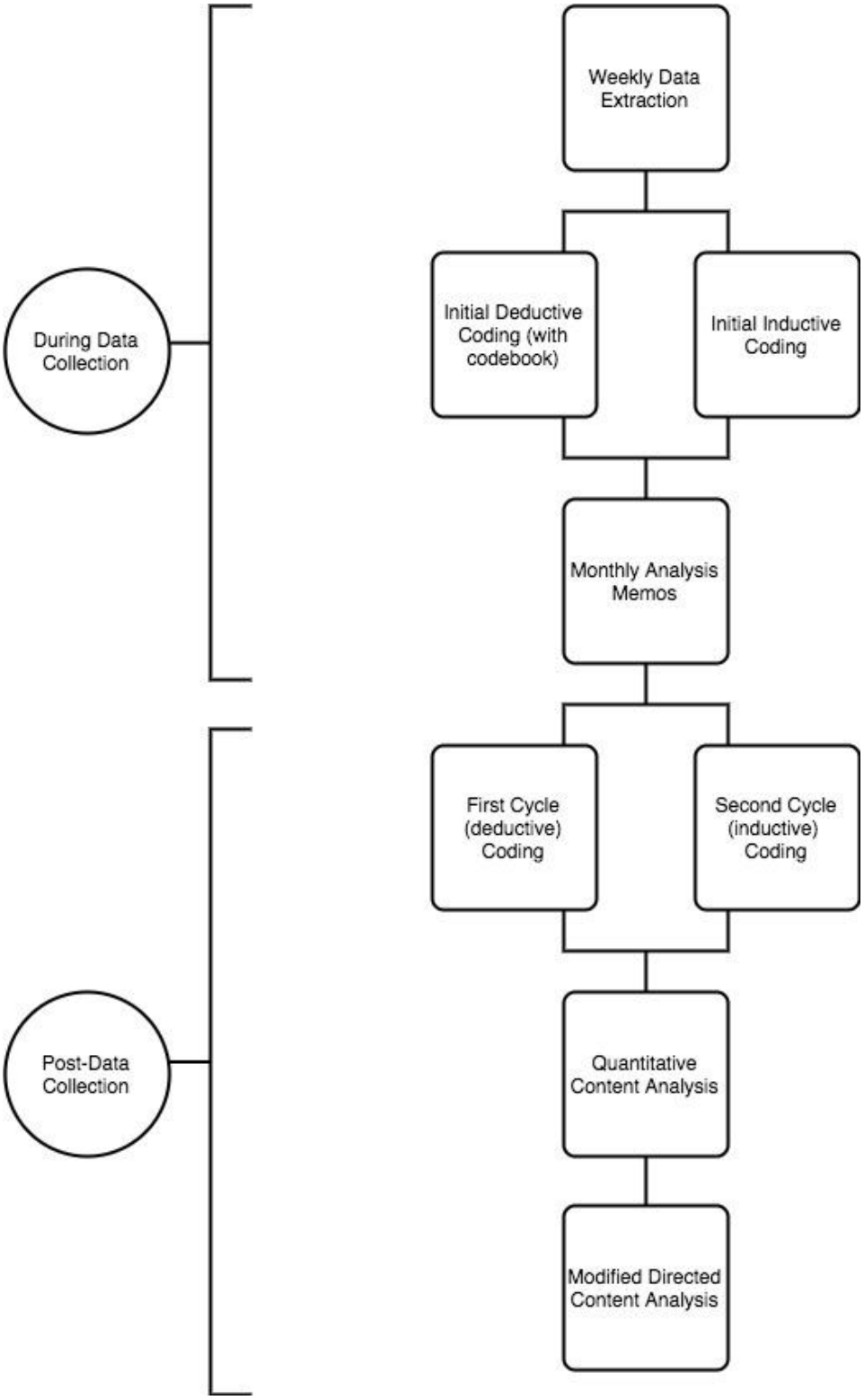

Figure 6. Phase 2 analysis process

Findings

Of the 24 students who participated in this phase, 15 provided Facebook information, five provided Twitter handles, and nineteen provided Instagram handles. Facebook received the largest proportion of posts related to learning in nursing by students while Twitter and Instagram received fewer. The number of posts per platform varied by month. Table 14 provides an overview of the number of posts that nursing students made related to learning in nursing by platform by month during the Phase 2 data collection period.

Table 14

Social Media Posts Related to Learning by Platform by Month (n=24)

Social Media Posts by Platform by Month				
	Facebook	Instagram	Twitter	Total
March	19	5	2	26
April	55	10	3	68
May	48	5	6	59
June	51	5	6	62
July	42	4	4	50
August	31	4	8	43
Total	246	33	29	**308**

The participants posted content related to learning in nursing to social media at differing frequencies. Table 15 depicts the frequencies with which participants posted content related to learning in nursing education online. Note that seven participants consented to participate in the Phase 2 digital artifact collection but did not post any content related to learning in nursing to their personal social media pages during the five-month Phase 2 data collection period.

Table 15

Frequency of Posts Related to Learning in Nursing Education by Participant (n=24)

Number of Posts	Frequency
178	1
43	1
26	1
14	1
9	1
8	1
7	1
5	1
4	1
3	3
1	5
0	7

As indicated by Table 15, one participant was an outlier in the number of posts related to learning in nursing education posted to their social media accounts. This participant posted over four times more frequently than the second most frequent poster to social media. Removing the one outlier, the remainder of participants averaged 5.65 ($\sigma^2 = 10.12$) posts pertaining to teaching and learning in nursing to social media during the Phase 2 data collection period. Since all participants consented to participate in Phase 2 and I followed their social media accounts for the duration of the five-month data collection period, I did not exclude any participants from Phase 2 despite the fact seven of them did not share content related to learning in nursing. That participants chose not to share content related to learning in nursing on their personal social media accounts is a finding in itself.

Q3: What content do students in a school of nursing post to social media related to learning? The nursing students who participated in this second phase of the present study posted diverse content to their Facebook, Twitter, and Instagram accounts. During the data collection

period, participants shared 78 articles, 54 memes, 56 original posts, and 120 posts from peers or organizations that related to formal or informal learning in nursing. This content related to four overarching categories, which included the following: advocacy; nursing identity, socialization, and culture; formal and informal learning in nursing; and sharing educational tools, jobs and resources. Table 16 depicts the subcategories that relate to each of these four categories.

Table 16

Overview of Phase 2 Categories and Subcategories

Category	Subcategory
Advocacy	Vaccinations Nursing culture and working conditions Access to appropriate care Mental health and addictions Aging, elder care, advance care planning, and end of life issues
Nursing identity, socialization, and culture	Celebrating the nursing profession Perceptions of nurses on social media Nurse as compassionate caregiver Nursing life Professionalism
Formal and informal learning in nursing	Nursing courses or semesters Clinical placements Nursing school exams or studying Graduation, NCLEX experience, and transition to practice Extracurricular and informal learning Hidden curriculum
Sharing educational tools, jobs, and resources	Sharing health information Nursing tools, job opportunities, and other resources

Advocacy. The largest category of social media postings that students made to their accounts related to advocacy. Several nursing students posted contemporary political and public health related advocacy content with their friends and followers. The advocacy topics varied by month and often aligned with major topics and issues that were occurring in the news at the time. As such, many of the posts contained links to news articles as stand-alone posts but often also included the students' commentary on the issues.

Vaccinations. A major subcategory that spanned the entire five-month data collection period pertained to advocacy surrounding vaccinations. Students shared news articles about measles outbreaks and bans on unvaccinated people entering districts like New York County or countries like Iceland. Other students shared posts that illustrated the historical development of vaccines as stemming from Edward Jenner's experiment in studying the behaviour of cowpox and using that knowledge to develop a smallpox vaccine. A similar post included a picture of patients in a polio ward in iron lungs. The image is captioned with the phrase "society has a short memory". Finally, several vaccination-related posts encourage readers to visit their doctors to check their immunization records to see if they need Measles-Mumps-Rubella boosters.

Nursing culture and working conditions. Another major source of advocacy content that the nursing students shared to their social media accounts related to nursing culture and working conditions. Many of these posts occurred in April and May, when Republican Senator Maureen Walsh from Walla Walla made the statement that nurses should not be allowed to work 12-hour shifts – instead of the 8 hour shifts they were currently working – because then they would "just spend more time complaining of being tired and playing cards". Several students posted original posts or shared memes related to this topic and reiterating the fact that nurses do not play cards. Two students shared a video from an account called "Nurse Blake" that provided a compilation of clips of senate sessions alongside a male nurse's (presumably Nurse Blake's) commentary regarding the reality of nursing working conditions on shift. Other students shared news articles related to the potential brain drain of nurses who train in Canada and then find work in the United States. Other articles that students shared related to nurses who face violence in the workplace, rallies in Quebec to end forced overtime, and not having enough time or staff to properly care for patients, especially in long-term care settings.

Access to appropriate care, including abortion. A third major advocacy-related subcategory pertained to access to appropriate care, including abortion**.** In May of 2019, several US states passed abortion bans and many students posted content opposing these bans. For example, one student shared a post that was originally posted by an OB/GYN who provided an overview of the cases that she often saw in her operating room (OR); she opposed the Missouri and Alabama abortion bans and told the government to stay out of her OR because everyone should have the ability to choose and access the appropriate care for them. Another student shared a post that outlined instances where women were forced to give birth in ways against their wishes or prosecuted for miscarrying. The post discussed both the Missouri and Alabama abortion bans and the consequences for punishing women for giving birth and punishing women for not giving birth, due to miscarriages or abortion. Several students shared content a bit closer to home as well. For instance, one student shared a Facebook post outlining how changes to Ontario's OHIP plan meant that families could no longer afford Dexcom alarms for their children's diabetes, which could mean that dangerous blood sugar drops could go undetected when the children were asleep. Another student shared a CBC news article about insulin access and how Americans were coming to Canada to access insulin and this was posing problems for the Canadian market supply as well. Finally, a couple of students shared posts and news articles related to the health workforce, indicating shortages of doctors per capita, especially in rural areas.

Mental health and addictions. A fourth advocacy-related subcategory evident in the nursing students' social media posts is mental health and addictions. Several students shared Facebook posts that indicated the signs and symptoms of a drug overdose and encouraged their

friends/followers to carry Narcan kits. Other students shared news articles from local newspapers of youth who had died by overdose. One participant added:

> I cannot stress this enough. If your kids even smoke pot, be sure they have Narcan kits nearby. Fentanyl is being found in marijuana, molly, fake oxy, knock off percs, cocaine, and pot edibles. While it may be safe as prescribed by doctors, concentrations cannot be controlled outside legit manufacturers and it kills people by interrupting the body's natural signals to keep breathing. People do not go into distress, they appear calm, mellow, and high. Would you know the difference between a high and imminent death? Please talk to your kids. Again. And again. Nagging doesn't kill people. (Participant 08, Facebook)

A number of posts relate to the opioid crisis, including several news articles that describe the impacts of the opioid crisis on both health policy and health delivery. One nursing student shared an image of three vials of three different drugs, each containing a lethal dose. Each vial contained a small amount of each drug, which illustrated how little it can take to be lethal.

In addition to the opioid crisis, several students posted about the changes to Ontario's alcohol regulations and the impacts that these regulatory changes have had on emergency department (ED) visits. One student shared an article from the Globe and Mail that provided an overview of a Canadian Medical Association Journal (CMAJ) article relaying how Ontarians are visiting EDs for alcohol-related emergencies at a growing rate. Another student shared a link to a Canadian Association for Mental Health (CAMH) article about how understanding alcohol dependence can lead to better treatment. Finally, a topic area that emerged towards the end of the five-month data collection period related to potential respiratory illnesses as a result of vaping and the participants using social media to encourage their peers to stop vaping.

Several students also shared content related to anxiety, depression, and mental health more broadly. One post outlined the mechanical behaviours associated with an anxiety disorder and explained how best to react if their friend discloses anxious thinking. Another post, originally developed by Bruce Power Ltd., featured many people wearing construction clothing holding signs with sad faces, which they flip over to happy faces. The video is interspersed with mental health facts and ends with the hashtag "break the stigma". It shares information about crisis lines and encourages people to speak to their family doctors if they have concerns about their mental health and wellbeing.

Aging, elder care, advance care planning, and end of life issues. The final major advocacy-related subcategory that was evident in nursing students' social media posts related to aging, elder care, advance care planning (ACP), and end of life (EoL) issues. One student shared a Globe and Mail article that focused on the looming aging crisis and caregiver burnout. It focused on the idea that elder care leaves families exhausted, stressed, and looking for help. Several other students shared posts about increasing education about EoL decision-making. One student shared a CBC article that described how death education could be as important as sex-education in high school. Several other articles focused on the idea of a good death and what that might look like as well as how to have a conversation about EoL wishes with loved ones. One student shared a tweet thread from David Juurlink, a Canadian clinical pharmacologist and internal medicine physician, about his positive experience with hastened death according to the patient's wishes.

During the five-month data collection period, the nursing students who participated in this phase of data collection shared a wealth of content related to advocacy to their social media accounts. Under the banner of advocacy, students posted content pertaining to vaccinations,

nursing culture and working conditions, access to appropriate care, including abortion, mental health and addictions, and aging, elder care, ACP, and EoL issues. In the next section, I will explore the content that the nursing students in this study shared related to their nursing identity, socialization, and culture.

Nursing identity, socialization, and culture. The second category of postings related to the topic of nursing identity, socialization, and culture. As with the category of advocacy, the nursing identity posts varied by month, depending on what events appeared in the news media during that time period. Interestingly, a number of students identified themselves as nurses or nursing students in their social media biographies. Eleven students shared their nursing student/nurse status in their Instagram bios, five students included this information in their Facebook profiles, and two students shared their nursing student/nurse status in their Twitter bios.

Celebrating the nursing profession. The month of May highlighted Nurses Week in Canada and thus the majority of content that the nursing students shared to social media during that time focused on celebrating the nursing profession and those who work in it. Ten participants shared content that highlighted Nurses Week. Several of the posts related to the role of nurses both in the hospital but also in their friends' lives (e.g., answering health questions, giving advice). A couple posts also shared companies that were having nurses week events that others might be interested participating in. Some of the posts related to nurses week focused on the comedic elements of the nursing profession. One meme featured two minions from the movie "Despicable Me". One is depicted with its arms up in a cheering motion while the other is wrapped in toilet paper and has fallen over onto a wooden floor. The meme reads "Happy Nurses Week to the only ones who cheer you on as you poop!". Other nursing week posts highlighting

nursing as a heroic profession. One student shared a post from a page called “Nursing Zone”, which featured two nurses wearing teal scrubs and scrub caps. The taller nurse has her elbow on the shoulder of the shorter nurse and they are looking at each other. The text overlaid on the image reads “Not all heroes wear capes. Happy Nurses Week!”. Another student shared a picture of themselves wearing a red shirt with a white maple leaf in the middle. The shirt reads “Canadian nurses rock” and has the Superman ‘S’ symbol in the top point of the maple leaf. The student is also wearing a stethoscope in the picture and their hospital ID cards are visible in the corner of the frame.

Perceptions of nurses on social media. Another prominent subcategory that fell under the larger category of nursing identity, socialization, and culture related to how nurses were perceived on social media. Some students posted memes and videos that highlighted common perceptions or stereotypes of nursing personalities. A couple of students circulated the same video from a page called “Nurse Blake” that highlights different types of clinical instructors, including the strict one, the supporter, the micro-manager, the excited one, and the care planner. In the video, a male nurse who is presumably Nurse Blake acts out the different roles against a white background. He is dressed in scrubs and has a stethoscope around his neck. In a similar video, Nurse Blake role plays the different types of nurses, including the fun one, the policy enforcer, the committee member, the germaphobe, the cold one, and the hot mess. As with the first video, several nursing students who participated in this phase of the study shared this second video to their social media platforms.

A couple of students shared content that positioned nurses as being ‘other’ than the general population. For example, one student posted a meme that read “I’m a grumpy old nurse. My level of sarcasm depends on your level of stupidity” (Participant 18, Facebook). The meme

is a picture of a senior female holding a teacup in a kitchen. She appears to be looking out a window that is not visible in the image itself. Another student posted a picture that depicts a children's ballet class where all but two kids are lined up at the barre. One child is hanging upside down on the barre while the other is pulling up her tutu. The meme lists the children's future professions over top of them and the two nonconforming children are given the title of 'nurse'. The participant (Participant 08) added that "[N]urses are always the wild ones" with a fist bump emoji accompanying the post.

Nurses as compassionate caregivers. Another subcategory and nursing identity present in students' social media postings related to the idea of the nurse as a compassionate caregiver. Several participants shared posts from others that highlighted tender moments between nurses and their patients. One student retweeted a tweet that read:

> This is why we nurse. Did a one-way extubation on my pt with no family or friends. Took him outside to sit in the sunshine one last time. When he started to struggle he said 'I guess this is it'. I told him yes & held his hand. 'You've been great' were his final words. This role is an honour. (Participant 08, Twitter)

The same student demonstrated their own caring by posting a picture of an ORNGE helicopter landing at a hospital. There is a tree in the foreground of the picture and the audience can see a series of lights around the helicopter. The student posted "after a long, unreasonably exhausting day at work, we emerged to a sound none of us like to hear. Hope my family and friends are all safe today" (Participant 08, Facebook and Instagram). Another student shared a post from a page called 'I Love Nursing' that described how "nursing is the strange world where you check out entirely from your own life to dive head first, knee deep into the drama, struggles, challenges, achievements, successes, and deepest darkest truths of complete strangers 12 hours at a time.

Then back to your regular life" (Participant 19, Facebook). Similarly, a student shared a post from a page called 'A Nurse's Prayer' that outlined how:

> Being a nurse isn't about grades, it's about who we are. No book can teach you how to cry with a patient. No class can teach you how to tell their family that their parents have died or are dying. No professor can teach you how to find dignity in giving someone a bed bath. A nurse is not about the pills or the charting. It's about being able to love people at their weakest moments. (Participant 06, Facebook)

Several students shared content that focused on the nurse as a compassionate caregiver. One student shared a post that outlined how people who love a nurse could help support nurses in their non-work lives given what they see and do at work. The post comes from a page called 'The Barefoot Nurse' and shares how the partners of nurses are valued because they love nurses even when they can't talk about their days or just want to cry. The student added "To all my friends and family who continue to love me, thank you", along with a heart emoji (Participant 19, Facebook).

Nursing life. A fourth subcategory related to nursing identity, socialization, and culture related to nursing life. In this subcategory, students posted content that depicted what life was like for nurses both inside and outside of their professional responsibilities. One student shared a post that described the job description for a nurse in 1887. Tasks included sweeping and mopping the ward, scuttling coal, and filling lamps. The post explains how nurses would be given one night off for courting purposes. The post consisted of black text on a brown background that was made to look stained like parchment. There was no official source or citation for the post. Other students provided a more contemporary perspective on the life of a nurse. For instance, one student shared a post from a page called 'I Love Nursing' that read "You

know you are a nurse when you come home and eat a cinnamon roll on the toilet while taking your makeup off because you're so tired/hungry/haven't peed since god knows when" (Participant 06, Facebook). Another student shared a meme that highlighted how their interests in medical and nursing content diverge from those of their non-nursing friends. Friendship was a common topic in participants' social media posts with several students sharing memes about how challenging it is to make plans with nursing friends when both work opposite shifts. Two other students shared a post about how the best way to get your nurse friend to respond to you is to tell them that you plan to stop taking your antibiotics because you feel better because they cannot help but respond to such comments.

Finally, one student shared a post that had originally been posted to Facebook by someone else. The post describes aspects of nursing that are often unseen by patients and families, like how nurses often have to deal with trauma and resuscitation and then move along to the next patient without any down time. The post urges patients to be mindful of the things they do not see in their healthcare encounters. Similarly, a student retweeted a tweet that reads "One of the many take away points while furthering my education: Nursing is hard. It is, however, harder than it needs to be for reasons beyond a nurse's control… which sucks". The student added, "Just talked about this today at work. So much of what we encounter daily we have zero control over. Which equals burnout, higher sick calls & staff turnover, and poorer patient outcomes. Everyone needs to change this because everyone benefits" (Participant 08, Twitter).

Professionalism. A final subcategory that related to nursing identity, socialization, and culture is professionalism on social media. The artifacts shared could not easily be categorized as professional or unprofessional but instead could appear differently depending on the audience.

The majority of posts were shared on closed social media platforms, meaning they were only visible to their friends and followers and not the general public; they were also largely shared by the same participant. Much of the content related to nurses' need to filter themselves around patients. One student shared a post from a page called 'Mommy Needs Vodka' that read "[c]heck on your friends who work in professions which require them to refrain from saying 90% of what they think. We are not OK" (Participant 08, Facebook). The same participant similarly shared a post from the page 'Mommy Needs Vodka' that read "[m]y vocabulary at work: It's too early for this shit; I'm really tired; I just want to go to sleep; I'm so hungry; Shut the fuck up; why am I here; I should just leave; I need a drink; I hate everyone; this is some bullshit; Fuck this; Fuck that; Fire me IDGAF [I don't give a fuck]; I'm done" (Participant 08, Facebook). The student has added the hashtags 'every nurse I know' and 'even the sweet ones'. Lastly, one student shared a post celebrating the end of classes, which featured a dark club environment and the caption "school's out bitches" (Participant 13, Instagram).

Other posts related to challenging patient encounters or tension between nurses and patients. One student shared a meme that featured Leonardo DiCaprio holding up a martini glass at a party. The meme reads "I know you're lying, continue." The student added the hashtags 'my day' and 'nurse life' (Participant 08, Instagram). Another meme related to tension between patients and nurses read "the patient who googles all of their signs and symptoms before getting to the hospital". The meme features Homer Simpson lying on his back on a couch smoking a cigar. It reads "everyone is stupid except for me." The participant added, "and THEN we ask: why are you here?" (Participant 08, Facebook). Another similar meme features a man appearing to lecture a brick wall. The meme reads, "how educating a non-compliant patient looks like". Finally, a student shared a meme that reads, "when the patient that had money for meth and an

iPhone X says they need a cab voucher". The picture included in the meme is of a white woman with blonde hair with her face scrunched up. The meme asks in large white lettering "YOU DOOOO?!".

Finally, several posts highlighted nursing comedy or dark humour in nursing. One student shared a post that reads, "a nurse finds a rectal thermometer in her pocket and thinks… some asshole has my pen". The same student shared a similar meme that reads, "it's strange to work in a hospital. You know, in a room there's a father holding his son for the first time, in another room there's a son holding his father for the last time. And then in another room there's a guy with a remote stuck in the anus. It's the circle of life".

During Phase 2, students shared a wide variety of content related to nursing identity, socialization, and culture. This content included posts celebrating the nursing profession, posts identifying nurses as compassionate caregivers, and posts about life as a nurse and the perceptions of nurses on social media. Some of the content that some students shared contained dark humour or reflected some of the tensions that may exist between nurses and their patients. In the next section, I will explore the content that the nursing students who participated in this second phase of the present study shared related to their formal and informal learning in their nursing education.

Formal and informal learning in nursing. Several nursing students shared content to their social media accounts related to both formal and informal learning in nursing. The content that students shared related to this category depicted what they were learning in their nursing courses as well as the extracurricular nursing activities in which they were participating. Several participants also shared nursing education-related achievements like their graduations from the program, their successful NCLEX results, and their transition to nursing practice.

Nursing courses or semesters. Firstly, several students shared artifacts related to their specific nursing courses or their semesters more generally. The five-month Phase 2 data collection period covered the end of the Winter 2019 semester, the start and end of the Spring 2019 and Summer 2019 semesters (if applicable), and the start of the Fall 2019 semester. As a result, several students shared images of them celebrating the end of courses in the Spring. One participant shared a picture to Instagram of four women sitting in what appears to be a restaurant in a downtown setting. Each of them has a glass of what appears to be orange juice. Each glass has a strawberry on the rim. All four women are smiling at the camera. The student posted "[C]elebrating the end of second semester with some vitamin C", alongside a clinking champagne glass emoji and an orange emoji (Participant 23, Instagram and Facebook). Another student posted a picture of two novels. The student added "Semester is officially over! 24 days until the next one starts… one for pleasure and one for inspiration". The student added the hashtag 'I treated myself' to the post, followed by a book emoji (Participant 08, Instagram and Facebook). Another student added a headshot of themselves smiling, along with the caption "[B]ig smiles 'cause in less than 48 hours I'll be done 3rd year!!!" (Participant 20, Instagram).

Several students also circulated a petition to reinstate a professor they had enjoyed having for a pathophysiology course, who it appeared would no longer be teaching the course. Others shared memes related to the amount of work they had to do in a short space of time. One meme included a looped video of a cat trying to fit into a box that was evidently too small, accompanied by the text, "me trying to fit a whole semester's worth of work into 1 week". Another meme included a picture of a person evidently falling down a set of stairs. His tie is askew, and books and papers are flying everywhere. The meme reads, "when people ask me how nursing school is going".

Clinical placements. Students also shared posts relating to their clinical placements. One participant shared an Instagram story of them taking a mirror selfie. They are wearing black scrubs and smiling at the camera. The caption on the photo reads, “happy to be in scrubs for the day” (Participant 06, Instagram). It also includes a cartoon heart image with ECG [electrocardiogram] tracings over top. The same student posted an image of nine people standing in grey t-shirts and black pants in front of a large map displaying the coordinates of the location of their clinical placements. They are all wearing hospital ID cards. The student posted the caption, “[T]hanks for a great semester team” along with a celebration emoji (Participant 06, Instagram and Facebook). Another student similarly shared a picture of a group of seven people wearing black scrubs, white running shoes, stethoscopes, and ID badges. Three people are on their knees and four are standing behind them. They are standing in front of a white wall decorated with large green words that include ‘trust’, ‘respect’, ‘excellence’, ‘analyze’, and ‘celebrate’. The student added the caption, “[S]till laughing about all the times we cleaned BMs [Bowel Movements] off the floor”, followed by a smiling emoji (Participant 14, Instagram).

Nursing school exams or studying. Students shared artifacts that related to their exams or studying to their social media accounts. One student posted a selfie of the student smiling. They captioned the post, “so over finals” (Participant 05, Instagram). Another student posted a picture that contains a small purple flower placed on top of a textbook page. The page is about the pathology and physiology of diabetes. The student added, “little guy brought me a flower while I’m studying” and included a red heart emoji (Participant 24, Instagram). Another student shared a picture of their dining room table, covered in books and papers. The chairs are pulled back from the table. Nobody is sitting there. The caption reads, “[A]ftermath of [child’s name] and I abandoning our homework…” along with the hashtags ‘The Raptors Ate my Homework’ and

‘Raptors NBA champs 2019’ and ‘Worth It’ (Participant 08, Instagram and Facebook). Several other posts celebrated the number of exams that students had completed and the number of exams that students had remaining in the semester. Finally, several students posted memes that demonstrated how they perceive nursing exams. One meme read “[N]ursing school exams be like: The correct answer is POTASSIUM, not POTASSIUM. Some people put the second S before the first, which is not the most correct”. Another student shared a meme that read “How nursing exams be: The 75 yo male patient is suffering from COPD. His pulsox is 0%, his HR is 0, and his RR is 0. What would you, as the nurse, implement? A) The patient is dead B) The patient is not living C) The patient is not alive D) The patient is deceased”.

Graduation, NCLEX experiences, and transition to practice. Several nursing students shared content regarding their graduations, NCLEX experiences, and transition to practice in relation to their formal learning. Four participants shared pictures of themselves wearing graduation gowns and posing by prominent Nipissing scenery. They captioned their posts with the sentiments of how happy they were to be finished their nursing education. Several students also thanked their classmates for helping and supporting them throughout their programs. One student posted a picture of themselves in a graduation gown standing with two older women. The student posted, “[P]roud to announce I passed my NCLEX yesterday and will be joining these amazing women by becoming an RN” (Participant 04, Instagram). Another student tweeted about their success in obtaining their first nursing position in a celebratory tweet. The same student subsequently tweeted about some of their transition-related experiences and anxieties, saying “wow, being a new nurse is great! I love having anxiety after every shift cuz [sic] I’m afraid I did something wrong or forgot something [upside down smile emoji]. Time to hit up my counsellor yo [sic]” (Participant 03, Twitter).

Extracurricular or informal learning. Students also shared content related to their extracurricular and informal learning activities. Two students shared several posts related to the Nursing Games, which appears to be a simulation and skills competition for nursing students. One student shared several posts that were initially posted by the Nipissing University Nursing Society. The post included several images of students wearing green t-shirts that read 'NG'. The post reads, "[c]ongrats to the nursing games simulation and assessment team for placing first in the category!" (Participant 20, Facebook). The same student posted that "Nursing Games 2019 was a success! So proud of our team for placing 1st in simulation and assessments, finishing 2nd overall, and winning a compassionate care award!" (Participant 20, Instagram). Finally, a student shared a series of pictures from the Nursing Games of students dressed in formal attire, with the caption "I think we still agree scrubs are more comfortable" (Participant 05, Instagram). One student shared a summer learning opportunity that they were taking part in. The post was originally posted by the host healthcare organization. It read "Say hello to the future of nursing! These third year BScN students have been hired as [organization name] summer care providers and are celebrating (hashtag) nursing week with us today. Looking forward to seeing what this group gets up to over the next few months" (Participant 20, Facebook). Other students shared artifacts demonstrating how they practiced or performed their clinical skills. One student shared an Instagram story featuring an image of an orange with an open syringe. There is also a closed syringe in its packaging in the picture. The student captioned the picture "This orange will suffer so my patients don't" (Participant 13, Instagram). Another student posted about how they did CPR that day and another shared how they are proficient at starting IVs. Finally, one student shared an award that they won during Nurses Week. The student posted a picture of flowers and a certificate that read '2019 Nurse of the Year', recognizing the participant. The student

described how “[n]ursing is the hardest job I have ever done but I cannot imagine doing anything else. I am so grateful for this recognition and I wouldn’t be where I am today if it weren’t for my amazing mentors” (Participant 09, Instagram).

Hidden curriculum. Finally, numerous students shared content that related to the hidden curriculum of nursing education. One student shared a post originally posted to Facebook by a page called ‘I Love Nursing’. The post read, “I don’t know who needs to hear this but a higher degree does not automatically make you a better nurse”. The student added:

> I’m proud to be an RPN and my choice to obtain my degree is not to be a ‘better’ nurse. No book in the world can teach you how to be a compassionate, empathetic, caring person or how to devote your life to the care of others. Education does not equal quality. We’re all nurses and we all deserve respect and need to work together as a team. (Participant 19, Facebook)

Students also shared memes about nursing education in relation to the hidden curriculum. One shows a picture of a woman wearing a cap and gown. She is standing at a podium, presumably giving a Valedictory address. The meme reads, “My graduation speech: I would like to thank… The internet, google, Wikipedia, Microsoft word, and whoever invented copy and paste. Thank you”. The student added “aaaaaaannnnnnnddddddd….. QUIZLET” (Participant 08, Facebook). The same student shared a meme that featured a looped video of Mr. Bean wearing a surgical mask and gloves and giving a thumbs up sign to the camera. The meme reads “Problems in your personal life? Choose a medical career: No personal life, no problems!”. Lastly, the same participant shared a tweet to Facebook that had originally been shared by a page called ‘IV League Tutoring for Nursing Students’. It read “putting mental health before my education is a

good idea until it affects my education which affects my mental health which affects my education" (Participant 08, Facebook).

Students posted a variety of artifacts related to their formal and informal learning during the Phase 2 data collection period. The participants posted content related to their specific courses and exams as well as content that related to the nursing education process more broadly, like participating in clinical placements, preparing for and taking the NCLEX, and transitioning to practice post-graduation. The Phase 2 participants also posted content related to some informal learning activities in which they were engaged, including skills and simulation competitions, clinical skill practice on their own time, and content related to the hidden curriculum of nursing education. In the next section, I will explore the content that nursing students chose to post related to nursing tools, jobs, and resources.

Sharing educational tools, jobs, and resources. In this final category, participants posted content related to public health education topics as well as more specific nursing education tools and resources. A couple participants also posted job opportunities to their social media pages.

Sharing health information. The first subcategory under the banner of sharing educational tools, jobs, and resources relates to the artifacts that the Phase 2 participants shared relaying health information for their friends and followers on social media. Several students posted about changes in regulations for prescription medications in Ontario. One student shared an article related to changes in birth control availability and prescription processes and another student shared a Public Service Announcement (PSA) about testing for Sexually Transmitted Diseases (STDs). The STD PSA was written like an advertisement, trying to get the public to buy in to testing. Two participants posted health education posts about dementia and palliative care. The idea of both of these artifacts was to educate the public about how to handle family with

dementia and what exactly palliative care is (myths vs. reality). For instance, one post features what to do if living with someone with dementia. Strategies included not arguing with the person, diverting and distracting, reassuring the person, reminiscing with them, and encouraging them.

Five posts provided educational content on what behaviours to expect from friends or children with mental illnesses, including anxiety and depression. Four posts were shared by the same participant (Participant 06) and focused on strategies for helping to calm a friend experiencing anxiety and what to have in a mental health crisis kit. One of the posts was originally shared by a page called 'CPTSD and Me' and then shared by the participant to their Facebook page. It read:

> Reasons your mentally ill friend hasn't texted you back: low motivation, disassociation, they forgot (no seriously, they may have memory issues), anxiety, their meds make them loopy or sleepy, they've shut down emotionally, they're juggling multiple life stresses, they think you're mad at them. What you should do: double text, ask them how they're feeling, remind them to do basic self-care like eating and showering, don't be upset, reassure them you understand, hold space for lapses in communication, love them any fucking way. (Participant 06, Facebook)

Two participants shared the same post to Facebook about the value of seeking therapy. The post was originally shared by a page called 'Feminist Info' and then shared by both participants. It read, "[n]othing has to be 'wrong' with you to go see a therapist. Most people need to see this". It then proceeded to include a quote, stating:

> Hi, I'm a therapist. Some people come to me to break down severe childhood trauma. Some people come to me because their job is super stressful. Some people come to me

> because they're worried all the time about stuff that they know they shouldn't be worried about but they're worried anyway. Some people come to me because they're bad at focusing. Some people come to me because their mom said they should and they're enjoying the experience anyway. What I'm saying is there is no wrong time, reason, or explanation to come see a therapist. We're ready for you. (Participants 06 and 19, Facebook)

Participants also shared content that advised their friends and followers what emergencies were appropriate for ED visits as compared to urgent care visits. For instance, one post provided a picture of a billboard in South Texas that advertised circumstances like "stepped on a bee- urgent care" on one side of the billboard and "stepped on a beehive- emergency care" on the other side. Another example included "I need antibiotics- urgent care" as compared to "I need antivenom- emergency care" (Participant 08-Facebook). One participant (Participant 01) provided a PSA with an explanation of what to expect from a hospital visit following a sexual assault. It outlined the timelines a patient might need to know in terms of starting medications to prevent STDs and pregnancy as well as deciding whether or not to report to police. Lastly, two participants posted content relating to how to identify health-related pseudoscience.

Nursing tools, job opportunities, and other resources. Finally, the nursing student participants shared artifacts related to nursing tools, job opportunities, and other resources. One student (Participant 08) shared three different nursing brain sheet templates to their Facebook page. One post describes nursing brain sheets as "report sheets, security blankets, flow charts, to-do lists, and everything in between". The student encouraged their peers to post their brain sheet templates as well. One participant shared clinical pearls that they learned in the hospital, stating "nurse friends- learned something new today: called a Myxoma. Loose tumour within the heart

causes a ‘plop’ sound on auscultation. Here’s the deets [sic] with video and link for audio” (Participant 08, Facebook). Several participants shared details of continuing education opportunities like violence de-escalation workshops, disaster and emergency management, and wound management. Finally, participants shared job postings or career fair advertisements for nursing positions. Participant 19 shared an opportunity for a home care placement with a family that they had experience working with as an RPN. Participant 08 posted numerous career fair opportunities for nurses alongside job postings for nursing position in long term care and community health settings.

The category of sharing educational tools, jobs, and resources was the smallest category in the second phase of this study. The participants shared content related to public health education topics aimed at broader public audiences. They also shared content more specifically targeted to other nurses and/or nursing students by sharing nursing-related tools, professional development, and job opportunities.

Summary for Phase 2

Twenty-four nursing students from NU SoN participated in Phase 2 of this study. Nineteen students provided their Instagram information, 15 students provided Facebook information, and 5 students provided Twitter information for Phase 2. Participants posted a variety of content across their social media platforms over the five-month data collection period. Facebook received the largest proportion of teaching- and learning-related posts while students shared fewer posts to Instagram and Twitter. The nursing student participants posted the greatest number of teaching- and learning-related social media posts during the months of April and June. This timing is interesting because April signified the end of the semester and academic year for most students while June included graduation ceremonies for several students who had

completed their programs. One student out-posted the other participants on social media, sharing a total of 178 posts across the three platforms during the study period. In contrast, seven participants shared no public-facing posts related to teaching and learning in nursing education to their social media accounts during the five-month data collection period.

The nursing student participants posted a variety of articles, memes, original posts, and shared posts from peers or organizations that related to both formal and informal teaching and learning in nursing over the five months. This content related to four categories, which encompassed a number of subcategories. The four categories included advocacy; nursing identity, socialization, and culture; formal and informal learning; and nursing tools, jobs and resources. Much of the content consisted of students sharing posts from peers or organizations, with a few students including their own opinions and interpretations based on their experiences as nursing students and/or RPNs. Phase 2 of this study was exploratory. It focused on exploring and understanding what content nursing students at NU SoN were posting to their social media accounts, if anything at all. Phase 2 established that the nursing student participants post a variety of content to their personal Facebook, Twitter, and Instagram accounts for both formal and informal teaching and learning purposes related to nursing. The next chapter describes Phase 3 of this study, where I consolidated the findings of Phases 1 and 2 using one-on-one semi-structured interviews with nursing students from NU SoN.

Chapter Seven: Phase Three

This chapter provides an overview of the findings of Phase 3 of the present study. In Phase 3, I conducted individual semi-structured interviews with the nursing students who participated in Phase 2 of this case study. The follow up interviews aimed to consolidate the findings of the nursing students' surveys and digital artifact collection. Phase 3 explored the following research questions:

- How do the students in a school of nursing use social media for learning purposes?
- What motivates students' decisions to use or not to use social media in a school of nursing for learning purposes?
- What content do students in a school of nursing post to social media related to learning?

Phase 3 was explanatory; it consolidated the ways in which nursing students at NU SoN use social media for teaching and learning and what motivated their decisions related to social media use in their nursing education. An additional aim of Phase 3 was to describe students' social media uses and habits that may not have been publicly reflected in the Phase 2 digital artifact collection due to the use of closed social media groups and direct messaging.

Sample

Phase 3 included nine nursing students who participated in the Phase 2 digital artifact collection.

Instrument Development

I conducted individual interviews with nursing students in NU SoN using a semi-structured interview guide (refer to Appendix I), which I developed after a preliminary analysis of the above-mentioned survey and digital artifact data. The interviews allowed participants to

expand upon how they use (or do not use) social media in their learning and their motivations for doing so. It also described what content they share related to learning. Table 17 depicts my interview guide blueprint, which demonstrates the alignment between my conceptual framework and my interview questions.

Table 17

Interview Guide Blueprint

Research Question	**Dimension**	**Interview Guide Item Number**
1. How do students in a school of nursing use social media for learning?	-User -Type -Intended Audience -Purposes (teaching, learning, research, professional development)	1, 2, 3, 7
2. What motivates students' decisions to use or not to use social media for learning?	-Program delivery method -University technological climate -Students' beliefs about social media -Students' technological experiences -Structural factors (i.e., Accessibility, Engagement, Buy-in, Time) -Perceptions	3, 4, 5, 6, 8
3. What content do students in a school of nursing post to social media related to learning purposes?		2,7,8

I piloted the student interview guide with two registered nurses. This pilot involved conducting two mock interviews and debriefing the interview guide with the participants to discuss the feasibility and appropriateness of the interview questions. Additionally, my thesis advisor reviewed the interview guide.

The interview guide included questions about the nursing student participants' experiences using social media for both formal and informal teaching and learning purposes. It allowed me to inquire about any closed social media groups to which participants belonged related to their nursing education. The interview guide also explored whether and how participants used social media for advocacy and sharing health-related information with their friends and followers, since this was a key finding of the Phase 2 digital artifact collection. The interview guide consisted of nine questions. Each question included approximately two prompts that were used as needed to help stimulate the conversation and achieve richer responses.

Data Collection Procedures

On September 25, 2019, I sent all of the participants who participated in Phase 2 an email inviting them to participate in Phase 3 interviews. I contacted each Phase 2 participant by Direct Message (DM) on their social media platforms to advise them to check their emails for information related to Phase 3 of the study. I emailed each participant a participant information letter and obtained informed consent from each participating nursing student prior to the interview (refer to Appendices J & K). I sent a follow up recruitment email on November 6, 2019 in the attempt to recruit additional participants for Phase 3. I incentivized Phase 3 participation by offering Tim Hortons Cards, valued at $20, to everyone who participated in a follow up interview. The purpose of incentivizing Phase 3 participation was to minimize any potential participant attrition at this point in the study.

I conducted all interviews virtually, using Zoom videoconference technology, at a time that was convenient for the participant. I conducted all interviews over a two-month period, in October and November 2019. The average length of each interview was 32 minutes, with the shortest being 21 minutes and the longest being 44 minutes long. I audio-recorded and

transcribed each interview verbatim. I sent each participant one email containing a password-protected copy of their interview transcript and a second email containing the password to their transcript. Each participant had a week to review their transcripts for accuracy. No participants recommended any changes to their interview transcripts.

Data Analysis

My literature review, conceptual framework, and research questions guided my Phase 3 data analysis. I transcribed each interview and read each transcript carefully to consider any patterns, insights, or concepts present in the text (Yin, 2014). I used MAXQDA (v.18.2) to manage my interview data and its analysis. Then, I took a combined deductive and inductive approach to coding and analyzing the qualitative interview transcripts thematically following Miles et al. (2014) approach. I developed an initial codebook based on my conceptual framework and research questions. I conducted three cycles of coding. In my first cycle, I used my codebook to summarize sections of data using descriptive and process coding (Miles et al., 2014). I wrote memos of my initial codes, impressions, and interpretations (Creswell, 2013; Yin, 2014). In my second cycle of coding, I inductively coded the data using both process coding and in vivo coding (i.e., using the participants' own words). In my third cycle of coding, I focused on grouping these summaries into categories, themes, or constructs (Miles et al., 2014). I used a process of pattern coding to look for categories or themes, causes and explanations, relationships, and theoretical constructs (Miles et al., 2014). I used a combination of matrices and networks to visually display my data, facilitate category identification, and identify any relationships between categories (Creswell, 2013; Miles et al., 2014).

Trustworthiness. I ensured that my Phase 3 analyses were credible, dependable, confirmable, and transferable (Guba, 1981; Lincoln & Guba, 1985). I engaged in member-

checking, wherein I fed my participants back a copy of their interview transcripts so that they could ensure that I accurately represented their statements during transcription (Creswell & Plano Clark, 2011; Guba, 1981). I also engaged in peer debriefing with my thesis advisor throughout Phase 3.

Findings

Nine nursing students participated in Phase 3 of the present study. Five participants attended classes online and four participants attended classes face-to-face. Four of the nine Phase 3 participants had not posted to their public-facing personal social media accounts during the five-month Phase 2 data collection period. The remaining five Phase 3 participants did share social media content related to teaching and learning in nursing to their personal social media accounts during the five-month Phase 2 data collection period. I generated a list of 25 codes through my three cycles of deductive and inductive coding. Figure 7 depicts the final codes in a code cloud. Note that the word size indicates the comparative frequency of each code.

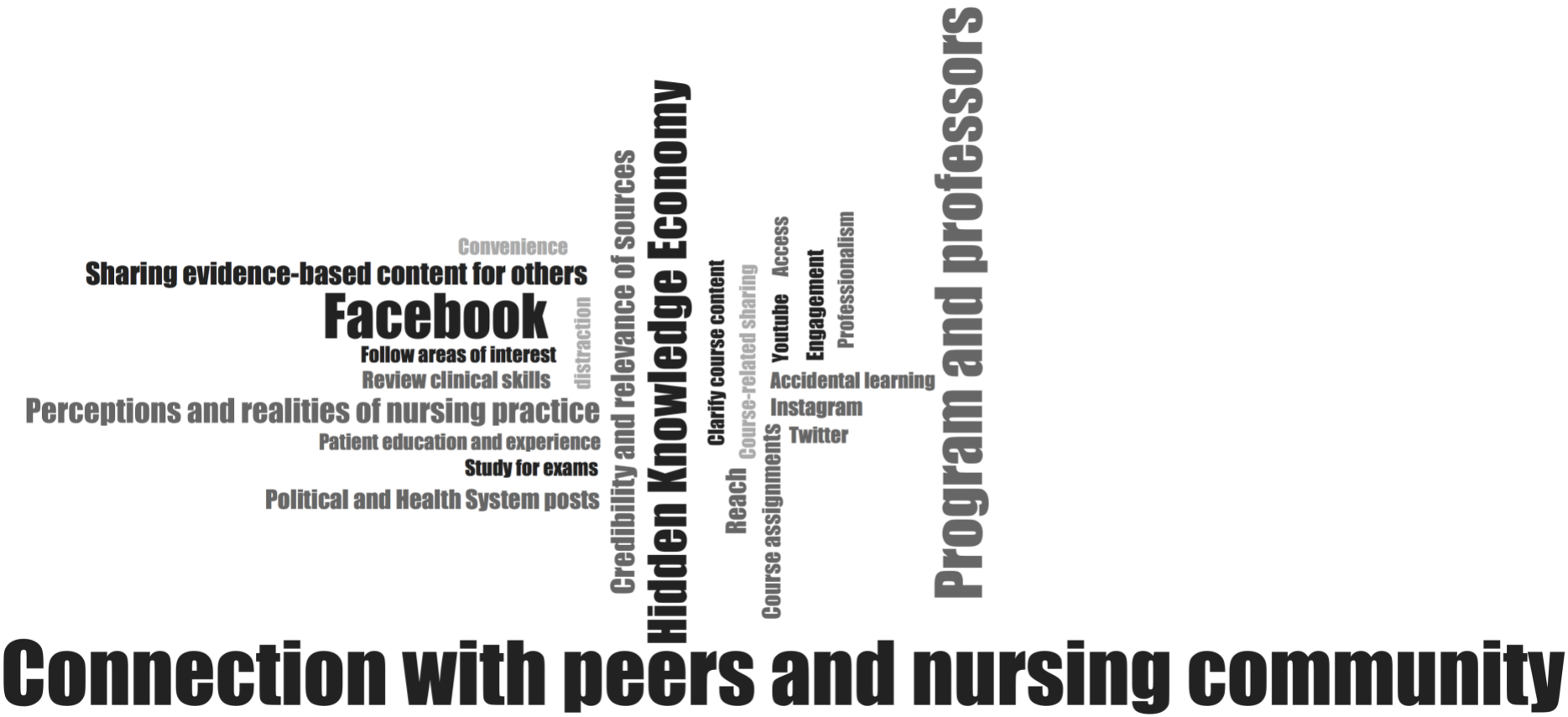

Figure 7. Phase 3 Code Cloud

After coding in MAXQDA, I combined my codes into categories. Table 18 provides an overview of the categories and codes.

Table 18

Overview of Phase 3 Categories and Codes

Category	Codes
Methods and Preferences	Facebook
	YouTube
	Instagram
	Twitter
Social Media Use for Formal Teaching and Learning	Course-related sharing
	Clarify course content
	Study for exams
	Course assignments
	Patient education and experience
Social Media Use for Informal Teaching and Learning	Hidden Knowledge
	Connection with peers and nursing community
	Review clinical skills
	Follow areas of interest
	Accidental Learning
Motivators for Sharing Content to Social Media	Credibility and relevance of sources
	Professionalism
	Access
	Convenience
	Engagement
	Distraction
	Program and Professors
Content Shared to Social Media	Perceptions and realities of nursing practice
	Political and health-system posts
	Evidence-based content for others
	Reach

Table 19 provides a summary of Phase 3 data.

Table 19

Summary of Phase 3 Data (n=9)

			How Social Media is Used		Motivations for Using Social Media		Content Shared to Social Media	
Learner Type	Participant Code	Preferred Platforms	Formal Uses	Informal Uses	Motivators to Use	Motivators not to Use	Content	Target Audience
Distance	Participant 08	Facebook WhatsApp YouTube Figure 1 Twitter	Course-related sharing Study for exams Course assignments Patient education	Follow areas of interest Accidental learning 'Behind the scenes' teaching and learning Connect with peers and nursing community	Convenience Program and professors	Credibility and relevance of sources Distraction	Perceptions and realities of nursing practice Political and health system posts	Friends Family General public
Distance	Participant 10	Facebook YouTube	Course-related sharing Study for exams Course assignments	Review clinical skills 'Behind the scenes' teaching and learning Connect with peers and nursing community	Convenience Program and professors	Professionalism Access	Perceptions and realities of nursing practice Political and health system posts Sharing evidence-based content for others	Friends

			How Social Media is Used		Motivations for Using Social Media		Content Shared to Social Media	
Learner Type	Participant Code	Preferred Platforms	Formal Uses	Informal Uses	Motivators to Use	Motivators not to Use	Content	Target Audience
Distance	Participant 19	Facebook YouTube Instagram	Course assignments Clarify course content	Behind the scenes' teaching and learning Connect with peers and nursing community	Convenience Program and professors	Credibility and relevance of sources Access	Perceptions and realities of nursing practice Political and health system posts Sharing evidence-based content for others	Friends Family General public
Distance	Participant 21	Facebook Instagram YouTube	Course-related sharing Course assignments	Follow areas of interest Review clinical skills 'Behind the scenes' teaching and learning Connect with peers and nursing community	Convenience Program and professors	Credibility and relevance of sources	Sharing evidence-based content for others	Friends

			How Social Media is Used		Motivations for Using Social Media		Content Shared to Social Media	
Learner Type	Participant Code	Preferred Platforms	Formal Uses	Informal Uses	Motivators to Use	Motivators not to Use	Content	Target Audience
Distance	Participant 22	Instagram YouTube	Course-related sharing Clarify course content Course assignments	Follow areas of interest Review clinical skills 'Behind the scenes' teaching and learning Connect with peers and nursing community	Program and professors	Credibility and relevance of sources Professionalism	Perceptions and realities of nursing practice	Not stated
Face-to-Face	Participant 06	Facebook YouTube Pinterest	Clarify course content Course assignments Patient education	Accidental learning Review clinical skills 'Behind the scenes' teaching and learning Connect with peers and nursing community	Engagement Program and professors	Distraction	Perceptions and realities of nursing practice Political and health system posts	Friends
Face-to-Face	Participant 14	Facebook Instagram YouTube	Clarify course content Course assignments Patient education	Follow areas of interest Review clinical skills Connect with peers and nursing community	Engagement Program and professors	Credibility and relevance of sources Professionalism Distraction	Sharing evidence-based content for others	Friends Family

			How Social Media is Used		Motivations for Using Social Media		Content Shared to Social Media	
Learner Type	Participant Code	Preferred Platforms	Formal Uses	Informal Uses	Motivators to Use	Motivators not to Use	Content	Target Audience
Face-to-Face	Participant 20	Facebook YouTube	Course-related sharing Clarify course content	Accidental learning 'Behind the scenes' teaching and learning Connect with peers and nursing community	Engagement	Credibility and relevance of sources Distraction Program and professors	Political and health system posts Sharing evidence-based content for others	Friends
Face-to-Face	Participant 23	Instagram Facebook YouTube	Study for exams Course assignments	Follow areas of interest Accidental learning Review clinical skills 'Behind the scenes' teaching and learning Connect with peers and nursing community	Convenience Engagement Program and professors	Credibility and relevance of sources Professionalism	Perceptions and realities of nursing practice Political and health system posts Sharing evidence-based content for others	General public

In Phase 3, I interviewed nine nursing students from the NU SoN. In the next section, I will explore qualitatively how students use social media for the purposes of teaching and learning in their nursing education.

RQ1: How do the students in a school of nursing use social media for learning purposes? The findings demonstrate that participants use social media in a number of ways for both formal and informal teaching and learning purposes. The categories that address my first research question are methods and preferences, social media use for formal teaching and learning, and social media use for informal teaching and learning.

Methods and preferences. In Phase 3, participants noted their methods and preferences for using social media for teaching and learning purposes in their nursing education. Codes relating to this category include Facebook, YouTube, Instagram, and Twitter.

Facebook. Overall, the nursing student participants indicated that Facebook was a well-organized platform to support their learning. Two students expressed their preference for Facebook as the easiest social media platform to use because it was very well condensed and laid out. Participant 14 explained the preference for Facebook by stating:

> I feel like a lot more people, especially in nursing, like if anybody were to have a social media platform, I think it's more predominantly Facebook. I feel like that's more, like, well known one and also like for our Profs, like, not saying that our Profs don't have Instagram and stuff but I think it's almost seen as a more professional platform to use Facebook and I also feel like it's just, yeah, it's just easier that way so I feel like we definitely use Facebook more than anything.

Eight participants also indicated that Facebook was a good sharing platform. Participant 21 explained how "when it comes to having, like, a large quantity of information, I think

Facebook's a better platform for that. Um, you're able to share different links, you're able to share pictures, videos, news articles, almost anything, it seems now". Participant 19 explained how, as a distance student, they used Facebook to learn about the services available to students, like Nipissing University's tutoring service, which Participant 19 found helpful for statistics. Participant 20 provided an example of how they used Facebook specifically for sharing course resources. They described how:

> [S]ometimes we use a classroom platform and the profs will post their PowerPoints on there and sometimes you get to class in the morning and the platform's crashed for whatever reason. So, people will just, like, upload the file to Facebook and that way we can grab it off of there.

Related to how Facebook serves as a good sharing platform, all nine participants spoke about different Facebook groups they belonged to or were aware of that helped connect them with their classmates.

Four out of the five students who identified as an online student cited Facebook groups as being an important mechanism for connecting with their classmates who were spread throughout the province. One participant explained how "there is a group online, uh, Nipissing distance ed students so I use that quite a bit, um, just to get information on classes, um, what to expect from different professors, etc." Eight students described the Facebook groups as essential for sharing specific tools and resources amongst their classmates. Participant 19 explained how "there's a lot of Facebook groups, especially that, uh, people share resources and tips and like there's a lot of placement information that I probably wouldn't have found out nearly as soon, without, uh, without a lot of those Facebook groups". Participant 06 described how participating in Facebook

groups helped enhance both the academic and social aspects of their face-to-face learning experience. They explained:

> I, we do have, um, more social [groups] for, um, like our year so like Nursing 2020 'cause I'll be graduating this year. We have a Facebook platform where we're able to, um, just talk about like questions in class or if we're like, say we're doing presentations we can post our notes for our presentation, um, so it's like external resources that we're going to use or if, even social things like buy your formal ticket or like, buy, we have nursing clothing orders. Or, hey, we're doing this mixer, come and, like, join us for it. Things like that too so it's kind of both, kind of both, actually. Both like an academic purpose and also, like, social, get involved in the Nipissing nursing community.

In fact, every participant who identified as a face-to-face student (n=4) spoke about the importance of Facebook groups to their learning experience since they contributed to building community and sharing resources. In many cases, both the participants who identified as online learners and face-to-face learners did not think the faculty members were aware of these groups and all of the participants indicated that no faculty members were present on the students' class/cohort Facebook groups. Only one student indicated that faculty members in their program encouraged students to seek out the Facebook groups to help them navigate the program.

In addition to sharing resources, three students indicated that the Facebook groups were essential for giving and receiving support throughout their nursing programs. Participant 14 explained how "we find it's been really useful, or even like finding little things, like finding rides to clinical and stuff like that. Like obviously not all of us can afford vehicles and stuff like that so just by helping each other out". Participant 06 shared how:

> Even having like, just platforms, like I said we have our Facebook group where we're able to post both social and academic things which I think is so good because so many times people will be like, shoot, like this question I have about this project we're doing, like does anyone else understand this? Or do we need to email the prof about it, kind of thing. Um, so I definitely think there are some huge benefits to it.

One participant described how they were able to use the Facebook groups to get insight from students in years ahead of them in school and also provide guidance to students in years behind them as well (Participant 10).

Overall, Facebook appeared to be the platform that the nursing students who participated in Phase 3 of this study preferred for collaboration, sharing, and support. Facebook also appeared to be a platform for program stream, class/cohort, and clinical groups run by nursing students for the purposes of teaching and learning. The next section will explore YouTube as a preferred method of teaching and learning among the nursing student participants.

YouTube. Four participants spoke about the use of YouTube for their own personal learning. All four participants described YouTube as an effective strategy for teaching themselves statistics. Participant 21 explained:

> YouTube's great, um, just listening to other people talk, um, and describe lectures, um, it was Dr. what's his name? Dr. Leonard…. He has a YouTube page and it's, he just records his, he's a mathematician at a university, records all of his lectures and that's how I passed stats, I just watched his section on statistics and the way he explained it was perfect, um. And then there's other videos you can watch and if you're learning anatomy it kind of goes within the body parts and you can actually kind of, you can see the real

> thing and then you can see the, um, the graphic design thing and it just kind of adds, um, a better, deeper understanding.

Other participants described how their professors created videos and posted them to YouTube for students to refer to. Participant 22 explained how, "right now I'm taking statistics, so in my statistics course the instructor… will post a lot of videos and I utilize all, every video that she posts, I watch everything." Participant 10 also described how their statistics professor used YouTube videos to teach statistics concepts. They explained how, "when I was in my statistics class, there were videos for statistics which made learning a lot easier because I couldn't go and sit in a classroom but this teacher had recorded videos which made it a lot easier to learn the content".

Overall, YouTube appeared to be a way for the nursing student participants to consume teaching and learning content without contributing content themselves. No students spoke about creating or posting their own YouTube videos for the purposes of teaching and learning. Participant 22 described their experience giving presentations online by saying, "I've had to do presentations through, like, the Nipissing Portal but I've never, I don't think I've ever [used YouTube]. To be honest, I don't even know how to post anything on YouTube."

As stated, YouTube appeared to be a mechanism for informal learning by students to review concepts they found challenging. YouTube also appeared to be an instructional resource for professors. In the next section, I will explore the nursing student participants' perceptions of Twitter and Instagram for teaching and learning purposes.

Twitter and Instagram. While Facebook and YouTube were popular social media platforms for nursing students' formal and informal teaching and learning, Twitter and Instagram received mixed reviews. Three participants explained how they do not use Twitter because they

either find it confusing or irrelevant. Only one participant spoke about using Twitter for teaching or learning purposes. Three participants also found Instagram to be irrelevant for their teaching and learning purposes. Participant 14 explained how they "don't feel like it's really, not much a teaching platform, like you only can, other than like DMing somebody, like you can't really have a conversation."

> Two participants described Instagram as being very basic. Participant 21 described how: Instagram, it's very basic, it's, you know, just a picture and a link, so I find it hard. I do follow some, um, nursing tips on Instagram, I suppose, and when they have too much information, like they write a paragraph that big, for some reason, it just seems harder to read on Instagram, where if it's on Facebook I can either save the link and go back and kind of view it later.

Participant 19 also described how:

> Instagram just doesn't have the options to have, like, groups that you can go to. Like, it's mostly just pictures and whatnot. Like, there's not a lot of actual posts there that don't have a photo attached to them and if I don't need the picture, I just need the information.

One participant expressed how Instagram has been very useful for reviewing course information and studying for the NCLEX, especially because of its visual nature. Participant 23 explains how:

> I think I prefer Instagram. I think, well I've learned through this program that I'm also a very visual learner and I find that their platform is very based on a visual, either photo or representation of something, um, so I do find that, I guess, the way that the information would be portrayed, um, on Instagram or how it is presented is something that I think just clicks with me a little bit better as opposed to reading and reading and reading, if it was a

> long post or something like that. Um, so to have that visual component, which I know is a very strong basis for how Instagram operates, I find that I do direct myself there a lot more than to other avenues.

The Phase 3 participants provided mixed reviews about Instagram and did not favour Twitter for teaching and learning purposes related to their nursing education. The participants reported consuming YouTube videos to help them refresh their clinical skills before labs or clinical rotations but they did not add new content to YouTube. Overall, the Phase 3 participants found Facebook to be the optimal social media platform for teaching and learning purposes because of its functionality and ability to share diverse types of content. Participants also reported that Facebook was a useful platform for creating groups, sharing resources, and giving and receiving social support for both distance and face-to-face learners. In the next section, I will explore participants' social media use for formal teaching and learning purposes.

Social media use for formal teaching and learning purposes. Through their interviews, Phase 3 participants described using social media for a variety of formal teaching and learning purposes in their nursing education. The codes that relate to this category include course-related sharing, clarifying course content, studying for exams, course assignments, and patient education and experience.

Course-related sharing and clarifying course content. Participants reported using social media for a variety of purposes pertaining to course-related sharing and clarifying course content. Participant 20 described sharing study notes or other resources in the event they might be helpful to others. Participant 20 explained how:

> I know I post some of my own, like, kind of study notes or, like, little cheats and tricks and kind of things for certain difficult concepts and I, you know, share it with my

> classmates so whether or not they use it, I don't know but I definitely share my own knowledge just to try to help other people.

Participant 21 described sharing course-related content privately through Facebook for friends. They explained:

> I've shared a couple articles once or twice just with a couple of my nursing friends through social media, um, if I found them to be really interesting on a certain topic. I'll just either take a screenshot of the part that I really wanted to focus on or if they really wanted to read the rest of the article, I'll send it to them or print off the PDFs.

Two participants shared contrasting experiences with social media used in their distance classes. In one instance, a professor had shared YouTube videos. Participant 21 explained how:

> Being distance ed, watching YouTube videos kind of grounds the, um, experience, I suppose. It's adding that little extra. A lot of the stuff I do is reading and listening to teachers talk on like a video livestream, um, and it just feels like there's an extra dimension that's missing from online learning so watching YouTube videos kinda [sic] just fills in that extra little space you miss from one-on-one, like, sorry face-to-face teaching.

Participant 19 also shared the experience of having a professor use linked YouTube videos in their course. Unlike Participant 21, Participant 19 found this approach to be lazy, especially since the professor did not create the videos but rather included videos that, according to Participant 19, students would likely search for on their own to assist their learning. Both Participants 19 and 21 shared experiences with livestreams in their distance courses and again, their opinions differed. Participant 21 found the livestreamed content to be awkward because few students showed up to the livestream and the conversations would consist of the professor and those few

students. Participant 21 found watching the livestreams after the fact to be boring. In contrast, Participant 19 endorsed the livestreams as a way for professors to connect and engage with distance students while providing direct instruction.

The nursing students interviewed also spoke about how they use social media to clarify course content. Three participants shared how they use videos to review concepts that were unclear. Participant 20 explained how:

> YouTube is the saving grace. I find, like, when you have a concept that you learned in, like, a biology class that you don't understand, or even nursing assessments, um, in our group is kind of the best YouTube videos and the best resources to go to.

Participant 08 outlined how collaboration in social media groups is beneficial for clarifying course content. They explained:

> Yeah, because, like especially in our, in some of our hard classes if we don't understand something, um, we can just look it up really quick. Like, we have the accessibility to it and we often utilize it so like, or we'll have group chats and we'll message something in the group chat or just being able to write notes about something so we can look back on it afterwards, like we have that option, which I think a lot of us actually utilize.

Much like participants used social media for the purposes of course-related sharing and clarifying course concepts they found challenging, participants also reported using social media to assist them in completing course assignments and studying for exams.

Course Assignments and Exams. The participants described using social media as a mechanism to complete their course assignments and as a way to study for course exams and the NCLEX. Social media appeared to be involved in the process of completing assignments; it also appeared to be the product of some assignments. Participant 19 described how "any group

projects that we have to do would, which in an online program seems a little silly to me to do group projects but, um, we'd have to find a way to collaborate and it was often over Facebook or that sort of thing". Participant 10 outlined a similar use of social media for collaborating on assignments. They explained how:

> [P]hysically, um, we wouldn't be able to connect with each other to work on group presentations. We had never physically met up, like during the five years I was in school so, um, it just made it a lot, uh, it made everything more flexible for getting together and, um, probably more comfortable for, um, learning because you could be at home or anywhere…

Participant 23 explained how because they were in a unique program, some of their assignments were different than those found in conventional nursing programs. Participant 23 explained how:

> Something that we do, uh, each semester, um, is make a portfolio that tries to encompass everything we've learned for the semester, um, and with this being said, I know a lot of my colleagues and I, uh, we used social media as a platform to help us gather ideas, um, that we can use for the evidences and artifacts toward this portfolio because there is quite a large creative piece, um, that comes from my program and as somebody who may not always be the most creative, um, and I'm very much used to more research based program, um, this has kind of helped me, um, I guess have that platform to gain that extra learning and just kinda [sic] see, I guess, different ways of projecting that learning, um, for each semester.

In addition to using social media to facilitate the process of completing course assignments, four participants described using social media in the final product of their assignments. Participant 21 described creating a podcast for a project in their online Professional Foundations course.

Participant 10 outlined how they included YouTube videos in their course presentations. Participant 06 described doing a social media campaign for their community health class. They explained how:

> We were placed with the health unit, um, and they had developed a new, um, I guess person who was heading this vision health project because there was a new mandate saying that for students in, I believe it was JK or SK had to get mandated vision treatment in school, kind of like they get, um, the dental screenings done in school. So our job was to kind of raise awareness and develop a Facebook campaign for their Facebook page to talk about different reasons why they should get vision screening and the impacts that it has on the student, um, in terms of like getting misdiagnosed for a learning disability or things like that and raising that awareness in order for, like, it was more targeted towards parents so that parents would get this idea and be like, oh my kid's going to get a vision screening in school, like that'd be really cool. So we developed four Facebook posts that had to kind of revolve around that or about funding options related to, like, if your student was recommended for more screenings after their initial one in school, um, then here is a post about different funding options, whether it's OHIP or ODSP or anything like that.

In terms of exams, two participants described using social media to study for the NCLEX and one participant outlined how they use social media to study for course exams. Participant 23 described how:

> I currently follow a couple accounts on Instagram, um, which I not only find very helpful for studying for NCLEX 'cause certain questions will come up every day but they also

> show different ways of presenting information that isn't always, um, I guess available or would be thought of in the traditional teaching methods.

Participant 10 shared how they found posts about how to pass the NCLEX the first time shared to social media and Participant 08 explained how they use social media to review for their course exams. They explained how:

> [F]or exams we'll form a collective group and each of us will list the chapters that we've covered, each one of us will take an assigned chapter to do a review of and then we'll just post all the files, so we have summaries of everything. Um, yeah, it's actually quite cool 'cause then that way, you know, we did it for a midterm this term and it's nice not having one person, not having to go through and do a full review of, you know, 21 chapters.

Several students in Phase 3 shared how they used social media for the purposes of completing their course assignments and studying for exams. A few participants also shared how they used social media in clinical settings and with patients, which I explore in the next section.

Patient education and experience. Three nursing student participants described using social media to learn about the patient experience or to provide specific education to patients. Participant 06 described wanting to use social media to help educate patients but finding a different way. They explained:

> I have thought about [using social media]. Like, I've made that plan, but it's never come through. Like, in one of my family rotations where we talked about, or where we visited a client in a nursing home, um, I used, like, digital examples but never like from YouTube or anything like that but just, like, we made an exercise plan, um, so it was like this is how you would do the exercise and I showed her but it was more like a picture instead of a video, social media kind of thing.

Participant 08 described using YouTube as a strategy for patient education to explain procedures. Participant 08 also described using social media platforms like Reddit to understand the patient experience based on what patients choose to share to these sites. Participant 14 also spoke about how patients learn from social media and how this influences their engagement in their healthcare. Participant 14 explained how:

> [W]e talk about how patients will be more, like, more knowledgeable about their symptoms and they'll be, they're like advocating for themselves because they have the tools to actually research and they have the research related to their condition or illness or like how they're feeling and they'll be, like, more involved in their actual, like, their health.

The Phase 3 participants described using social media for teaching and learning purposes in a variety of ways. They favoured using social media as a way to collaborate and present course assignments as well as to study for exams. They also described turning to YouTube or their Facebook groups for clarification when they did not understand course content. The participants shared how they use social media to either learn about the patient experience or help provide patient education in formal clinical settings. In the next section, I explore how the nursing student participants use social media for informal teaching and learning purposes.

Social media use for informal teaching and learning purposes. The Phase 3 nursing student participants shared several uses of social media for informal teaching and learning purposes. The codes that relate to this category include hidden knowledge, connection with peers and nursing community, reviewing clinical skills, following areas of interest, and accidental learning.

Connection with peers and the nursing community. By far, students shared the value of social media for connecting with peers and the nursing community most frequently in their Phase 3 interviews. Four participants spoke about how social media promotes connection between distance students. Participant 10 shared how social media "gives you that camaraderie that you're missing in a classroom environment". Participant 08 described the importance of social media for connecting distance students by stating:

> I think [social media] helps, especially as a distance student because you don't have that same in-person classroom connection to begin with that at least when there's a platform, whether it's my group on WhatsApp or the, you know, larger program, larger page group on Facebook that we can connect, we can ask questions, get responses within seconds, minutes, or hours. Um, there's a feeling of camaraderie, um, that we wouldn't have as distance students, um, just because we're all having similar experiences, similar frustrations, similar challenges, um, and we're sharing that so it's very relatable.

Five participants shared how social media helped them combat isolation in their learning. Four of these five students were distance learners; one student studied face-to-face. Participant 10 described how:

> [Social media] was the one way that, um, to make you not feel like you're alone because through social media, like primarily Facebook, you could talk about your experience, um, but without that, you don't really have anyone else to talk to about their experience in the course and being able to compare each other's experience I was able to realize that I had a much more positive experience than a lot of other people's. So that probably promoted my, my opinion of the program compared to others.

Participant 08 explained how being a student in a different age group than the average nursing student could be quite isolating and how social media could help combat that isolation. They explained how:

> For myself too, it's important because there's a number of people who are part of the platform that are in my age group, which is kind of the exception in the program. So, for me, it's, you know, there's people like me who are having the same shared experiences and challenges and so it's, we're all very supportive of each other, so words of encouragement and, you can do this, you can keep going.

Similarly, six participants shared how social media connected them with the broader nursing community, outside of their programs and university. Participant 20 described how social media could connect people across the country with experts in the field and the resources they have created. Participant 23 explained how social media could be used to "take my learning outside of the avenues that can be addressed and presented within a program or any program, really. So, it allows you to kind of step outside of that, see what's happening with other people, how they're learning…" Participant 06 described how social media allows them to connect with the nursing community on both social and academic levels through sharing memes and experiences on platforms like Instagram and Facebook. Participant 10 shared how social media "probably gives a good, like, um, a good alternative perspective on things, other than the teacher's". Participant 21 expressed how social media allowed them to connect with nurses outside of their hospital and town. They outlined how:

> [Social media] adds, again that other level that it kind of, that yeah, whatever I'm going through at my hospital, I'm not the only one. Like, the rest of the world, maybe just North America is kind of feeling the same stressors that we're feeling right now with

> long-term beds filling up and the increase in the drug crisis and everything and it just seems these type of things are, they're happening worldwide and if social media wasn't there, I might be stuck thinking like wow, my town sucks, I need to get out of here. But no, it's just kind of how the climate is in healthcare right now.

The participants in this study outlined how social media could be used to connect with their peers and the broader nursing community for the purposes of teaching and learning. Participants learned from their peers and the broader nursing community as well. For instance, Participant 19 shared how social media changed their perception of the role of a nurse. They explained:

> When I first started nursing, I didn't realize we had as many rights as we do, um, or as big a voice as we do. I was fully under the impression that we walked in and did what the doctors told us essentially and I was never told otherwise, even, even throughout placements in my first, in my RPN program. They never told us that we were allowed to speak up if we felt that something wasn't right or that, um, or that the physician was making a poor choice.

Similarly, Participant 23 explained how:

> I learned a lot of pride, to be honest. That has kind of been the big overwhelming thing from what I see on social media and from all the comments there is a lot of love, a lot of pride, and a lot of respect, um, for this profession and for those that are in nursing school. I hear from almost everyone that, oh my gosh, that's so hard. It is difficult, but you know, you get through it and stuff, so I think the pride is the biggest thing that would come across to me in what's posted, the comments that are made.

In the Phase 3 interviews, participants shared how they used social media to connect with their peers and the broader nursing community. They also shared what they learned about the

nursing profession or the role of a nurse from these social media connections. The next section focuses on the hidden knowledge that the nursing student participants shared for their informal learning on social media.

Hidden knowledge. While the participants often spoke about content that was publicly available to them on social media, they also shared how they used social media for informal teaching and learning purposes in private or 'behind the scenes' ways. Five nursing students reported using social media to buy, sell, and share PDF versions of textbooks. Participant 08 described how:

> We all share textbooks so I might buy a textbook for $20 and then at the end of the semester as long as the same edition is being used, I turn around and sell it for $20. Um, so we're buying and selling and shipping textbooks all the time, um, which is pretty cool, rather than having to buy or rent them, so I mean there's a cost benefit to it.

Participant 19 shared how "people share PDFs of textbooks and all that sort of stuff, so it's definitely saved me several hundred dollars". Two participants expressed how they prefer social media to textbooks. Participant 23 described how their professors are "not the biggest towards textbooks because they said that the second they are printed they are out of date because of how fast information is changing within healthcare". In this sense, Participant 23 found social media to be a helpful way to stay up to date with information that textbooks did not provide.

Similarly, three participants described using social media to discuss which professors were the best for each class. Participant 08 explained how "we often talk about which professors are the best for specific courses and so those classes tend to fill up really fast". Participant 19 described how they use social media to ask questions about the university, share their

perceptions of certain professors, and discuss which classes should or should not be taken at the same time. Participant 10 shared how:

> We were able to get a lot of insight from people who were ahead of us in school and then also provide guidance for people who were just starting so like people would ask which professors to take or which courses, um, were interesting, like for electives. Stuff like that.

While eight of the nine interview participants actively participated in social media groups, three participants shared that the absence of faculty members in the social media groups could be problematic. Participant 08 suggested using more of the collaborative tools available on their learning management system to eliminate some of the need for the social media groups and better include the faculty members. Participant 08 suggested:

> I continually wish that our program specifically, ‘cause we use Blackboard as our platform for learning, that I really wish collaboration was included a little bit more through that channel just because then it would include the instructors as well, right? So it could be a much more classroom style collaboration, um, ‘cause I still feel like even though our Facebook group is pretty tight and we branch off into cohorts and all that kind of stuff, that’s one of the elements that’s missing is the, um, instructor, professor component.

Participant 19 also found the absence of faculty members in the social media groups to be a problem. They suggested:

> If there was somebody from the university who went and poked through, you know, went and poked through the Facebook page and posted the answers to certain questions like

> about study plans, about whatever for the students to see on the Nipissing platform, I think that would be beneficial for a lot of students.

The nursing student participants often discussed how they used social media platforms to share knowledge with one another through direct messages or tagging each other in posts. Participant 06 shared how they used Pinterest as an educational tool and often shared content with their peers. Participant 06 explained how "on Pinterest I'm always sharing, like, or pinning I guess, um, different tips of like how to do things and then I'm sending those, usually on messenger or like as a text or anything to my friends from that social media platform". Participant 23 also described sharing learning resources with peers through direct messaging and private groups set up between friends. Participant 23 shared how:

> There is a close group of us within my program, um, who are all, I guess, experiencing very similar placements at one institution, um, so stuff that I would find that comes up I will send to our chat, and share it with them so that they can use the same resource 'cause I know we are in a very similar environment, um, the five of us.

Participant 20 shared how it is often easier to use Facebook to privately reach out to classmates who might be better versed in a subject for help or explanations. Participant 19 described offering tips and tricks in private Facebook groups as a mechanism to teach their peers and offer their knowledge base in certain areas.

Much of the informal teaching and learning that participants described happened 'behind the scenes' on private social media groups, through direct messaging, and tagging their peers in specific content. This kind of sharing is often not available to the general public and thus was not apparent in the Phase 2 Digital Artifact Collection. In the next section, I explore how the nursing student participants use social media for their own personal learning.

Reviewing clinical skills, following areas of interest, and accidental learning. Five nursing students shared how they use social media to review their clinical skills. Three participants used social media to review IV insertion. Participant 21 described how "I use Instagram, I follow someone, she, her, her tag is IV Queen or something like that, but she gives a lot of intravenous tips on how to insert IVs and how to care for them". Participant 10 also described using YouTube videos to review IV compatibility. Participant 06 shared how they used YouTube to practice for their IV therapy lab. Participant 06 also described how "we have used some YouTube videos and tutorials and stuff in our labs where we're able to view, like, for example just last week we were learning about central lines, um, so we looked at a video about how to do the dressing change for a central line". Participant 06 also described how they use YouTube to learn about skills like ambulating patients prior to starting their surgical rotation so that they would understand what they were about to do on the rotation.

Participant 23 shared how they use social media to review pharmacology concepts. They explained how:

> I try to seek out, I guess now learning about this, anything with a visual, it sounds like, so any videos that are posted I find very helpful 'cause I, especially since nursing at the end of the day, if you're going to be physically doing it, I find it's very tough to just read about it and then go do it. So, to have that visual aspect of what's going on and to kind of see it performed before I actually have to get out there into the clinical setting, I find that very helpful.

Participant 14 also described how they use social media to reinforce clinical knowledge. They described how "on Instagram they'll have these, they're called, like, learngrams so it's like a really short clip of, like, a nursing skill or technique." Participant 23 explained how:

> As much as my program tries to, that's not always feasible to show us absolutely everything so to be able to have a space where I can look that up as much as is offered and to be able to use that visual aspect, I find that really helps me and kind of eliminates my fears and anxieties for when I do go into the clinical setting so I don't feel as lost, I guess, for what I'm seeing.

The nursing student participants also described how they used social media to follow their areas of interest that related to their nursing education. Two students described following professional organizations for updates in the nursing profession. Participant 08 shared how they follow various professional and regulatory bodies relevant to both their learning as a nursing student and their work as an RPN. Related to following their areas of interest, four participants described experiencing accidental learning through their social media accounts. Participant 23 explained how:

> I find I use social media a lot in general, um, so having those accounts that I actively follow on my page as I'm scrolling, as I'm looking through newsfeeds, to have those actively pop up even when I'm not purposely actively studying. If I'm just, I guess, out of school mode and enjoying my own time just to have that still there popping up on my newsfeeds and those outlets there, it's quite helpful to, like, I almost feel like I'm learning when I'm not forcing myself to sit down and study.

Participant 20 described how scrolling through social media often reinforced concepts that had been taught in class. They described how "it's a lot of just by coincidence that you're scrolling through and you find stuff and you're like 'hey, I just learned about this' or like 'hey, this speaks really well to this concept'". Participant 06 advocated that social media could be used more in teaching and learning because of the potential for accidental learning. They explained how:

> Because so much of social media's just like scrolling through your phone and looking at it, stuff like that, it's really easy to throw learning and teaching in there through that. Like I said, through Pinterest, when I'm scrolling through for like DIYs I want to do, I can also see a cool little tip that's, like, being thrown at me in Pinterest and things like that.

The participants in this study shared numerous examples of how they use social media for their informal learning purposes, notably for reviewing their clinical skills, following areas of interest, and unintentionally learning while they were scrolling through their social media accounts.

The nursing student participants described using social media in a variety of ways and for different purposes. They indicated a strong preference for Facebook and YouTube for both formal and informal learning purposes. The participants did not find Twitter helpful and provided mixed reviews of Instagram. The nursing students, especially those studying by distance, appreciated the use of social media in their formal teaching and learning and generally favoured the use of YouTube videos in their classes and presentations. They reported using platforms like Facebook for group work and working on assignments. The Phase 3 participants also used social media for informal teaching and learning purposes, including reviewing clinical skills before labs or clinical rotations, studying for exams, and following nursing-related content for their own interests, often resulting in accidental learning. In the next section, I explore what the nursing student participants found motivated their decisions to use or not to use social media.

RQ2: What motivates students' decisions to use or not to use social media in a school of nursing for learning purposes? The Phase 3 findings demonstrate the many reasons participants choose to use or not to use social media in their teaching and learning. Participants' motivations for sharing content to social media was the sole category that addressed the second research question.

Motivations for sharing content to social media. As mentioned previously, the nursing student participants shared numerous motivations for using social media in their teaching and learning. The codes that address this second research question include credibility and relevance of sources, professionalism, access, convenience, engagement, distraction, and their program and professors.

Credibility and relevance of sources. Seven participants spoke about the credibility and relevance of the sources they find on social media in their interviews. Four participants spoke about the accuracy of social media content. Participant 21 indicated that they find that their friends and followers on social media do not tend to share a lot of content that "I don't consider real, like the 'fake news', but it's a lot of more credible sources, like major journal articles and stuff like that". Participant 23 shared how the question of accuracy influenced how they interpret the nursing-related content they view on social media. Participant 23 explained how:

> I think sometimes, again, depending on the pages out there and what can be followed, I think my biggest thing would be the accuracy. So, for somebody that is very much using this for study purposes, um, for my schooling right now as well as the NCLEX coming up, a big thing for me was, um, how, how true is this information and how reliable is this?

Participant 14 also questioned the accuracy of the content available on social media platforms. They explained:

> I think it comes with the credibility so like what sources are actually like, what sources are teaching, are peer-reviewed and are actually, like, I don't know how to explain it but, like, we can actually trust sources just knowing what sources are credible, what should you actually rely on, based off also what your profs are teaching you so just knowing that

> difference. I think that you kind of almost take a risk, like, depending on social media rather than depending on your books and your notes.

Other students spoke about the importance of being able to filter social media posts so that they could appropriately determine which sources were credible or accurate. Participant 20 spoke about how using social media promoted the development of critical thinking skills. They shared how:

> It really is a positive experience just because I'm able to critically think about something and be like, you know, is this even, you know, you see this random article on Facebook or YouTube or whatever and it's like, does this really make sense? Is this really a legitimate source? Like, and it's just second nature to be able to filter that kind of uncredible [sic] sources out whereas again, people who haven't grown up with that mindset, like, would have a more difficult time, probably.

Participant 21 also described how "once I kind of know more about how to filter stuff, it's been more of a positive experience now". Participant 19 also found the ability to filter sources and information to be an important skill for students. They described how "you come across the odd video that makes no sense and has nothing to do with the topic that you're looking for… but um, largely if you have any, if you develop any research skill, it's fairly easy to navigate, to find what you need". Two students spoke about the volume of information available on social media and how important it is to sift through the content to determine which sources are credible. Participant 08 explained:

> I guess one of the other negatives is just, you know, the sheer volume of information on the platforms so when you're looking for something specific you literally sometimes have to comb through tons and tons and tons of files that have been posted, um, because

> they're not really regulated and, you know, sort of taken down when they're no longer applicable or current.

Participant 20 also described a similar need to filter through social media sources because "there's just so much information that sometimes gets muddled up".

Finally, two participants spoke about how they determine whether sources available on social media are credible. Participant 21 explained that:

> I find you have to know what you're looking at, um, 'cause there is a lot of, there are quite a few sites out there that aren't necessarily credible so if you don't know to look for, my favourite tip is to look at what the ads look like on the page. If they're all advertising whatever they're talking about, clearly there's a bias there so you kinda [sic] want to look at something with a little more, the more boring the page, sometimes the better it is for getting your sources.

Participant 22 relied on social media links provided by the course instructors, "'cause you know if the instructors are, uh, posting those videos then you know that they're credible sources".

The nursing students in Phase 3 discussed the importance of filtering through social media posts to use accurate and credible sources. Two participants shared how they determine sources to be credible. In the next section, I explore how the participants' professors, programs, and sense of professionalism motivated their use or non-use of social media for teaching and learning purposes.

Professors, programs, and professionalism. All nine nursing student participants shared how their professors, programs, and the importance of professionalism influenced their use of social media. Despite the potential motivations not to use social media, eight participants consistently reported using social media for both formal and informal teaching and learning

purposes. Four participants shared that, perhaps with the exception of YouTube videos, their professors did not use social media in their teaching and learning and discouraged the use of social media by nursing students. Participant 20 explained that "social media is kind of shunned a lot in nursing because of that whole idea of don't post anything, don't share your clinical experiences and don't, you know, breach privacy, etc." Participant 14 agreed that social media is not widely used in nursing classes. They shared that:

> It's not often used, like, in our classes, especially our nursing related classes. I think it's more so dependent, like after, like when you're studying by yourself or in a group, um, I don't think it necessarily makes that big of a difference, like, in our classes. I also think that our profs will provide links for us and they'll recommend that we look at them, like, after class but more times than not, they don't include them in their lecture or class time.

In some instances, participants reported that their professors did not use social media in their teaching but were supportive of the nursing students using social media for teaching and learning purposes outside of class. Participant 23 shared how their professors were supportive of using social media to complete their learning portfolio. Participant 23 explained:

> So, they did have a very good, I guess, explanation or workshop for us, um, within first semester that they brought in, um, previous examples. They showed us a bunch of different platforms that we can use, um, which really helped understand, helped us understand exactly where we could go with this and that there really aren't any boundaries as long as we attach a reflection onto it and explain our learning. Um, so they did encourage us to get creative, they did encourage us to bring in social media or these unique outlets that are maybe not considered as much in a traditional program, um, so that was, yeah, explained that what workshop within first semester. Um, and then from

> there we've just been building upon that, but yes, it was definitely encouraged, um, and explained as a very good resource that could be used for these portfolios that we create.

Participant 14 shared how their professors were supportive of their use of social media for the creation of clinical-specific groups. Participant 14 shared that "[the professors] really like the idea of us working together on things and utilizing each other to keep on track".

Six participants shared examples of how their professors incorporated social media into their teaching, which motivated the students' use of social media for these formal learning purposes. Participant 20 shared how their professors did not favour social media use for educational purposes but still sometimes used YouTube videos in their classes. Participant 20 explained that:

> That's probably the only thing they really encourage, I guess would be YouTube. Everything else, I feel like in their mind YouTube is just like 'somebody else put it there, you can just access it yourself' but it's not like, don't, like if we ever have to do a class presentation through a video or something, it's 'email it to me', it's not 'post this on Facebook' kind of, or 'post this on YouTube' kind of thing. They try to keep it all very private unless it's just like us, like, outsourcing for a purpose.

Participant 10 shared some of the ways in which their professors used social media in their course, therefore encouraging students to do the same. Participant 10 outlined how:

> One course we had a lot of optional and alternative learning stuff that [the professor] would post so sometimes it would be, like, CBC podcasts, um, and then some of the teachers would embed, um, YouTube videos within their weekly modules so I found that helpful because then there was some interactive content other than just reading. So, lots of podcasts and YouTube for sure.

Two nursing student participants described how social media played a role in their nursing informatics class. Participant 06 described how:

> The online course I'm taking right now is informatics, nursing informatics, so like inherently the course itself is about nursing technology, which is cool. So, in that course specifically I have noticed links to social media, like, we were looking at a Reddit thread and looking at people who were like 'I have Crohn's disease and it really sucks right now and what do you guys do to, like, figure that out' and we had to kind of, like, analyze, um, the validity of that post and if it was beneficial to the patient and things like that.

Participant 20 also described their experience using social media in their nursing informatics course. They explained how:

> It's an online class so it's already kind of geared toward social media and just like computers and all that stuff and a lot of the times our discussion posts are like 'go find this something on Reddit to, like, to guide this post' or 'based on your experience with Twitter', like, you know, so but other than that one class, it's usually like, kinda [sic], social media isn't a good thing in nursing.

Four participants explicitly stated that professionalism was a large motivator in whether and how they use social media for teaching and learning purposes in their nursing education. Participant 10 explained how "I definitely avoid posting about like, things that involve substance use. I feel like there's added pressure on people in certain, in various professions like healthcare and police that you should avoid because you're supposed to uphold a certain image of the profession". Similarly, Participant 23 described how:

> I'm not very, I guess out front, at least for the Instagram page with kind of what's going on in that sense, um, just because I do know that there are some professionalism bodies,

> um, that do kind of regulate and kind of watch what is being posted, specifically since I am still trying to get into the world of nursing, um, so I'm very conscious of that but within, Instagram for example, within the direct messaging, um, there is a lot more getting shared there between colleagues, friends, and kind of people within the nursing environment, um, but as for my actual page, not so much, um, but for that professionalism reason.

In much the same way, Participant 22 described the desire to keep social media separate from their professional persona. Participant 22 explained how:

> I try to keep social media and my profession kind of separate. Maybe once in a while I might post something, but that's very rare. Like, I try to really keep that stuff separate…. I find that, um, nursing is a reputable profession. I really take pride in my job and, yeah. Not that I'm a party animal or anything, don't get me wrong.

Participant 20 shared how their program reinforced the importance of professionalism on social media. They described how:

> Like, we always get warned about, like, we can't break confidentiality so we can never say something on, like, any social media platform that discloses information about, like, our patients or clinical experiences. Like, they said that we can talk about oh, I had a really good day at clinical but obviously that's excluding everything about our patient and what we actually have done, and they warned us about getting expelled or anything, getting kicked out of the program. So, they obviously provide us with that precautionary teaching but other than that, there's not really, we don't have guidelines other than that.

The Phase 3 participants shared that their programs, their professors, and the importance of professionalism motivated their decisions to use or not to use social media. The participants

reported that social media was not widely used in their classes but when it was, it motivated them to explore social media as part of the class. Some participants noted how their professors were supportive of the ways they, as students, used social media even if their professors did not use social media in their own teaching. Participants opted not to post content to their personal social media accounts due to the desire to appear professional as nursing students. In the next section, I will explore how issues pertaining to convenience and access motivated the participants' decisions to use or not to use social media for teaching and learning purposes in their nursing education.

Convenience and access. Five participants spoke about the convenience of social media in their Phase 3 interviews. Two participants shared how social media was easier for communication purposes than other methods, such as email or phone calls/texts, since it was often already open. Participant 21 explained that:

> It's an easy platform to share from. Um, the interface usually works really well. Um, yeah, it's really not hard to go onto Facebook and actually instead of emailing someone, instead of logging online and opening my email and going from there, if I already have Facebook open, I just open up a messenger and I can just share documents, just drag and click directly into that, it just is super easy, convenient thing to do. Everything's right there in front of me. I don't necessarily have to wait for my email to open or anything like that just to share a simple document.

Participant 19 articulated similar reasons for choosing to use social media for teaching and learning purposes. They explained that:

> People don't use email anymore unless it's for, like, professional purposes, really. Yeah, it's largely just convenience. I can do it, you know, when I'm sitting in the breakroom. I

> don't have to pull out my phone and call somebody. I can just send them a simple message and be done with it. It doesn't require anybody to reply immediately if they're busy. They can choose to reply to that whenever or not at all, that's their, that's totally their choice, so it's nice in a way. You don't feel the need to be constantly available.

Participant 08 provided a contrasting viewpoint to this idea that social media does not require users to be constantly available. They described how:

> You can't disconnect from social media so that was one of the other things that I've often experienced was that social media as a whole, I reach a point where it's, because of news media or something that's going on in the world, I just don't want to deal with it but in order for me to get information for school and, um, communicate with some of my classmates, I need that Facebook app, um, my account active in order to, you know, to access that so it means that I can't, you know, cut myself off from Facebook.

Participant 08 also described the convenience of using social media for teaching and learning purposes. They explained how:

> It's kind of a central, um, you know, I guess most of us, I don't think even rely on any kind of news media or visiting websites anymore to get information. If information is all shared in real time when you're using social media, I think that's the appeal. Um, and it's easy too, especially with a specific Facebook group. It's actually easy to go onto that page and actually search for whatever it is you're looking for because you'll often remember, oh somebody shared something six months ago and you can actually search for it, um, now too. So, you can find the file or find the posting, or we can follow conversations that other people are having without actually having to participate, um, which is helpful.

Participants 19 and 10 shared how concerns about accessing social media can prove to be a barrier to using it for teaching and learning purposes. Participant 10 explained how poor internet connection could pose a problem for students who were required to use social media in their nursing education. Participant 19 shared that social media is sometimes not accessible to students with disabilities. Participant 19 described how:

> I'm actually quite hard of hearing. I'm mostly deaf in my left ear and if the sound quality isn't perfect, I had a very hard time understanding [the professor]. So, for that entire semester I had my lovely fiancé transcribe everything for me and type it out so, I did request a couple of times to get closed captioning but it never did end up happening so, and that's kind of a downside is accessibility and not just for me. I'm sure there's other students that struggle but that, that can definitely be a downside is the lack of accessibility with social media.

Convenience and access were two motivations that the nursing student participants raised in their Phase 3 interviews for why they may choose to use or not to use social media in their teaching and learning. In the next section, I will explore the concepts of engagement and distraction.

Engagement and distraction. Four participants spoke about how they found social media to be an engaging platform for learning in their nursing education. Participant 23 described how social media inspired curiosity. They explained that:

> I think first and foremost, it probably makes me more curious. I know when we get into the clinical portion of the semester, we meet up in small groups where we do have these reflections and discussions of what's kind of happening and stuff that's going on in our environments and stuff that we're curious about. So, I know on numerous occasions I have brought forth to these smaller reflection classes, um, stuff that I've seen on social

> media or questions that have been proposed or articles or videos that I either wasn't sure of or just thought would be good for discussion or simply for everyone else to, um, maybe understand or look in to.

Participant 14 explained how social media helps highlight major class concepts in a variety of formats, which can be helpful for different learners. Both participants 20 and 23 spoke about how growing up with social media motivated them to use it in their nursing education. Participant 23 described how:

> I think any, like, educational experience would be very beneficial, especially since kind of my generation and the rest going forward, we are very attached to social media so to be able to use that platform to help us learn and to communicate and kind of connect with us on that level since it is something that works well for us and that we are quite connected to.

Participant 20 explained how "I kind of grew up with technology and grew up with social media that I just know how to use it and know how to access it and, and don't have a problem filtering out what I don't need". Participant 20 also explained how "it engages you more and it's nice and even when [the professors] bring in real life, uh, real life stories that they've seen off Facebook, or you've seen on Twitter, it kind of lets you be able to connect all the dots so to speak".

Despite how participants felt about social media's potential for engagement, they also found it potentially distracting. Four participants shared their thoughts on distraction as a motivation not to use social media in their nursing education. Participant 06 described how social media can be distracting in class. They explained that:

> If I have my laptop open and I'm doing, like, my notes or I'm typing up the slides or anything like that, if I have a Facebook notification pop up or something like that, usually

> I do check it so that does sometimes break my focus from the class. But, that's more of a, I think more of a personal thing that I could do myself rather than, like, a social media problem itself. Like, I could always turn that off and things like that.

Participant 20 also shared how social media can be a distraction while sitting in class. They outlined how:

> [Y]ou know when you kind of start drifting off in class and you just open up your browser and oh, there's Facebook or oh, I'm just going to casually scroll through Instagram and it's a distraction for sure. Um, or even when you're, like, on campus between classes and you're like, 'oh, I'm going to finish this assignment' and then you end up wasting an hour on Twitter or something. Um, it's definitely either in class, even if someone in front of you is on Facebook and you're just sort of like, 'I wonder what they're doing?'. Um, it's definitely a distraction when it's not, when it's used in class and you're trying to focus on what's going on.

The issue of social media as a distraction was not exclusive to nursing students who studied in face-to-face settings. Participant 08, a distance student, shared that social media could be a distraction in distance learning as well. They explained that:

> I often find that, um, if I go on the Facebook group, um, to look for something specific for my course or my work, um, I might end up being sucked into this Facebook vortex where I end up being on it for 2 hours, not necessarily on that group.

The participants in Phase 3 of this study shared that social media often promoted their engagement in their learning and thus motivated them to use it. They also shared that social media could sometimes prove distracting. Although this distraction seemed like a reason not to use social media, no participants spoke about altering their current social media habits.

The Phase 3 participants shared several motivations for and against using social media for teaching and learning purposes in their nursing education. Overall, participants found social media to be a convenient and engaging method of teaching and learning in their nursing programs. Participants appeared motivated to use social media when it was incorporated in their classes and encouraged by their professors. Participants appeared motivated not to use social media in their teaching and learning when it became an issue of professionalism or when they experienced barriers to accessing the content on social media, either through poor internet connectivity or because the content was not made accessible for students with disabilities. Numerous students also noted that the questions surrounding the credibility and relevance of social media content motivated their decisions about whether or not to use social media for their learning. In the next section, I explore the content that the Phase 3 participants shared to their social media accounts for the purposes of teaching and learning in nursing education.

RQ3: What content do students in a school of nursing post to social media related to learning? The findings show that the nursing students in this study post a variety of content to their social media pages for teaching and learning purposes. The category that addresses my third research question explores the content posted to social media.

Content shared to social media. The Phase 3 participants shared their social media posting habits, the content that they post to social media, and their target audiences. Codes relating to this category included perceptions and realities of nursing practice, political and health system posts, sharing evidence-based content for others, and the ability to reach wide audiences. It is important to note that the Phase 3 participants often spoke about what content they shared in relation to what content they consumed on social media.

Perceptions and realities of nursing practice. The Phase 3 participants spoke about sharing a variety of content to their social media accounts while also consuming similar content. They would sometimes immediately share content that they had recently consumed and deemed relevant for their friends and followers. Memes were a main source of content shared by participants to their social media accounts. Participant 19 described how they tend to share a lot of memes and jokes to their social media. Participant 06 also outlined how they share a lot of memes and the reasons for doing so. They explained that:

> Um, like nursing-related social media that happens in my life at least is more, I think, social than academic where there's a lot of, like, um, like Facebook pages or Instagram pages that I follow with, like, funny pictures and memes and things like that where I can kind of relate to that nursing community on like more of a social and professional level than, like, academic level, I guess.

Participant 06 clarified that they "love posting things that are funny and that people can relate to". Participant 22 was not a frequent user of social media but described how most of the content that they did share was meme-based. They explained that:

> Usually, it's just silly stuff, like for instance the other day I posted a picture of, it was, um, a nurse coming out of an isolation room that she had to clean up a bowel movement, do so many dressings, and her body temperature was elevated and she was laying on the floor… it's all, like, silly funny stuff that when I get home from a stressful shift, just to kind of bring myself down, have a little laugh.

Several participants linked the memes that they shared to public perception of the nursing profession. For instance, Participant 22 explained that "it's hard though because maybe… if you weren't in the profession and you saw those posts, it might influence [the perception of the role

of a nurse]". Participant 08 described how they had noticed a transition in how nurses were depicted in social media-based content. They explained how:

> I do see that sort of the, there's definitely been a transition, um, in the last, probably even just the last five years where more so the nurse is becoming a much more, um, perceived as a, you know, reputable professional, um, career, versus in the, you know, the memes of sexy nurses or crazy nurses kind of diminishing, which is good.

Participant 19 spoke about how the content they consumed on social media influenced their own perception of the role of a nurse in relation to other health professionals. Participant 19 explained that:

> I knew [nursing] was serious but I also, like, I knew it's a serious job, obviously, but I thought that the physicians were more involved in the care than they really are, like, you know, if I'm with the patient for 12 hours a day, there doctor's maybe there for 7 minutes… so I really didn't understand how involved physicians were or not, sort of thing, so I, it really changed my perspective.

Participant 10 spoke about how the content that they consumed and shared on social media reflected some of the realities of the nursing profession. For instance, Participant 10 explained how "based on nurses I know, their posts I guess, um, you see a lot of burnout, um, and a lot of issues that, um, we feel like our hands are tied". Participant 10 explained that they had seen a lot of posts about burnout, shiftwork, and the quality of life of nurses. Participant 06 also shared some of the realities of nursing practice, including burnout. They explained how on social media:

> I think you learn about the stuff that they don't necessarily teach you about in school, um, so like how to, like, how to deal with 12 hour shifts and, like, different ways of

> remembering things they may not teach you or, like, the ways that they have to teach you about or that, like, may be a little bit easier to teach you about.

Three participants spoke about how the content they viewed and shared on social media related to transition to practice topics. Participant 08 explained that social media provided a more centralized space to find information about training and career opportunities. Participant 06 shared some of the challenges of consuming content on social media, especially in relation to transitioning from a nursing student to a practicing nurse. Participant 06 explained how:

> I think that sometimes there can be, like, negative connotations that go with the social side of it where, like, there's so much cynicism and people being like oh my gosh, like working these long shifts suck and your patients can be terrible and blah, blah, blah, blah, blah. Um, that kind of thing. So, sometimes it can give, like, the negative 'Oh my God, I'm going to be a new grad and nurses are going to eat me and like, it's going to be awful' and that can kind of promote more stress than anything going into an entry level nursing job as a new grad, which can be hard.

Participant 23 noted the importance of social media for continuing learning throughout the transition to practice. They explained that:

> This is something that I'm hoping to continue as I finish off my second and final year and also start working as a nurse, which is a whole different ballgame of learning. I feel like as a nurse, you're constantly learning so just, yeah, to have, I guess, those extra resources right there and social media makes that very accessible as opposed to other means of finding resources.

Participant 08 described sharing content that reflected the changing nature of the nursing profession. They explained how they tend to share:

> I guess anything, things that are like new and relevant, um, you know, changes in healthcare, um, I guess new information, new legislation, um, sort of hot topics, information that I think is relevant too just based on my practice so when there's gaps in terms of my practice, in terms of, um, what the public perceives to be true and what is actually in practice, you know, I share information like that, you know, so it's information for people to think about and consider, um, just because it is something that may become an issue as some point in the future in healthcare.

The Phase 3 participants described how they consume and share content in relation to each other. The content that participants consumed and shared related to the perceptions and realities of nursing practice. This content included memes, information about transition to practice and learning opportunities, and information about issues like burnout and shortages within the nursing profession. In the next section, I will explore content that participants shared related to politics and the health system.

Political and health system posts. In the Phase 3 interviews, participants described how the content that they shared to their social media often related to the political climate at the time as well as to their clinical institutions and the health system more broadly. Related to sharing news items or political posts, Participant 19 described how they tend to share "stuff in the news about nursing cuts and that sort of stuff, um, the necessity of maintaining nursing care, really just, mostly that sort of stuff." Participant 08 explained how they tend to "publish information like when health units, um, publish, you know, like epidemic concerns or public safety concerns, I'll share that kind of information." Participant 06 described how "I'm usually pretty big on like, uh, posting about LGBT rights". Participant 19 explained that social media provided a platform to share news items and personal opinions with broad audiences. They explained how:

> I just feel it's a way to share sort of my opinion without getting angry or aggressive about it. Like, it's to say, you know what, I disagree with what the government has done to the healthcare system, I know you, I don't support that at all and just sort of, I think it offers a sense of support to my, to my colleagues and coworkers and that sort of thing too and lets the racist family members know what's up.

Other participants described learning about and sharing content related to the healthcare system. Participant 10 shared how they learned new aspects and rules in the healthcare system by consuming friends' social media posts. They described how:

> I think sometimes, like, there's so many different areas of nursing so I think I learned, um, like some of the things that nurses can do maybe that I wasn't aware could be a nursing role. Um, I recently learned about, um, nurse practitioner (NP) billing and shadow billing and that it's illegal… my friend who just finished her school for NP just put a big long post of her struggles of finding, um, a nurse practitioner job that isn't using third- er, shadow billing, um, definitely an issue I wasn't aware of before.

Participant 08 described how they shared not only institutional updates but updates within the nursing profession. They described how:

> There's information that gets posted on social media with respect to different areas of the profession, um, different specialties, different roles, newly developed roles, um, that are now something that, you know, I hadn't previously considered. Um, and so sometimes I think 'Oh, that's interesting' and then move on and then other times I think 'Oh, that's really interesting' and I'll actually research ok, what's required to be, you know, in that position and then what other kinds of certifications do you need and, um, and you know,

> even just sometimes, general interest stories about a specific nurse and you read about their history and their pathways and you learn a lot from that.

Two participants described how they shared posts related to their clinical institutions. Participant 23 explained how "I do know that the videos or the new ads that come out or the new campaigns that come out for this institution, um, I do share those, um, simply out of pride I believe and just excitement for kind of where I'm heading." Similarly, Participant 20 described how:

> What I mostly share is stuff that has to do with my hospital, um, like where I'm from and where I hope to work. Um, like I follow their account and they always are posting new updates about, um, like new initiatives that they're a part of, or just news stories. So, I find that if it's positive more so than negative, I'm often sharing that to be like hey, look at this really cool thing of where I'm going to work one day and that kind of stuff.

The Phase 3 participants shared and consumed content that related to current political events. They also spoke about how they learned new information about the health system through the social media posts they consumed and how they shared updates from their clinical institutions for their friends and followers. In the next section, I explore how the nursing student participants used social media to share evidence-based content for others.

Sharing evidence-based content for others. The Phase 3 participants shared a variety of content related to health education. Participant 21 described how:

> My colleagues and I guess myself, we also share a lot of health-related information that's coming up so right now there's a lot of information coming up on vaccines, um, there's been a lot of information on e-cigarettes, on young kids with screen time. So, it's kind of a nice way to kind of go through and look and see kind of what everyone else is kind of

> into, kind of reading just to share information on things that are, things that have more of an evidence-based background to it.

Four participants described how they shared content encouraging their friends and followers to get their flu shots. Participant 19 shared how "I tell people to get their flu shot… at any opportunity that comes, like if there's a post that comes up, I'm like 'get your flu shot, do it'". Participant 20 described how:

> [W]hen I see, um, like you see the post about the flu shot for example and people are like oh, I'm not going to get the flu shot, it makes me sick and then it's one of those things everyone gets annoyed by so then I'll post, like, if I see a post that reiterates the facts, I'll just share it and that way, it's like, um, hopefully guiding people in the right direction. So yeah, probably like public health-wise, I share mostly stuff about like flu shots or vaccines, immunizations, um, kind of like the more controversial things just so that I get my opinion out there.

Similarly, Participant 21 described how:

> I like to share general vaccines, once the flu season comes about, um, every year I find there's really good information and people explaining not just the science behind vaccines but the reasons why you want to get it. Like, the one I've been seeing lately, like, it's not just for you. It's, you're getting a vaccine for everybody else, type of deal.

Two participants spoke about how they shared content related to mental health on their social media accounts. Participant 14 explained how:

> I think most often I talk a lot about mental health and the stigma related to mental health, especially like on a personal level. Like, I live in a very small town and suicide is very

> increasingly prevalent so just talking about mental health awareness. I think I post a lot about that as well as I see a lot about that in my own newsfeed.

Participant 10 described how they share mental health-related content to their social media "because of the field I work in and, um, also because I teach mental health first aid". They also described sharing content related to mental health campaigns like the Bell™ Let's Talk campaign. Two participants shared how they use social media to educate their friends and family members about the importance of finding and relying on evidence-based content rather than anything they might see on social media. Participant 20 explained how they share content with their family members. They described how:

> So, like if there's a cool study that's been done and it's like oh, you know, it's not true, red wine doesn't decrease your chance of heart, um, like, heart disease, then I post that kind of, you know, trying to give my mom, for example, like oh mom, maybe you should read this. Like, you know, this is actually true but not just something you heard on the radio.

The Phase 3 participants shared a variety of content for the purposes of disseminated evidence-based content to their friends and followers on social media. The content that they shared consisted of health education information, mental health information, and guidance on how to choose credible sources. In the next section, I explore why the nursing students chose to use social media as a method to share content.

Reach and audiences. The Phase 3 participants described the audiences they hoped to reach with their social media posts. They also shared how social media, in turn, was likely to reach wider audiences. Largely, the participants described using social media as a mechanism to reach their peers. Participant 06 emphasized how "I have my family on Facebook and I have,

like, professional friends, I guess, on Facebook too but the majority would be my peers because I feel like they're the most keen on learning right now relative to, like, my family." Participant 21 shared how they hoped to reach:

> People around my age, I guess, um, mostly my friend group. They're the ones I really care about and I just want to give them the information so that they can make their own, hopefully better choices. If they don't, they don't, but at least they have that information and they're making an informed decision.

Participant 10 also described using their social media posts as a method to influence their peers. They described how they hoped the content that they shared would reach:

> Probably my age group, so like, just throwing an age range out there, 25 to 44. I also just posted about, like I'll post petitions or events so one petition was for grocery stores to take the plastic bags out of the grocery stores so stuff that, like, that's I guess a nursing issue because climate change is a big one they're starting to talk about, I guess at the RNAO (Registered Nurses Association of Ontario).

Participant 20 described how they share content predominantly in closed groups to target their peers because "I know that my mom doesn't care about some sort of nursing concept". Participant 10 also shared how they developed a LinkedIn profile as they neared graduation to better network with prospective employers.

The Phase 3 participants also described how the content that they shared on social media could reach larger audiences than it otherwise might if shared through other channels. Participant 10 explained that they chose to share content to social media:

> Because I'm connected to a lot of people on there. Like, I have over 1000, well no, close to 1000 friends, a lot of different social circles so that's one place where it can reach all

> of them. Um, and because I know that if someone else feels the same way, then they can share my post as well so it reaches more people.

Similarly, Participant 06 explained that they shared content to social media because:

> Everyone is on there. Everyone is on social media, everyone sees it, one way or the other. I use most of the larger platforms. I'm not on Twitter but I'm on Instagram, Pinterest, Facebook, YouTube, things like that. So, I know that if I share something, even if they scroll past it, they're going to see it even for a second.

Participant 08 described using social media to reach audiences that they would not ordinarily interact with using other modalities. They explained how "on Twitter and stuff, you hope that maybe, you know, politicians will see information 'cause it's stuff that, you know, is an ongoing concern or something that I feel needs change in our system or in legislation or that kind of thing." Participant 08 further explained that social media is "really the only platform where there's an opportunity to get information out to sort of the masses, larger populations at large and obviously, like, with Twitter and Facebook and stuff that things can go viral quite quickly".

The nursing student participants described using social media as a mechanism to share a wide variety of content to diverse audiences. Overall, the participants spoke about sharing and consuming content that related to the perceptions and realities of the nursing profession. Much of this content was largely meme-based, since participants generally found memes relatable and funny. They also described sharing content relevant to contemporary political issues, which sometimes allowed participants to also share their beliefs online. The nursing student participants also described consuming and sharing content that related to the health system, including things they previously did not know or consider about the health system before they saw it posted to social media. Participants shared how they use social media to disseminate evidence-based

information for their friends and followers. They also described social media as an effective platform for reaching wide audiences and influencing their peers and family members' health-related decisions.

Summary for Phase 3

In Phase 3 of the present study, nine nursing students expanded on how they use social media for teaching and learning in their nursing education. They described their motivations for using social media for teaching and learning purposes. They also provided insight on what content they choose to share to their social media accounts for teaching and learning purposes.

The Phase 3 participants described using social media for a number of formal and informal teaching and learning purposes in their nursing education. Overall, students preferred Facebook as a sharing platform compared to the other platforms available to them. On Facebook, students shared files, textbooks, posed questions for clarification, and sought support from their peers. Most students indicated that they used YouTube both in their formal and informal learning. Students expressed how their professors would often provide links to YouTube videos on their learning management system. Half of the participants favoured Instagram while the other half of the students indicated that it had limited usefulness to them since it is largely a photo sharing site and does not have all the interactive and group features that Facebook does. Only one participant indicated that Twitter was a useful platform for teaching and learning.

The participants reported using social media for a number of formal teaching and learning purposes. Students reported sharing peer-reviewed articles from their courses to their social media platforms. They also reported sharing presentations and lecture slides with their classmates on their class/cohort groups. Participants would also use their online groups to clarify instructions for labs or assignments. A couple of students indicated that they used social media to

study for their NCLEX and to reach out to others who had already written the NCLEX for advice. Other students shared how they would use social media to collaboratively study for their course exams if they could not meet in person.

The Phase 3 participants also reported using social media for informal teaching and learning purposes. Much of what occurred on social media was 'behind the scenes'. Participants explained how they used closed groups and direct messages so that their communications would not be publicly available. This use of private sharing methods restricted what was visible during the Phase 2 digital artifact collection, giving the appearance that four of the Phase 3 participants had not posted to social media during Phase 2. In actuality, these four participants all described using private groups and direct messaging to share content related to teaching and learning in nursing. The Phase 3 participants noted the absence of professors from their online groups as a potential barrier because there was no one clarifying or correcting the information shared online. A number of students, especially the distance students, expressed that social media was a way to connect with their classmates, the university, and the wider nursing community. Participants shared how they use Instagram and YouTube to review clinical skills like IV insertion or ambulating patients in advance of their surgical rotations. Participants also shared that they use social media to follow areas of interest related to nursing. A few participants discussed how social media prompted them to learn during their leisure time since they could be scrolling through their accounts and run into clinical pearls or other articles and information relevant to their nursing education.

The nursing student participants described several motivators for why they chose to use or not to use social media for teaching and learning purposes. Several students indicated that they were cautious of the content posted on social media. Students also expressed that social media

had the potential for information overload and that not all content available to them was relevant to their inquiries. Further, several participants indicated that they chose not to post to their public social media pages but rather shared content in closed groups or by direct message since they were aware that professional licensing organizations monitored social media pages. They highlighted professionalism as a key motivator to not use social media. Students also discussed difficulties accessing social media, either by poor internet connectivity or content that was not appropriately captioned so as to be accessible to those with disabilities.

Distraction was a concept raised largely by the students who attended classes face-to-face. They expressed how if they were bored in class, they would check their social media accounts. They also indicated that it was sometimes distracting to see the screens of classmates who were on social media during lectures. One distance student indicated that social media could be distracting since they could intend to look up one thing related to coursework but would then spend several hours scrolling through content suggested by algorithms. The participants expressed that their programs either did not encourage the use of social media or did not acknowledge social media as a potential teaching and learning tool. The participants indicated that their professors were more accepting of social media and sometimes linked YouTube videos to their courses or in one case, encouraged students to explore cohort groups and use social media as a platform to complete a learning portfolio.

Finally, participants described what content they consumed and shared on social media and for what audiences. Students indicated that they shared and consumed content related to burnout, nursing culture, fear of not being accepted as a new nurse, shifts and working short, and how the public perceives the nursing profession. Several participants indicated that they shared news articles about nursing cuts and other politically relevant topics for their non-nursing

friends. Numerous participants described how they share evidence-based content to their social media accounts in the hope that their friends and followers will engage with it and change their behaviours. Lastly, several students indicated that their decisions to share content to their social media pages or groups as influenced by the potential to reach wider audience, including their peers, their families, and potentially politicians.

Overall, Phase 3 included nine individual semi-structured interviews using Zoom videoconference technology with nursing students in different program streams at NU SoN. Phase 3 aimed to consolidate the findings of Phases 1 and 2 of the present study. Additionally, Phase 3 aimed to qualitatively explore how students in a school of nursing use social media for teaching and learning purposes, what motivates their decisions to do so, and what content they posted related to teaching and learning in nursing. The next chapter will integrate and discuss the findings from Phases 1, 2, and 3 of this study on social media use in educational practice at NU SoN.

Chapter Eight: Integration of Findings and Discussion

There is an abundance of literature related to how Medicine uses social media for teaching and learning purposes. Much less is known about how health professions outside of Medicine use social media in teaching and learning. This study explored how nursing students from four different BScN program streams at NU SoN use social media for both formal and informal teaching and learning purposes and what motivates their decisions to do so. The results of this study suggest that the nursing student participants use social media for a number of formal and informal teaching and learning purposes. Many participants also expressed benefits and challenges related to social media use in their education. In this chapter, I explain how nursing students at NU SoN use social media for teaching and learning purposes by integrating the findings of this three-phase mixed methods case study with the literature through a process of explanation building. I share how nursing students at NU SoN use social media for formal and informal teaching and learning purposes, what motivates their decisions to use – or not to use – social media for teaching and learning purposes, and what content they choose to consume and share in both private and public spaces on social media. Before integrating my findings, I provide an overview of the study and discuss the limitations. I conclude this chapter with a reflection on the contributions of this study to theory, methods, and practice.

Overview of the Study

I conducted a sequential explanatory mixed methods single case study to explore nursing students' use or non-use of social media in their educational practice. The primary goal of this study was to explore whether and how nursing students at NU SoN use social media for learning purposes. I also aimed to explore the benefits and challenges of using social media for these purposes alongside the motivations for using or not using social media in nursing education.

Finally, I explored what content nursing students shared related to learning in their nursing education.

I collected data using surveys, a digital artifact collection, and individual semi-structured interviews over a one-year period to answer the following research questions:

- How do students in a school of nursing use social media for learning purposes?
- What motivates students' decisions to use or not to use social media in a school of nursing for learning purposes?
- What content do students in a school of nursing post to social media related to learning?

The conceptual framework articulated in Chapter 3 informed my data collection, analysis, and interpretation. In this sequential explanatory mixed methods single case study, I ensured that my analyses were credible, dependable, confirmable, and transferable (Guba, 1981; Lincoln & Guba, 1985) by using overlapping methods to triangulate my findings. I also provided my participants with opportunities to comment on their transcripts from their interviews and provide feedback or make necessary revisions. As mentioned in Chapter 4, the findings from Phases 1 and 2 informed the development of my semi-structured interview guide for Phase 3. By using multiple phases, each with their own unique method and focus, I was able to expand on and clarify findings from the previous phases, thus helping to explain the overall study findings and generate a theory of how nursing students at one SoN use social media for formal and informal teaching and learning purposes through a process of explanation building (Yin, 2014).

Limitations of the Study

This study is not without limitations. I have referenced many of the strengths of this study in the preceding chapters. At this point, I will discuss the main limitations of this three-phase study.

Main limitations of Phase 1. Phase 1 consisted of a survey to explore whether and how nursing students at the Nipissing University's SoN use social media in their teaching and learning and what motivates their decisions to do so. Nipissing's SoN offers four program streams that all result in a BScN degree. While I was able to obtain representation from each program stream in the survey, fewer students from the Bridging (n=45) and Scholar Practitioner Programs (n=25) responded to the survey than from the RPN to BScN Blended Learning Program (n=75) and the Collaborative program (n=73). I am aware that the SPP is the smallest program stream at NU SoN but because I do not have the exact enrolment data for each stream, I am unable to say whether my survey sample sizes are representative of each program stream. As a result, the perspectives of students in certain program streams may have been underrepresented.

Further, I had initially aimed to recruit both nursing students and nursing faculty members from NU SoN. I aimed to recruit 30% of Nipissing University's nursing student population for my survey (n=357). Creswell (2012) and Dillman (2000) recommended a minimum 50% survey response rate. Similarly, Babbie (2008) suggested that a 50% survey response rate was adequate for analysis and reporting but a 70% response rate was optimal. Despite using a modified Dillman's Tailored Design Method, I achieved a 20% response rate, after excluding the 74 incomplete responses (n=220). These incomplete responses constitute a study limitation since I do not know why participants chose to exit out of the survey prematurely.

Nevertheless, while my response rate was lower than anticipated and lower than Dillman's (2000) suggested minimum 50% response rate, Meterko et al. (2015) argued that "although high response rates are desirable because of their effect on precision and power, absolute thresholds representing 'adequate' survey response rates may not be accurate. Thus,

survey results should be considered on their merits even if based on relatively 'low' response rates" (p. 142). As mentioned, I also aimed to recruit faculty members for this study but did not achieve a sizeable sample, so I revised my study to focus solely on nursing students. The absence of nursing faculty members' perspectives on social media use in their educational practice is a limitation to this study.

Finally, my survey relied on self-reported data. Respondents self-reported their levels of knowledge, experience, and interest in social media use, which are relatively subjective measures that may differ from one person to another. Respondents also shared how social media was used by their professors for teaching purposes in their open-ended responses. Faculty members' perspectives were not included in this study and thus, their perspectives on their social media use for teaching and learning purposes in their own nursing courses were excluded. I also could not link participants' Phase 1 responses to participant data from Phases 2 and 3, limiting the extent of my analysis across all three phases.

The Phase 1 survey included closed- and open-response questions, which allowed me to gain an understanding of how students at NU SoN use social media for teaching and learning purposes and what motivated their decisions to do so. It also prepared me for Phase 2, where I explored what content nursing students shared to their social media accounts.

Main limitations of Phase 2. Phase 2 consisted of a digital artifact collection wherein I followed nursing students' personal Twitter, Facebook, and Instagram accounts over a period of five months to see what content they shared related to teaching and learning in nursing. A key limitation of my digital artifact collection was that I was unable to see what content the participants shared by Direct Message or in private social media groups. This limitation left the impression that seven participants did not share any content related to teaching and learning to

social media during the Phase 2 study period. Further, my presence as a follower on the participants' social media accounts may have influenced participants' posting behaviour over the study period. I tried to mitigate any potential Hawthorne effect (i.e., participants changing their posting behaviour since they were aware that they were being observed) by collecting data weekly over a five-month period, with the intent to capture consistent posting behaviour over an extended period of time. Nevertheless, the Hawthorne effect remains a potential limitation to this study.

Main limitations of Phase 3. Phase 3 included one-on-one semi-structured interviews with nursing students from NU SoN to consolidate the findings of Phases 1 and 2. Even though I incentivized Phase 3 participation, I was only able to recruit 9 out of a potential 24 participants for an interview. The information that I gained from these interviews consisted of self-reported data from the perspectives of the participants. Although participants spoke about how their professors used social media in their courses, the professors' perspectives were not included in this phase of the study, leaving a potential imbalance. Further, while the distribution of on-campus and distance students who participated in an interview was relatively equal, the distribution of program streams was not. Therefore, I was unable to compare interview experiences between students in the same program stream.

Main limitation of the study. A final limitation applicable to the study as a whole is the rapidly changing nature of technology and social media. During the study period, new platforms like TikTok gained popularity among both the general population and among health professionals. This study was not able to effectively capture the emergence of these new platforms and their impact on nursing education, although that remains an area for further study.

Despite the aforementioned limitations, the findings of this study add valuable insights to the literature on how social media is being used in nursing educational practice at NU SoN.

Integration of Findings

Due to the mixed methods nature of this single case study, Chapters 5, 6, and 7 contain independent and separate analyses of Phases 1, 2, and 3 of this study respectively. I elected to integrate the findings of all three phases following the conclusion of the third phase of data collection because each phase built off the previous one. In this section, I use a process of explanation building to integrate all three phases and to develop an understanding of how NU SoN uses social media for teaching and learning purposes in nursing education. As described previously, explanation building consists of making an initial theoretical statement or proposition, comparing the findings of an initial case against such a statement or proposition; revising the statement or proposition; comparing other details of the case against the revision; comparing the revision to the findings from a second, third, or more cases; and repeating the process as many times as is needed (Yin, 2014).

Because I had analyzed all three Phases independently of one another, I had three sets of relatively closely related data in MAXQDA, one set reflecting each Phase. During this integration of findings, I combined codes in MAXQDA across phases, leaving a total of 22 unique codes for all data in this three-phase study. Figure 8 depicts the code cloud for the entire study; note that word size is indicative of the relative frequency of each code.

Figure 8. Integrated Findings Code Cloud

Table 20 depicts the alignment between each code, its corresponding category, and overarching research question.

Table *20*

Alignment between Codes, Categories, and Research Questions across all three Phases

Research Question	Category	Code
How do students in a School of Nursing use social media for learning purposes?	Formal learning	Multimodal teaching and learning
		Course assignments
		Studying for exams
		Course-related sharing
	Informal learning	Tools and resources
		Personal interest and self-directed learning
		Reinforcing skills previously learned in class
	Social Media as 'Third Space'	Opportunity to share different perspectives
		Collaboration and networking
		Hidden knowledge economy
What motivates students' decisions to use or not to use social media in a School of Nursing for learning purposes?	Motivators	Reach
		Engagement
		Quality and reliability
		Privacy
		Distraction and laziness
		Type
		Professionalism
		Faculty and program attitudes
		Convenience and accessibility
What content do students in a School of Nursing post to social media related to learning?	Content Shared	Personal accomplishments
		Perceptions and realities of nursing practice
		Political and health system posts
		Sharing evidence-based content for others

How nursing students use social media in teaching and learning. Based on this exercise, it is evident that nursing students at NU SoN use social media for formal and informal teaching and learning purposes in their nursing education. They also use social media as a 'third space' to complement their formal education.

Social media use in formal teaching and learning. Students shared several ways that they use social media at NU SoN in their formal nursing education across all three Phases of this study. For the purposes of this study, formal learning was conceptualized as the learning that occurs within the institutional, chronological, graded, and hierarchical educational system (Duke et al., 2017). None of the students in this study shared the same creative formal experiences with using social media in their nursing education like those published by Gunberg Ross (2015) wherein a course instructor developed a simulated patient on Facebook for nursing students to interact with online. However, a couple of students in Phases 1 and 3 of this study outlined their experiences in a nursing informatics course that required them to use sites like Reddit to learn about the patient experience with particular health conditions. Additionally, some study participants described how they used social media to develop patient-oriented health advocacy campaigns for healthcare organizations in their Phase 3 interviews, effectively demonstrating how social media is being used in their formal nursing education. In Phase 1 of this study, 167 study participants (76%) reported using YouTube for learning purposes. They clarified in their open-ended responses that their instructors would often share YouTube videos to their course learning management systems or directly in class, a theme which also arose in Phase 3. It appeared that YouTube was the preferred social media platform used by professors in their teaching, according to the nursing student participants. May et al.'s (2013) study proposed that YouTube could be an effective clinical teaching strategy that aligned well with the core

components of Bloom's Taxonomy. While the present study did not focus on how faculty members used YouTube or other social media in their teaching practice, the ways in which students used YouTube for their formal learning and for their informal review of clinical skills aligns with what has been presented in the literature. Very few students reported using other social media platforms in their formal nursing education in either their Phase 1 surveys or Phase 3 interviews.

In Phase 1, 174 participants (79%) indicated that they use social media to communicate with their classmates or instructors about coursework. This finding aligns with Gagnon's (2015) finding that health professions students use social media academically to communicate with classmates and instructors about their coursework and assignments. In Phases 1 and 3, participants clarified that they use social media to complete course assignments collaboratively, especially if they live geographically dispersed throughout the province. In fact, participants in Phases 1 and 3 described how they used social media as both the process and product of their course assignments; some students shared how they used social media to connect with their groups to work on course assignments while others described creating social media-based content, such as blogs or podcasts, as the product of their assignment. Further, some Phase 3 participants described how they shared their own study notes to their social media accounts in case their classmates found them helpful, however no participants shared any such artifacts to their personal social media accounts during the five-month Phase 2 digital artifact collection period. Other participants described how they shared peer reviewed articles or program updates in their Phase 3 interviews, for which there were corroborating posts from the Phase 2 digital artifact collection.

The ways in which the nursing students use social media to support their formal learning demonstrate social media's collaborative capacity for knowledge and information exchange for both on-campus and distance students (D'Souza et al., 2017; Giordano, 2011; Ventola, 2014). The study participants used social media creatively in their formal education; for instance, in Phases 1 and 3, participants referenced program-specific Facebook groups where they could collectively decide on questions that they needed to ask their professors in class. This finding is consistent with that of Junco et al. (2013), where they found social media to be a low-stress method for students to ask questions of their peers and educators. Across all three phases, participants demonstrated that they use social media for formal teaching and learning purposes to support their nursing education. Nevertheless, social media use for informal teaching and learning purposes seemed far more prevalent among the nursing student participants.

Social media use in informal teaching and learning. The nursing student participants used social media for a number of informal teaching and learning purposes in all three study phases. Within this study, informal learning is understood as the lifelong process wherein people acquire knowledge, skills, attitudes, and insights from daily experiences, self-directed learning, and peer-to-peer interactions (Duke et al., 2017; Kassens-Noor, 2012). The study participants in Phases 1 and 3 expressed how they use social media to stay up to date on changes in nursing policy and practice; they also shared that they use social media to refresh their clinical skills before applying them in lab settings or during clinical rotations. While the findings of this study do not directly touch on the use of social media at the point-of-care, studies like that conducted by Hay et al. (2017) demonstrate social media's potential utility for enhanced clinical learning and patient safety. In this study, two participants (22%) in Phase 3 described how they use social media, specifically YouTube videos, to help with patient education at the bedside.

In Phases 1 and 3, participants described how social media allowed them to follow areas of interest and engage in self-directed or accidental learning. The literature on social media use suggests that self-directed activities like reading a blog, watching a webinar, or listening to a podcast could constitute professional development activities for health professionals (Batt, 2016). The Phase 3 participants explained how being able to find additional content that demonstrated technical skills or concepts helped alleviate their anxieties about having to perform those skills in clinical settings. No participants specifically referenced using social media as professional development, however in Phase 2 several participants shared professional development opportunities for nurses or nursing students to their personal social media pages. Another big theme that arose in this study was social media's utility for accessing tools and resources. In Phase 1, the nursing student participants described how they accessed flashcards, tutorials, and mnemonic devices to help them study; in Phase 3, a couple participants described following certain Instagram pages for tips on IVs, NCLEX questions, or to receive daily 'learngrams'. My literature review revealed that social media could be an important mechanism for peer-to-peer teaching (Ravindran et al., 2014). It did not uncover any literature that explored how nursing students share specific tools, resources, course notes, and questions by DM for informal learning purposes on social media – mainly Instagram – as described by the Phase 3 participants in this study. What tools and resources nursing students share publicly and privately for informal learning purposes represents a recommended area of further study based on these findings.

One major finding that arose in all three phases of the present study related to the role of the hidden curriculum of nursing education on social media. Hidden curriculum refers to unplanned sociopsychological interactions that can create a learning environment with

unintended consequences on learners' thoughts and behaviours (Thomas et al., 2016). The hidden curriculum contains the unofficial expectations, values, and unstated professional socialization processes that occur within learning environments (Edmunds et al., 2015; Ozolins et al., 2008). Hidden curriculum was evident in all three phases of this study. In Phase 1, respondents described how social media provided them a forum to learn about the nursing profession. Examples of hidden curriculum were particularly evident in the content that the participants shared in the five-month Phase 2 digital artifact collection period. For instance, some students shared content demonstrating their emerging understandings of the role of a nurse and how much or little control they actually have over events that unfold in their clinical environments. Another piece of hidden curriculum that arose in Phase 2 especially was content that reflected tensions between nurses and their patients. Some of the content shared by participants could be viewed as being unprofessional if seen by their patients; much of the content appeared to position nurses as being 'other' or different than their patients. Bennett et al. (2004) explained that these occurrences of hidden curriculum could be a way for health professionals to cope with high demands and the pressures to meet diverse expectations. Nevertheless, no participants referenced these posts in their Phase 3 interviews, although several spoke about the need to maintain professionalism on social media. In Phase 3, several participants also shared what they learned about the nursing profession from social media. Several students spoke about learning to feel a sense of pride in their role as compassionate caregivers based on the content they consumed about the nursing profession from social media.

In this study, the nursing student participants shared numerous ways that they used social media to enhance both their formal and informal teaching and learning. In the next section, I will

outline how the participants used social media as a 'third space' in their educational practice to complement their formal education.

Social media use as a 'third space'. Aaen and Dalsgaard (2016) describe the 'third space' as being one that emerges in boundaries or overlaps across spheres; they explain that third spaces emerge from a need for discourses that are unavailable or cannot be filled in existing settings. Social media created a third space for the nursing student participants in this study. In Phases 1 and 3, participants described creating their own Facebook groups for their classes, cohorts, study groups, clinical groups, and programs. In Phase 3, the students explained that faculty members were not present in their Facebook groups, although they did sometimes encourage students to join the groups to stay up to date on information. The participants shared that they used the groups to fill gaps in their education, with one distance student even describing how social media had been a better teacher by providing more feedback than their actual professors provide. Others described using the Facebook groups to create a sense of community they felt was missing in their distance learning. In fact, this study found that nursing students use social media in their education in a number of ways that are often hidden or 'behind the scenes'. This finding was not reflected in my literature review on social media use in HPE.

Nursing students in this study used social media as a type of Community of Practice (CoP) that allowed them to connect with their classmates as well as other nursing students in their program, at their university, or elsewhere. According to Wenger (1998), learning – for individuals – is an issue of engaging in and contributing to the practices of their own communities; for communities, learning is an issue of refining their practice and ensuring a new generation of members. Over time, collective learning results in practices that reflect the pursuit of enterprises and social relations (Wenger, 1998). These practices belong to the kind of

community created over time by the sustained pursuit of a common goal. It thus fits to refer to these groups as CoPs (Wenger, 1998). Thoma, Paddock, et al. (2017) summarized CoPs as 'people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis' (p.111). Thoma, Paddock, et al. (2017) also introduced the concept of Virtual CoPs (vCoPs) as sharing the same features as CoPs but existing in digital spaces so members interact virtually using novel communication technologies to build relationships. Virtual CoPs provide an opportunity for dynamic continuing education and access to online resource repositories (Evans et al., 2014). The Facebook groups that students created and used to share notes, resources, experiences, support, and information about professors and courses are undoubtedly forms of vCoPs that are intended to help them navigate their nursing education. These groups allowed students to learn from the knowledge and experience of those ahead of them in the program; it also allowed nursing students to share their own knowledge and experiences with those behind them in the program. In Phases 1 and 3, the participants referenced these groups as a key source of teaching and learning, aligning well with Wenger's (1998) work on CoPs.

Finally, the nursing student participants demonstrated that they use social media as a space for networking and connection in all three Phases of this study. In Phase 1, 72 participants (33%) reported using social media to network with current and/or prominent nurses in the field. Participants shared how they use social media for peer-to-peer learning opportunities and to learn from experts in the field. In Phase 3, participants outlined social media's potential to connect with nursing experts and the resources they have created. This finding aligns with Giordano and Giordano's (2011) article that suggests health professions students use social media to network with health professionals and potential employers. Phase 3 participants shared how they used

social media to keep in touch with their clinical placement institutions and promote specific institutional campaigns. One of the reasons that study participants indicated using social media was its value in gaining other perspectives outside their institution. This perspective is shared by Jones et al. (2016), who suggested that students benefit from gaining wider perspectives from social media since so many health professionals are available online and are willing to help out student nurses.

Aaen and Dalsgaard (2016) found that Facebook formed a 'third space' that combined elements of academic, personal, and social communication that does not typically take place within conventional university structures or spaces. The findings of this study are similar in the sense that the nursing student participants used social media as a mechanism to collaborate, communicate, teach, and learn when traditional university avenues were unavailable to them. In essence, the nursing students – especially in the RPN to BScN Blended Learning Program, delivered by distance – described using social media to fill perceived gaps in their educational experiences.

The participants in all three Phases of this study described and demonstrated using social media for teaching and learning purposes in their nursing education. Social media plays a role in nursing students' formal and informal education at NU SoN. The participants also used social media as a third space, one that is separate from the traditional confines of the university. Within this space, participants merged their personal and academic discussions to collaborate, share resources, mentor one another, and connect with nursing experts and professional institutions. The next section will outline what motivates nursing students at NU SoN to use social media in their teaching and learning.

What motivates nursing students' decisions related to social media use in teaching and learning. In this study, participants shared reasons that they use social media in their nursing education; they also shared why they dislike or do not use social media in their teaching or learning. Professionalism was one major reason participants were reluctant to use social media. In Phase 1, 138 participants (63%) indicated that concerns about professionalism on social media had a high or very high influence on their social media use in their nursing education. In Phase 3, participants described being aware that professional and licensing organizations monitored nursing students' social media accounts. This finding is consistent with literature that suggests that lapses in online professionalism have negative consequences for the reputations and licensure of healthcare professionals (Kind et al., 2014; Laliberte et al., 2015; Ventola, 2014). No study participants described receiving formal course instruction on professionalism on social media, as proposed in the literature (Gagnon, 2015; Pereira et al., 2015; Rowe, 2016). However, several students in Phases 1 and 3 expressed that their professors or programs often discouraged social media use on the basis of professionalism. Despite this caution, a couple of students in Phase 2 posted content to their personal social media pages that depicted negative perceptions of patients or workplaces. Other students shared pictures that included alcohol or club environments. It is important to note that this content was available only on participants' private social media pages and that the perception of professionalism or unprofessionalism is subjective and dependent upon the audience and perceived intent of the post. Participants in Phase 3 described that the value of sharing meme-based content to social media, some of which could be perceived as unprofessional, was finding connection with nursing colleagues through shared experiences. Professional behaviour is one of the six core expectations

set by CASN (2015a). Knowing what is professional to share online to social media also relates to the concept of digital literacies.

Digital literacies relate not only to the professional use of social media but also to students' ability to determine which online sources are credible and reliable. The participants in this study cited the credibility and reliability of online sources as another reason they were cautious of using social media in their nursing education. While numerous Phase 1 and 3 participants described using social media to supplement their course content and to study for exams, many also appeared cautious of trusting the content on social media. One Phase 3 participant described how they determine the credibility and bias of online sources by critiquing the ads on the page; such strategies demonstrate digital literacy skills since the student is aware of potential risks to credibility and is utilizing strategies to evaluate online sources (Hague & Williamson, 2009). Other students in both Phases 1 and 3 indicated the importance of verifying whether the social media-based sources they consulted were credible, especially since they were using them for purposes like studying for the NCLEX or providing patients with health information in clinic. No participants expressed being explicitly taught how to recognize sources that were not credible or reliable on social media in their nursing programs, although numerous Phase 1 and 3 participants shared that their professors warned them about using reliable sources and unprofessional behaviour online.

The participants in this three-phase study described several reasons they were reluctant to use social media in their teaching and learning in nursing education. The majority of participants used social media regardless of the above-mentioned challenges. Participants reported that social media was an engaging resource that allowed them to connect with classmates and colleagues across the province. They also appreciated that they could access social media anywhere and at

their convenience. This accessibility and convenience of social media was a large motivator for participants in Phases 1 and 3 of this study. These motivators also align what has been published on social media use in HPE. Batt (2016) and Erardi (2008) both described the convenience of social media for asynchronous learning, while D'Souza et al. (2017), Gagnon (2015), and Snodgrass (2011) outlined social media's potential to engage students in learning activities. Students at NU SoN also outlined preferences for certain social media platforms. Students mainly interacted with one another through Facebook and used YouTube to enhance their learning. Most students were not in favour of using Twitter for any teaching and learning purpose while Instagram received mixed reviews from participants. These findings were interesting given Medicine's wide adoption of Twitter as a tool for teaching, learning, and general knowledge translation purposes (Bahner, Adkins, et al., 2012; Choo et al., 2015; El Bialy & Jalali, 2015; Forgie et al., 2013; Gagnon, 2015; Ovaere et al., 2018; Ventola, 2014). The participants in this study reported both consuming and sharing content on social media; the next section focuses on what content the students at NU SoN share to social media for the purposes of teaching and learning.

What content nursing students post to social media. As previously mentioned, the content that students shared to their public social media pages or in private groups was influenced by the content they consumed on social media. In Phase 3, several participants reported immediately sharing videos or clinical pearls that they had just consumed on their social media accounts. The participants also appeared to share personal nursing milestones, such as graduating from their programs, passing the NCLEX, completing exams and semesters, and starting new semesters. Numerous participants included their nursing student status in their

social media biographies and some of their profile pictures featured them in scrubs with stethoscopes.

The nursing student participants also shared content that explored the nursing identity and nursing roles. Some of this content was meme-based and reflected the expectations and realities of nursing practice while other content included professional development opportunities or news articles that explored key issues in nursing culture and work environments. Some of the content shared by participants to their social media accounts raised questions about professionalism since they featured memes depicting questionable or derogatory clinician-patient interactions or images of the nursing student participants imbibing. This perception of unprofessional posting is consistent with the conceptualization set forth by Marnocha and Pilliow (2015), where risks to professionalism can include verbal or visual violations of patient confidentiality, unprofessional online content related to substance use and sexuality, and demeaning content about patients, peers, clinical sites, organizations, or instructors. Seemingly unprofessional content was the exception rather than the norm in this study, at least on participants' personal social media pages; participants posted far more content related to advocacy or health education purposes as well as artifacts from their own formal and informal teaching and learning in nursing. In Phase 2, seven participants did not appear to post any content related to teaching and learning in nursing to their personal social media pages. In the Phase 3 interviews, four of these participants clarified that they shared content related to their nursing education through private social media groups and direct messaging rather than on their personal pages. They did so for several reasons; notably because they wanted to maintain a professional presence on social media since they were aware that professional licensing bodies could look at nursing students' social media pages. Participants also indicated in their Phase 3 interviews that their connections on their personal social media

accounts would be less interested in their nursing content and thus they chose to share that content privately with their peers.

Much of the existing literature on social media use in HPE focused on the platforms that students use for educational purposes or the content that faculty members share on social media for teaching or learning purposes. My initial literature review did not identify any articles that disseminated what content nursing students share to social media for teaching or learning purposes. A subsequent search of the literature following my study revealed analyses of content shared within medical education by practicing physicians or by educators for teaching purposes (Diller & Yarris, 2018; Nikolian et al., 2018; Riddell et al., 2019). Accordingly, the present study fills a gap in the literature by exploring the specific content that nursing students shared to their social media pages for teaching and learning purposes.

Summary of integrated findings. The participants in this study used social media for teaching and learning purposes in their nursing education. Participants expressed that they used social media for formal and informal teaching and learning purposes and as a third space to fill gaps in the existing structure of their nursing programs. Not all participants were in favour of using social media for teaching and learning purposes. Some participants expressed being motivated to use social media because their professors used platforms like YouTube in their courses. Other students shared how they were motivated to use social media for their own personal learning purposes. Phase 1 demonstrated that the motivations for and methods of using social media spanned a spectrum of formal to informal teaching and learning purposes. Phase 1 also illuminated a number of institutional and personal drivers that motivate nursing students' decisions to use social media in their teaching and learning. Phase 2 found that nursing students share a range of content related to teaching and learning in nursing to their social media pages.

While a few student posts could be perceived as unprofessional, the majority of content shared was related to advocacy, relaying health education, sharing artifacts from students' own formal and informal nursing education, and exploring the identity and role of a nurse. Phase 3 consolidated the above findings and determined that the nursing students in this study engage in sharing content related to teaching and learning through DM and in private groups. The nursing students at NU SoN appear to have a number of vCoPs available to them created and run by nursing students. Participants in Phases 1 and 3 described these online spaces as being helpful for filling gaps in their nursing education, although some participants expressed the desire to have a faculty presence on the Facebook groups. Based on these integrated findings, I revised the conceptual framework originally outlined in Chapter 3 to depict the theoretical and conceptual realities of social media use in educational practice at NU SoN.

My conceptual framework was pivotal in structuring my study and analyzing my data. This framework originally depicted the learning theories social constructivism and connectivism as exerting influence on social media use in nursing education. My study used these lenses to explore social media in educational practice but found the role of theory to be greater than I originally anticipated. Both social constructivism and connectivism are influential learning theories for connected teaching and learning. The findings of this study also suggest that Wenger's (1998) concept of CoPs contributes to the social and connected nature of formal and informal teaching and learning through social media at NU SoN. I have thus revised my conceptual framework accordingly. As shown in this revised conceptual framework, social constructivism, CoPs, and connectivism collectively inform connected teaching and learning processes, which I will explore later in this section. Figure 9 depicts my revised framework.

This revised conceptual framework has implications for health professions educators and health professions programs. I will outline specific recommendations for connected teaching and learning, considering social media-based education, in Chapter 9. When interpreting the revised conceptual framework, it is important to consider the role that learning theories play on the formal, informal, and hidden curricula. In social media-based teaching and learning, elements of one or several learning theories may be present simultaneously. Aspects of social constructivism, connectivism, and CoPs may be used in combination to create a connected form of teaching and learning in online spaces. I have represented this circular and connected process in this revised conceptual framework. Educators should consider explicitly aligning their learning objectives with the appropriate learning theory or theories to best achieve their intended formal and informal curricula outcomes. They must also be cognizant of the influence of social media on their students' educational practice and what hidden curricula elements may be revealed through social media use. Furthermore, educators must continually evaluate the benefits and challenges of choosing to implement social media into HPE, based on current evidence and best practices as presented in the literature with regard to teaching and learning as well as student use or non-use of social media in their education. Overall, the above-mentioned findings, alongside this revised conceptual framework, have contributed to theory, methods, and practice in the context of social media use in educational practice. I explore these contributions in the next sections.

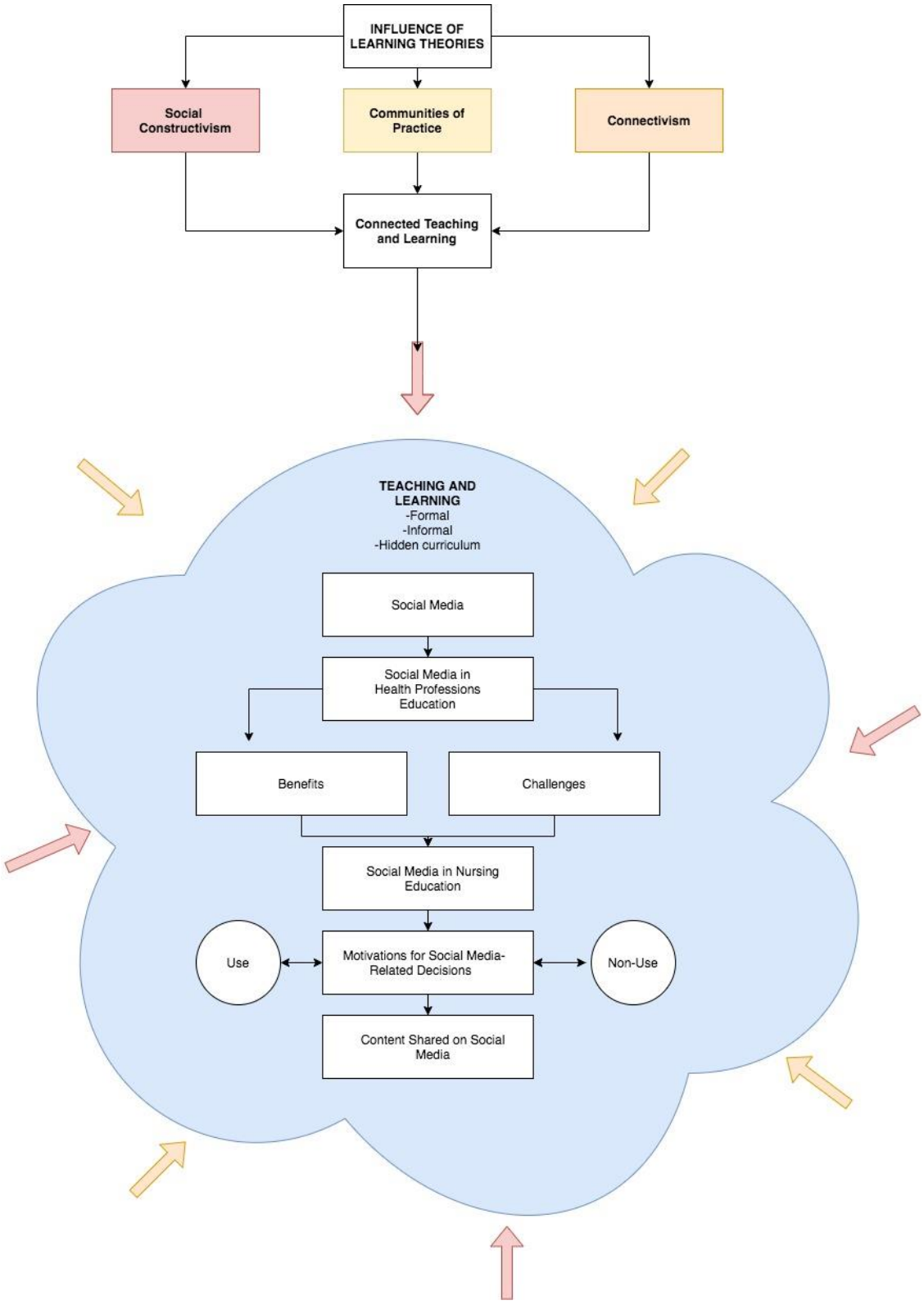

Figure 9. Revised Conceptual Framework

Contributions to Theory

With this study, I contributed to learning theory and our current understanding of connected teaching and learning in nursing education using platforms like social media. Based on the findings of this study, I propose that social media-based teaching and learning require connected theories of teaching and learning. Very few articles that I identified in my literature review integrated learning theories into their study of social media use in HPE. By including learning theory as one aspect of my conceptual framework, my study has contributed to furthering the discussion on the role of theory in connected teaching and learning. Before I explain this study's contribution to theory in relation to existing social learning theories, I will comment on a common misconception often held in digital teaching and learning.

The idea of the digital native permeates online teaching and learning. In 2001, Marc Prensky argued that students entering postsecondary education in the early 2000s were the first to grow up entirely surrounded by technology and could thus be considered digital natives because they think and process information differently than their predecessors (Prensky, 2001). He subsequently termed those people who were not born into the digital world but later adopted technology as digital immigrants (Prensky, 2001). The concepts of the digital native and the digital immigrant are contentious because, as Brown and Czerniewicz (2010) assert, they are 'othering' concepts that set up a binary opposition between those who are digital natives - defined by generation rather than social factors like access or technological ability - and those who are not. This juxtaposition implies that if a person falls into one category, they cannot exhibit traits of the other (Brown & Czerniewicz, 2010). As Helsper and Enyon (2009) argue, severe inequalities exist within the 'generation' of digital natives and there is compelling

evidence that young people are not completely comfortable with information and communication technology (ICTs) because they are often unable to avoid or evaluate online risk (p. 3).

In the present study, students ranged in age from 18 to 50 years or older. While there was a significant relationship between students' age categories and whether they use social media for personal purposes, there was no significant relationship between students' age categories and their social media use for academic purposes. Across all three phases, some younger students expressed disinterest in using social media for any purpose but felt obligated to use it for academic purposes while some older students enthusiastically used social media for any purpose, including their teaching and learning. Furthermore, one of the biggest motivators of not using social media for nursing students was the potential for poor quality or unreliable online sources; study participants consistently demonstrated high levels of digital literacy by questioning the content they found online and using strategies to identify credible and high-quality sources. Arguably, the findings of this study discourage the notion that simply growing up with technology encourages adoption for academic purposes. While Prensky contributed an interesting idea about the evolution of contemporary students and learning, the learning theories social constructivism, communities of practice, and connectivism better reflect the realities of connected teaching and learning because they focus on collective learning and knowing in both physical and digital spaces.

Social constructivism. Social constructivism is one learning theory that supports connected teaching and learning at NU SoN. Three assumptions are inherent in constructivism:

1. Meanings are constructed by humans as they engage with the world they are interpreting;
2. Humans engage with their world and make sense of it based on their historical and social perspectives; and

3. The basic generation of meaning is social, arising from the interaction with a human community. (Creswell, 2003)

In Phase 3, several participants in this study noted when they saw content on social media that related to something they had recently learned in their classes, demonstrating their ability to assimilate the recently consumed content with their previous experiences. In Phase 2, a couple participants shared recent events or news articles and added captions relating the artifact to course content they recently had learned. Study participants appeared to use social media as a method of consolidating, sharing, and engaging in their learning as part of a larger social process.

According to Flynn et al. (2015), learning theories have moved from behaviourist to constructivist in the age of technology. Social constructivism has implications for online teaching and learning. These implications are evident in Vygotsky's (1978) definition of the zone of proximal development and the idea of scaffolding. He defines the zone of proximal development as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). The concept of scaffolding is articulated within the zone of proximal development. Scaffolding has applications for online learning and course design; Lau (2014) outlined how technical scaffolding allows learners to experience just-in-time instruction and are provided with resources to solve problems and generate new learning and understanding collaboratively online. The participants in this study described using online social media groups to share information about course requirements, assignment information, and exam tips. Several participants described experiences of scaffolding learning for their peers either within their own cohort or in cohorts behind them using social media groups. One participant referenced the importance of social

media as a resource in their transition to practice since they will lose access to many of their university-based resources upon graduation. According to Flynn et al. (2015), the online learning environment should provide learners with the resources, tools, and support they need to build their own knowledge; scaffolding fades as learners develop their own knowledge and expertise. Social constructivism and the associated teaching and learning processes also relate well with the concept of CoPs.

Communities of practice. Much like with social constructivism, Wenger's (1998) concept of CoPs proposed that learning and knowing relate to social participation. Learning and knowing, for Wenger, have four premises:

- Humans are social beings and this fact is a central aspect of learning;
- Knowledge is a matter of competence with respect to valued enterprises;
- Knowing is a matter of active engagement in the world; and
- Meaning – our ability to experience the world and our engagement with it as meaningful – is ultimately what learning is to produce. (p. 4)

Wenger (1998) stressed that participation refers to the process of being active participants in the practices of social communities and constructing identities in relation to these communities. He focused on the interactions between meaning, practice, community, and identity and how these influence learning. Meaning refers to a way of talking about our changing ability to experience life and the world as meaningful, both individually and collectively. Practice refers to a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action. Community is a way of talking about the social structures that recognize our participation as competence. Finally, identity is a way of talking about how

learning changes who we are and creates personal histories of becoming in the context of our communities (Wenger, 1998).

According to Wenger (1998), learning – for individuals – is an issue of engaging in and contributing to the practices of their own communities; for communities, learning is an issue of refining their practice and ensuring a new generation of members. One finding from Phases 2 and 3 of this study was that the content nursing students consumed and shared related to their professional socialization and their perceptions of the role of a nurse. Participants shared experiences learning about nursing as a profession from nurses in the field through social media. CoPs include what is said and unsaid, represented and assumed. They include language, tools, documents, images, symbols, roles, procedures, and regulations that practices make explicit. CoPs also include the implicit relations, subtle cues, underlying assumptions, and shared world views that exist more tacitly (Wenger, 1998). Participants highlighted these tacit learning elements in their Phase 2 digital artifact collection by sharing content depicting their perspectives on the role of a nurse and their position within the nursing profession. Participants expanded on these explicit practices in their Phase 3 interviews by describing the content that they share and consume on social media, both on their personal pages and in private groups, and how these activities influence their perspectives of their roles as nursing students and future nurses. Many Phase 2 participants also included their nursing identity in either their display pictures or social media biographies, showing their insider position within the profession.

Much like with social constructivism, CoPs focus on social connections for teaching and learning. Participants in this study learned formally and informally from peers, colleagues, and nurses in the field through social media. The participants in this study also demonstrated how they used CoPs to scaffold content for one another through peer-to-peer teaching and resource

sharing. Accordingly, these interactions influenced the participants' perceptions of nursing and their roles and relationships within it. The learning theory of CoPs focuses on how identity, meaning, and belonging contribute to effective learning in social communities. It is evident that CoPs have numerous applications to online teaching and learning, especially within nursing education. The final learning theory, connectivism, builds upon both social constructivism and CoPs in a digital way.

Connectivism. In contrast to both social constructivism and CoPs where elements of scaffolding and apprenticeship are common, connectivism is more learner driven. The idea of learner driven connection was evident in this study; participants described formal and informal peer-to-peer teaching and learning activities that took place over social media. Several participants identified the absence of faculty members on social media as a barrier to learning within this system because misinformation could also be transmitted from peer to peer.

According to Bell (2011), learning activities are increasingly online, leading to an increase in informal learning at home in less traditional spaces as opposed to in a formal classroom setting. A study conducted by Flynn et al. (2015) found that health professionals identified connectivism as the learning theory that was reflected in their use of social media. They also found participants to have a high degree of alignment between their educational philosophy and learning theory and a consensus about how these influenced their use of social media for medical education (Flynn et al., 2015). Connectivism is increasingly used as a learning theory in HPE since it presents itself as a lens amenable to understanding and managing teaching and learning using digital technologies (Goldie, 2016). It is also seen in examples like Massive Open Online Courses (MOOCs) where users drive their own learning through connecting with

one another on the course platform; facilitators are available for guidance, but the majority of learning and content is student-led and student driven through connection (Goldie, 2016).

In this study, participants in all four program streams used social media for a variety of teaching and learning purposes. Since participants in the RPN to BScN Blended Learning Program completed all their coursework online, these participants reported using social media for the purposes of creating a classroom environment at a distance. All four programs shared how they used social media for personal learning purposes, including to review their clinical skills, to clarify course content, and to explore areas of interest to them. In this sense, social media allowed students to extend their formal learning by connecting with their peers in online spaces to discuss course content and share clinical pearls and additional learning opportunities. At NU SoN, learning on social media appeared to be student driven and included aspects of formal and informal learning.

Connected teaching and learning. Social learning theories like social constructivism, CoPs, and connectivism all influence how social media is used for teaching and learning in HPE. Social media allows adult learners to facilitate their learning through their own student-led collaborative online spaces, which can have positive implications for future employability and self-directed lifelong learning (Morley, 2012). Furthermore, collaborative learning is an active process between and amongst learners and teachers; the ways in which learners collaborate with each other in digital spaces – like blogs and microblogs – influence their engagement with course material (Garrity et al., 2014). The pedagogical use of social media in HPE is intended to encourage students to be active participants and co-producers of knowledge rather than passive consumers (Green et al., 2014). Social media also provides a natural CoP – a virtual space where health professions educators and students can promote understanding of professional

communication, evidence-based practice, ethics, and scholarly writing skills (Sinclair et al., 2015).

The present study has made several important contributions to theory. Several learning theories contribute to a cohesive experience with connected teaching and learning, as depicted in my updated conceptual framework (Figure 9). Furthermore, this study has highlighted the integral relationship between social learning theories and nursing students' social media use for both formal and informal teaching and learning purposes at Nipissing University. Theorists, educators, and health professions education researchers must consider the importance of connected learning in nursing education and the combination of learning theories that best support it.

Contributions to Methodology

Through this study, I contributed to methodology in HPE research. Firstly, my use of a mixed methods approach to a single case study demonstrated how combining two approaches could elicit detailed findings due to the plethora of methodological tools available to me. Using a mixed methods approach allowed me to answer my research questions in greater depth than I would have been able to with a qualitative or quantitative methodology alone (Burke Johnson & Onwuegbuzie, 2004; Creswell & Plano Clark, 2011; Creswell & Plano Clark, 2018; Morgan, 2014). Case studies require multiple sources of evidence to allow the data to converge in a triangulating manner (Yin, 2014). My mixed methods case study approach allowed me to use numerous sources of evidence to generate an explanation of how social media is being used for teaching and learning purposes at NU SoN, what motivates nursing students' decisions to use social media in their teaching and learning, and what content they choose to share. Phase 1 was intentionally designed to be exploratory in nature to establish if nursing students at NU SoN

were using social media for teaching and learning. Once I established that many students were, I could explore the drivers that motivated their decisions to use or not to use it. Phase 3 was designed to consolidate the findings from across Phases 1 and 2 using semi-structured interviews. I believe that it is in Phase 2 that I make my largest contribution to methods in HPE research.

Phase 2 expanded upon the findings of Phase 1 and explored what content nursing students shared to their social media. My approach to Phase 2 is fairly novel, especially in HPE research. I have not identified any studies that have conducted a similar digital artifact collection, where the study focuses on following the same participants over an extended period of time to see what content they share to their private social media accounts. Every published study that I encountered in my literature review that explored the content students posted to social media was restricted to hashtag analytics over a shorter period, like during a conference or a course assignment (Bahner, Patel, et al., 2012; Bahner, Adkins, et al., 2012; Junco et al., 2013; Sherbino, 2015; Sinclair et al., 2015). I also conducted a multimodal analysis and qualitative content analysis, which requires a high degree of researcher reflexivity. Since HPE – and health sciences more broadly – favour the hierarchy of evidence as a measure of research rigour and quality, other approaches like multimodal analysis as part of a larger mixed methods study design are arguably less common (Evans, 2003; Mantzoukas, 2008).

Nevertheless, I have demonstrated that a mixed methods single case study approach is an appropriate method to answer my research questions. Using these methods allowed me to achieve a rich and comprehensive understanding of how social media is being used by nursing students for teaching and learning purposes at NU SoN, what motivates their decisions to use or not use social media, and what content they choose to share publicly and privately, if any.

Contributions to Nursing Education

My study also contributes to nursing education in a number of important ways. Several of the key findings of my study relate to collaboration, networking, professionalism, and the credibility and reliability of evidence. These findings overlap with several of CASN's six core expectations for nursing programs. I have provided an overview of each core expectation alongside its guiding principle and a summary of its essential components in Chapter 4 of this monograph. Of particular relevance to social media use in nursing education are CASN's (2015a) requirement that baccalaureate nursing students be able to:

- Seek, locate, and interpret a range of information, evidence, methodologies, and practice observations;
- Demonstrate critical thinking skills to use relevant information and communication technologies to support evidence informed nursing care;
- [C]ommunicate using information technologies to support engagement with patients/clients and the interprofessional team;
- Demonstrate the ability to practice within the context of professional standards of practice, ethical, regulatory, and legal codes;
- [E]nsure client confidentiality and privacy, including in the context of social media; and
- [A]dvocate for change to address issues of social justice, health equity, and other disparities affecting population health

The findings of this study demonstrated that social media can provide a platform to allow baccalaureate nursing students to develop some transferable skills that they will require in their future nursing practice, like communication, collaboration, critical thinking, professionalism, and advocacy. Social media, when used for formal teaching and learning purposes, can provide

nursing students the opportunity to learn how to appropriately use platforms to support their learning while ensuring the quality of their sources and maintaining their online professionalism. The participants in this study shared examples of how they are unintentionally including these aspects of CASN's essential components for baccalaureate nursing education in their formal and informal teaching and learning activities on social media. It remains unknown whether the faculty members at NU SoN are explicitly including these elements in their teaching practice and thus could represent an area of further investigation.

As outlined above, this study has made several important contributions to theory, methods, and nursing education. The final chapter of this dissertation will highlight the implications of these findings and contributions, make recommendations for policy and practice within nursing education and health professions education more broadly. I will conclude with directions for future research as well as some concluding thoughts on the topic of social media use in educational practice.

Chapter Nine: Recommendations, Directions for Future Research, and Conclusions

As outlined in Chapter 8, this study on social media use in nursing educational practice makes several important contributions to theory, methods, and practice. The purpose of this chapter is to highlight some recommendations for social media-based educational policy and practice based on this work. I will also discuss opportunities for future research and provide my concluding thoughts on this study and on social media use in nursing education.

This study demonstrates that nursing students at NU SoN are already using social media in their educational practice both formally and informally. This use of social media has implications for teaching and learning in nursing education. Faculty members must consider the purposes for which nursing students are using social media, especially informally. One finding of this study suggested that nursing students turned to social media to fill perceived gaps – both academic and social – in their learning experience. If faculty members and schools of nursing are aware that social media is being used by nursing students for formal and informal teaching and learning purposes, it can be leveraged as a tool to achieve specific competencies and learning objectives. I have provided some recommendations for how social media-based educational policy and practice based on the findings and contributions of this study on social media use in nursing education at NU SoN.

Recommendations for Social Media-Based Educational Policy and Practice

Despite the fact that this study was conducted at one SoN, several of the findings and implications may be generalized to connected teaching and learning in other nursing or health professions programs and across higher education more broadly. I provide the following recommendations for faculty members to consider when thinking about social media use in education and connected teaching and learning. I have broken these recommendations down by

policy-level recommendations, institution-level recommendations, and instruction-level recommendations.

Policy-Level Recommendations:

- Include professional and appropriate social media communication as an educational competency in health professions education programs, if not already stated in guiding curriculum frameworks. The purpose of this recommendation is not to discourage social media use but rather to develop competent online communicators who are equipped to use social media for teaching, learning, advocacy, and knowledge translation purposes
- Include social media in expanding definitions of Scholarship, especially as conceptualized by health professions education regulatory and credentialing bodies

Institution-Level Training Recommendations:

- Increase training for faculty members and students on digital literacies, including what they are and how to foster digitally literate students. Ensure that faculty members feel equipped to teach students how to use digital tools and resources effectively for their learning
- Increase training for faculty members on developing online CoPs in their online and in-person courses. Communities of Practice provide a space where students can learn informally from one another and become members of their professional communities through this learning. In CoPs, students can help one another to access the course material through peer-to-peer teaching and scaffolding
- Ensure that faculty members feel supported to purposefully align learning theory, instructional objectives, and social media platforms. Social media, if used in teaching and

learning, needs to demonstrate the same purposeful alignment with theory and instructional objectives as any other teaching strategy

- Increase training for faculty members and students on how to distinguish between credible sources and misinformation online. Develop unique course criteria and checklists to help faculty members and students assess online content or explore existing tools like the Social Media Index
- Increase training for faculty members and students on the options available to them for eliminating misinformation online (e.g., reporting posts, contacting professional regulatory bodies as appropriate)

Course-Level Instructional Recommendations:

- Approach the use of social media in education with optimal flexibility. Understand that not all students or faculty members are comfortable with social media or are on all platforms. Do not make assumptions about students' level of comfort or willingness to use technology based on age
- Encourage optional extended learning opportunities on social media as part of weekly course modules (e.g., Twitter chats, Livestreams). Providing optional opportunities to extend learning may help encourage participation on social media and let students discover how new social media platforms can be used as learning tools and CoPs within their professions
- Encourage integrating social media as part of student choice assignments to allow flexibility for students to develop skills that translate to their professional identities. Professors need not use the same platforms as students if students showcase their learning through ePortfolios, presentations of their own digital artifacts, etc.

- Ensure a teacher presence in connected teaching and learning. Teacher presence refers to faculty members being available in online spaces and willing to assist students. For instance, if faculty members require students to participate in a Twitter chat, they must be prepared to follow through on responding to students in that online space during that chat

As mentioned above, these recommendations are based on the findings of this study of one SoN. They have implications for other health professions programs and even across higher education more broadly, especially in online learning contexts or in professional programs resulting in licensure. In addition to contributing to recommendations for policy and practice, the findings of this study also highlighted areas for future research related to social media use in educational practice. I highlight these opportunities for future research in the next section.

Future Research

The findings of this study highlighted a number of areas worthy of future research. First, this study focused on nursing students and while participants often shared their experiences of their courses and professors' use of social media in teaching and learning, I recommend conducting a similar study to this one but focusing on how nursing faculty members use social media in their formal and informal teaching and learning, what motivates their decisions related to social media use, and what content they share to social media. A follow up study involving faculty members could be conducted using very similar methods to those presented in this study.

Second, I was unable to follow participants' engagement with private social media groups. Based on the Phase 3 interview findings, a lot of informal teaching and learning activities happened through these class, cohort, or program social media groups. An interesting follow up study could consist of a longitudinal ethnographic study wherein the researcher is embedded as a participant-observer in these social media groups to see what content is shared in

the groups over time. Such a study could confirm and expand on the findings of both Phases 2 and 3 of the present study.

Lastly, several participants in this study shared their transition to practice experiences on social media or described how social media might help their transition to practice. I suggest conducting a follow up study exploring the role of social media as a virtual CoP during the transition from nursing student to new nurse. It would be interesting to see how social media is used by nurses in their transition to practice, if at all. It could also be interesting to explore what supports nurses receive related to their transition and if they experience any unintended effects of sharing their transition-related experiences to social media. A prospective study could apply Wenger's (1998) social learning theory and concept of CoPs to explore how new nurses are socialized into the profession, whether through apprenticeship or by some other method, and how this might be done on social media.

Conclusions

Social media plays a role in nursing education. It has the potential to form a 'classroom without walls' that encourages both synchronous and asynchronous active learning and helps prepare nursing students for the technological challenges they may face in their nursing practices. To best understand the applications and implications of social media use in nursing education, it is important to understand nursing students' perceptions of social media use for teaching and learning purposes. This mixed methods single case study explored how nursing students at Nipissing University's School of Nursing use social media for teaching and learning purposes. It also explored what motivated nursing students' decisions to use or not to use social media in their teaching and learning. Finally, this study explored what content nursing students chose to share related to teaching and learning.

The findings of this study showed that nursing students are using social media in their formal and informal learning. They are also using social media as a third space, to fill gaps in their education where existing university services and platforms fall short. This study also revealed that while nursing students are motivated to use social media in their teaching and learning because of its engaging and convenient nature, various drivers like distraction, inaccessibility, and the questionable credibility and reliability of sources may discourage nursing students' social media use. Finally, social media provides a voice for nursing students to explore their professional identity and roles as nurse and advocate. Faculty members could capitalize on these platforms to help nursing students explore these roles and identities while still learning about and enacting professional online behaviours.

Social media use in nursing education encourages students to make connections between content they encounter on their personal time and content they have seen in their nursing courses. Social media also has the potential to bridge several gaps in nursing education. Social media can allow students to discuss their clinical experiences with their peers - while being mindful of maintaining appropriate privacy and confidentiality - especially if they are feeling isolated or need support. Social media also allows nursing students to consolidate content from their classes and share resources ahead of their clinical rotations. Social media can also be used to help nursing students transition to practice as new nurses. Finally, social media can allow nursing students to see how things are done in other parts of the province or across the country and, as one participant explained, can help make systemic healthcare issues feel more manageable or at least less isolating. In many ways, the nursing students at Nipissing University's SoN already appear to be using it for these purposes.

As a result of these findings, there is a strong rationale to further explore the ways in which social media can be used in both formal and informal nursing education. If nursing practice is truly becoming one of ‘technology over pathology’ (Green et al., 2014) where digital skills and literacies are essential, then it becomes all the more important to start shifting the conversation to how all stakeholders in nursing education (e.g., students, faculty members, clinical instructors, preceptors) approach the use of tools like social media in teaching and learning, critical inquiry, communication and collaboration, and professionalism in nursing education and practice.

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Appendix A

Standards of Validation and Evaluation of Case Study Research

1. Is the report easy to read?
2. Does it fit together, each sentence contributing to the whole?
3. Does the report have a conceptual structure (i.e., themes or issues)?
4. Are its issues developed in a serious and scholarly way?
5. Is the case adequately defined?
6. Is there a sense of story to the presentation?
7. Is the reader provided some vicarious experience?
8. Have quotations been used effectively?
9. Are headings, figures, artifacts, appendices, and indexes used effectively?
10. Was it edited well, then again with a last-minute polish?
11. Has the writer made sound assertions, neither over- nor under-interpreting?
12. Has adequate attention been paid to various contexts?
13. Were sufficient raw data presented?
14. Were data sources well-chosen in sufficient number?
15. Do observations and interpretations appear to have been triangulated?
16. Is the role and point of view of the researcher nicely apparent?
17. Is the nature of the intended audience apparent?
18. Is empathy shown for all sides?
19. Are personal intentions examined?
20. Does it appear that individuals were put at risk?
21. Is there a clear identification of the "case" or "cases" in the study?
22. Is the "case" (or are the "cases") used to understand a research issue or used because the "case" has (or "cases" have) intrinsic merit?
23. Is there a clear description of the "case"?
24. Are themes identified for the "case"?
25. Are assertions or generalizations made from the "case" analysis?
26. Is the researcher reflexive or self-disclosing about his or her position in the study?

Note. From Creswell, J. (2013). *Qualitative inquiry & research design: Choosing among five approaches*. Thousand Oaks, CA: SAGE.

Appendix B

Criteria for a High-Quality Case Study Analysis

1. The analysis should show that the researcher attended to all the evidence
2. The analysis should address, if possible, all plausible rival interpretations
3. The analysis should address the most significant aspect of the case study
4. The researcher should draw on prior, expert knowledge while conducting and analyzing the case study

Note. From Yin, R. (2014). Case study research: Design and methods. Thousand Oaks, CA: SAGE.

Appendix C

Student Meeting/Assembly Script

Good morning/afternoon,

My name is Catherine Giroux and I am a PhD Candidate in the Faculty of Education at the University of Ottawa, working with Dr. Katherine Moreau. My research focuses on how nursing students and faculty members use (or do not use) social media for teaching and learning purposes. I am aiming to understand how students and faculty members, in the School of Nursing at Nipissing University, are using social media for teaching or learning.

I am here today to invite you to take part in my study, which includes three phases. In Phase 1, I will survey participants about how they use (or do not use) social media for teaching or learning purposes. If you are interested in participating in Phase 1, you can complete the survey sent to your email.

If you are interested in participating in Phase 2, it will consist of a digital artifact collection, which is where I will follow your social media accounts – ones that you consent to me following. I will follow these accounts to see what content you post related to teaching and/or learning in nursing education.

Finally, Phase 3 will consist of semi-structured interviews where we will discuss the Phase 1 findings as well as the content that you posted in Phase 2. The goal of Phase 3 is to develop a greater understanding of how nursing faculty members use (or do not use) social media for teaching and learning purposes.

Please keep an eye on your inboxes for an information letter and link to my survey for Phase 1. I would really appreciate your participation in my project.

Do you have any questions about the study?

If you have any additional questions about the study, please contact me. My email address is [email address]

Thank you for your time!

Appendix D

Social Media in Educational Practice: A Case Study of an Ontario School of Nursing Student Survey

Instructions:

Thank you for your interest in this study. This survey will take approximately 15-20 minutes of your time to complete.

I aim to understand how social media is currently being used by students and faculty members in a School of Nursing for teaching and learning purposes. In this survey, you may wish to consider any of your teaching, learning, research, and professional development activities. I am interested in how social media is being used or is not being used by nursing students like yourself.

For the purposes of this survey, social media is defined as any website or electronic application that you use to communicate, collaborate, and develop and/or share information and content (e.g., videos, images) with friends or communities online.

Please answer the following questions while thinking of your own experiences.

1. **Do you currently use any social media for personal or learning purposes (e.g., Facebook, Twitter, Instagram)?**
    a. Yes [logic: if selected, show Q3]
    b. No [logic: if selected, skip to Q7- use non-use questions]

2. **What social media platforms do you currently use?**
    a. Facebook
    b. Twitter
    c. Instagram
    d. Blogs
    e. Wikis
    f. Snapchat
    g. WhatsApp
    h. YouTube
    i. Pinterest
    j. Other, specify

3. **Have you ever used social media for learning?**
    a. Yes
    b. No [logic: if selected, skip to Q7- use non-use questions]

4. **What social media platforms have you used for learning?**
    a. Facebook
    b. Twitter
    c. Instagram
    d. Blogs

e. Wikis
f. Snapchat
g. WhatsApp
h. YouTube
i. Pinterest
j. Other, specify

5. **As a nursing student, how do you currently use social media for learning? Check all that apply.**
    a. To communicate with classmates or instructors about coursework and/or clinical placements
    b. To network with current and/or prominent nurses in the field
    c. To share information with a wider population
    d. To prepare for licensure and entry-to-practice (i.e., NCLEX prep)
    e. To stay up-to-date on upcoming professional development activities
    f. None of the above
    g. Other, please specify

6. **As a nursing student, who mostly interacts with your social media posts? Check all that apply.**
    a. My Friends
    b. My Family
    c. My Classmates
    d. My Professors
    e. Nurses
    f. Researchers
    g. Other, please specify

7. **Why do you choose to use/not use social media for learning purposes? [logic note: respondents who answered YES to Q3 will be given use version of question. Respondents who answered NO to Q3 will be given non-use version of question]** [open text field]

8. **Do you feel that social media use is encouraged by your nursing program?**
    a. Yes [logic: if yes, describe how your program encourages the use of social media.]
    b. No [logic: if no, describe how your program discourages the use of social media.]

9. **Do your professors incorporate social media use into your courses?**
    a. Yes [logic: if yes, how do your professors incorporate social media use into your courses?]
    b. No

10. **On the whole, how would you rate your program's position towards the use of social media for teaching and learning?**
    a. Very opposed to using social media

b. Opposed to using social media
c. Neutral
d. Supportive of using social media
e. Very supportive of using social media
f. Other, please specify

11. On the whole, how would you rate your personal position towards the use of social media for learning?

a. Very opposed to using social media
b. Opposed to using social media
c. Neutral
d. Supportive of using social media
e. Very supportive of using social media
f. Other, please specify

12. On the whole, how would you rate your experience level using social media for learning? [logic: skip for non-use]

a. Very inexperienced
b. Inexperienced
c. Neutral
d. Experienced
e. Very experienced
f. Other, please specify

13. How accessible is the internet for you?

a. Very inaccessible
b. Inaccessible
c. Neutral
d. Accessible
e. Very Accessible
f. Other, please specify

14. Please indicate to what extent the following factors would influence your decision to use social media for learning?

	Very Low Influence	Low Influence	Neutral	High Influence	Very High Influence	I Don't Know
Your level of knowledge of social media use						

Your level of comfort with social media use						
Your level of interest in social media use						
Amount of time it takes to use social media						
Concerns about professionalism with social media use						
Concerns about privacy with social media use						
Other, specify						

15. **What do you feel motivates your decision to use/not to use social media for teaching and learning? [logic note: respondents who answered YES to Q3 will be given use version of question. Respondents who answered NO to Q3 will be given non-use version of question]**
    [open text field]

16. **How would you rate the effect that social media has on your learning? Please explain. [logic: open text fields for each response; hide question for non-use]**
    a. No effect
    b. A small effect
    c. A moderate effect
    d. A great effect
    e. I don't know

17. **Is there anything else that you would like to share regarding your use/non-use of social media for learning that you feel was not reflected in this questionnaire? [logic note: respondents who answered YES to Q3 will be given use version of question. Respondents who answered NO to Q3 will be given non-use version of question]**
    [open text field]

For publication purposes, I would like to ask you a few questions about yourself in order to describe the population surveyed. I will only report on data in aggregate form (i.e., data that is grouped together).

18. In which nursing program are you currently enrolled?

a. The 4-year Collaborative BScN Program
b. The RPN to BScN Bridging Program
c. The RPN to BScN Blended Learning Program
d. The BScN Scholar Practitioner Program
e. I am not a nursing student at Nipissing University [logic: if selected, terminate survey]

19. In what year of your program are you enrolled?

a. First year
b. Second year
c. Third year
d. Fourth year
e. Fifth year
f. Other, please specify
g. Prefer not to specify

20. What is your age group?

a. 18-25
b. 26-29
c. 30-35
d. 36-39
e. 40-45
f. 46-50
g. 50 and older
h. Prefer not to specify

21. Phase 2 of my study involves me following nursing students' social media accounts over a period of five months to see what content they share related to teaching or learning. Please click here to review an information letter about this phase of the study [INSERT LINK HERE]. Would you be interested in participating in this phase of the study?

a. Yes, here is my email address and social media handle information: [logic: prompt email address] [logic: prompt blank space for social media handles]
b. Maybe, please email additional information to me [logic: prompt email address]
c. No

22. Would you be interested in receiving a copy of the study results?

a. Yes [logic: prompt email address]
b. No

You have completed the survey questions. <submit now>

Thank you for your participation in this study!

Appendix E

Information Letter- Phase 1 (Survey)

Title of the study: Social Media in Educational Practice: A Case Study of an Ontario School of Nursing

Research Team: Catherine Giroux (PhD Candidate)
Faculty of Education
University of Ottawa
Ottawa, ON

Dr. Katherine Moreau (Supervisor)
Assistant Professor
Faculty of Education
University of Ottawa
Ottawa, ON

Invitation to Participate: You are invited to participate in Phase 1 of the abovementioned doctoral thesis study conducted by Catherine Giroux, who is being supervised by Dr. Katherine Moreau.

Purpose of the Study: The purpose of the study is to understand how social media is currently being used by students and faculty members in a School of Nursing for teaching or learning.

Participation: If you wish to participate in Phase 1 of this study, please complete the online survey by clicking on the survey link in the email. The survey is accessible on the online survey platform Qualtrics, which is governed by the Canadian Privacy Act. Your decision to complete and return this survey will be interpreted as an indication of your consent to participate in Phase 1. The survey should take you approximately 15-20 minutes to complete. You do not have to answer any questions that you do not want to answer. The research team would appreciate receiving the completed survey **before February 28, 2019**. You will also receive two reminder emails sent by Catherine Giroux regarding the survey, in 14 days and in 28 days.

Benefits: You will not immediately benefit from this study. However, the results from this study will contribute to the body of literature on social media use in nursing education by both students and faculty members. It may also provide a better understanding of philosophical paradigms and learning theories that currently occur in technology-driven nursing education.

Confidentiality and Anonymity: The information that you will share will remain strictly confidential and will be used solely for the purposes of this research. The

only people who will have access to the research data are Catherine Giroux and Dr. Katherine Moreau. Your answers to open-ended questions may be used verbatim in presentations and publications but neither you (nor your organization) will be identified. In order to minimize the risk of security breaches and to help ensure your confidentiality, we recommend that you use standard safety measures such as signing out of your computer account, closing your browser, and locking your screen or device when you are no longer using them and/or when you have completed the survey.

Results will be published in pooled (aggregate) format. The survey provides you with the option of including your name, email address, and/or social media handle(s) for the following purposes: (a) if you are interested in receiving a summary of the results and to contact you to provide you with this summary (see Information about the Study Results section below); and/or (b) if you are interested in participating in Phase 2 of this study and to contact you for potential participation. This information will be kept confidential. It will not be associated with or stored with your specific survey responses. Completed surveys will be stored on a password-protected computer at the University of Ottawa research office of Dr. Katherine Moreau. They will be stored for a period of 5 years after the publication of findings, at which time the data will be securely deleted.

Conservation of Data: The research data will be stored in password protected electronic files, on a password protected computer at the University of Ottawa research office of Dr. Katherine Moreau. It will be stored for a period of 5 years after the publication of findings, at which time the data will be securely deleted. Following Catherine Giroux's graduation from the University of Ottawa, the data will be conserved in a password protected file, on a password protected computer at the University of Ottawa research office of Dr. Katherine Moreau.

Compensation: There is no compensation for participating in this phase of the study. If you are interested in receiving a summary of the study results, you will be given the option to indicate this interest at the end of the survey.

Voluntary Participation: You are under no obligation to participate and if you choose to participate, you may refuse to answer questions that you do not want to answer. Completion and submission of the survey by you implies your consent to participate in Phase 1. You can withdraw from Phase 1 at any time. However, since your survey data is not associated with your name or email address, if you withdraw after submitting your responses, the research team will not be able to identify your data in order to remove it from the study analysis and securely destroy it.

Information about the Study Results: If you are interested in receiving a summary of the study results, you will be given the option to indicate this interest at the end of the survey.

If you have any questions or require more information about the study itself, you may contact the research team at the contact information herein.

If you have any questions with regards to the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5, tel.: (613) 562-5387 or ethics@uottawa.ca.

Please keep this form for your records.

Thank you for your time and consideration.

Catherine Giroux:

Date Signature

Dr. Katherine Moreau:

Date Signature

Appendix F

Phase 1 Open-Ended Response Comparison Matrix

This table provides an overview of the Phase 1 participants' open-ended survey responses, broken down by program stream to facilitate content analysis. Each column aligns with the key dimensions outlined in Table 5: Phase 1 Survey Blueprint. This blueprint, along with my research questions and conceptual framework informed my initial codebook for my content analysis.

Program	**Types of Social Media Used (aside from those listed)**	**Reasons for Social Media Use**	**Program Views on Social Media**	**Professor Use of Social Media in Teaching**	**Barriers to Social Media Use Identified**	**Motivations for Using Social Media Identified**	**Reasons Students Choose NOT to Use Social Media**	**Influence of Social Media on Learning**	**Other notes**
Collaborative (n=70)	Discord Tumblr Reddit Edmodo Kahoot Podcasts	-To supplement in-class learning -As a study tool -To access nursing templates -Visually displayed information -Accessible platform -Convenience -To consolidate technical clinical skills by watching videos -To stay up to date on clinical topics -To connect with other	-Encouraged to work together on assignments or coursework -Program/ Student Society Facebook groups -Encouraged to refrain from posting to social media to protect patient confidentiality and maintain a professional presence	-Youtube videos for teaching -All assignments have to be from academic journals -Social media can be incorporated into final assignments -Social media as a cautionary tale	-Program views on social media (e.g., negative attitudes towards social media, professionalism) -Professor familiarity with social media platforms -Quality/ Reliability of resources on social media	-Opportunity to teach other people about the nursing profession -Access to additional resources -Learning opportunities randomly spread out throughout the day -Continuing learning outside school and work -Collaborating with	-Confidentiality issues -Reliability of information online -Did not know social media could be used for learning purposes -Want to keep personal life separate from professional/ academic life -Preference for hardcopy resources	-Encourages perspective taking -Helps reinforce topics taught in class -Can be distracting -Encourages critical thinking -Helps with confidence in concepts/ clinical skills -Can make students "lazier"	-There could be more innovative ways of learning via social media, especially for nursing students, especially for students preparing for the NCLEX

Program	Types of Social Media Used (aside from those listed)	Reasons for Social Media Use	Program Views on Social Media	Professor Use of Social Media in Teaching	Barriers to Social Media Use Identified	Motivations for Using Social Media Identified	Reasons Students Choose NOT to Use Social Media	Influence of Social Media on Learning	Other notes
		students/clinicians -To see clinical content that may not be covered in class or on placement	-Policies regarding no social media or pictures in the SIM lab -Students feel the program doesn't discourage social media but doesn't encourage it -The Program is supportive of social media use for networking purposes -In favour of YouTube but not the other platforms	-Nursing informatics course used Reddit blogs, NCLEX prep Facebook groups -Some professors encourage social media use for health teaching/ advocacy		classmates on assignments -Ability to learn in a self-paced way -Needing to clarify concepts taught in class	(e.g., textbooks)	-Use social media to work with friends/ classmates to understand confusing content -Access to mnemonic devices generated by others and shared via social media for studying	
SPP	LinkedIn Reddit	-Connecting with available jobs -Searching for eTextbooks and instructional videos -Accessibility and convenience	-The program encourages students to post relevant articles to Facebook -Students feel encouraged to look up	-YouTube videos for teaching - Sometimes assign YouTube videos as part of readings		-Collaboration with classmates -Accessing resources -Connecting with students and professionals	-Social media is for personal purposes -The validity and reliability of resources	-Useful for collaboration -Helps grasp concepts -Useful for peers to share information/	-One student indicated that they would like to see social media incorporated more as a

Program	Types of Social Media Used (aside from those listed)	Reasons for Social Media Use	Program Views on Social Media	Professor Use of Social Media in Teaching	Barriers to Social Media Use Identified	Motivations for Using Social Media Identified	Reasons Students Choose NOT to Use Social Media	Influence of Social Media on Learning	Other notes
		of social media platforms -As a reflective tool -To connect with classmates -To watch videos of clinical skills	instructional videos -Students use social media for reflection and understanding individuals' stories -Students feel the program encourages them to be independent learners and use each other as resources so they turn to social media -Use social media in research projects -Policies in place that discourage sharing posts at the workplace -Policies against	-Suggest useful online resources		outside the institution -To stay up to date with nursing trends, policies, procedures, and information -Engaging platforms with visually presented information -Useful to stay connected with peers while on placement		explanations	learning strategy

Program	Types of Social Media Used (aside from those listed)	Reasons for Social Media Use	Program Views on Social Media	Professor Use of Social Media in Teaching	Barriers to Social Media Use Identified	Motivations for Using Social Media Identified	Reasons Students Choose NOT to Use Social Media	Influence of Social Media on Learning	Other notes
			smartphone use -They support social media use but do not incorporate it into classes						
Blended	Podcasts iMessaging Ted Talks	-To understand course modules and clinical topics -To supplement learning resources and consolidate textbook content -To view lectures or videos imported from the weekly course modules -To study -To connect with other distance learning students -To figure out professors' expectations and form study groups	-A Facebook group for Nipissing Nursing run by students -The program encourages social media to improve communication between students to grasp information taught in courses -The program supports social media use for collaboration and groupwork -The program teaches about	-YouTube videos -Blog posts and responses to classmates on weekly readings -Using social media examples to have students determine if the information used is credible/ practice critical thinking skills	-Students got the impression that the program viewed social media as a tool used to cheat -Some courses seem like a way for their professor to promote their own YouTube channel -People use social media to find answers to questions they could easily look up elsewhere and answers are not always factual; social media can	-Easy and convenient access to additional learning materials -Faster replies to questions -Self-directed learning -Hearing from people who have done the program before -Being able to easily collaborate with classmates -Being able to clarify content through YouTube	-Unsure where to find learning material on social media -Do not want to involve social media in their practice for any purpose -There is no vetting process for the information shared on social media -Invasion of privacy	-Sometimes learning happens through group conversations on social media -Use social media to understand assignments, learn how to use the school's learning management system, engage in personal interest learning -Use social media to clarify	-Students use social media to determine which professors to avoid, what is expected in their classes, and how to handle long distance exams (setting them up)

Program	Types of Social Media Used (aside from those listed)	Reasons for Social Media Use	Program Views on Social Media	Professor Use of Social Media in Teaching	Barriers to Social Media Use Identified	Motivations for Using Social Media Identified	Reasons Students Choose NOT to Use Social Media	Influence of Social Media on Learning	Other notes
		-To increase knowledge of best practices and improve personal practice -To learn more about topics of personal interest from medical and nursing social media pages	credible sources -Social media can have negative effects on professionalism -Social media can have an effect on academic dishonesty	-Online discussions through video chat -Building a professional LinkedIn platform -Online lectures via YouTube	discourage independent thinking and learning -Social media is tailored to individual biases -The nursing profession is required to use evidence-based and scholarly reviewed information and social media might not provide this -Can be a lot of negativity and complaining from both classmates and instructors. Tone and meaning can be hard to decipher.	-Being able to access learning opportunities 24/7/365 -Having access to visual learning options -Having access to nursing and medical pages and topics of personal interest -Connecting with others in distance education		assignments and course topics -Allows access to different forms of learning, like visual "how to" videos or different ways of explaining information if the textbook is unclear -Fills gaps when professors are unavailable "If instructors were more available, I would not use it. Peers have been more helpful and	

Program	Types of Social Media Used (aside from those listed)	Reasons for Social Media Use	Program Views on Social Media	Professor Use of Social Media in Teaching	Barriers to Social Media Use Identified	Motivations for Using Social Media Identified	Reasons Students Choose NOT to Use Social Media	Influence of Social Media on Learning	Other notes
								have taught me more"	
Bridging	LinkedIn	-To better understand course concepts (e.g., technical statistics) -To study for the NCLEX -Provides 'random' learning opportunities throughout the day -Collaborating with classmates -Understanding content that professors have gone through quickly -Course requirement -Access to tools like flashcards, NCLEX review, learning guides	-Nursing page on Facebook to connect classmates/ created by students to share information relating to classes, tests, study tips, stress relief -Professors use YouTube videos, Ted Talks, nursing videos, the CNO website -No electronics policies -Discourages the use of social media due to privacy/ risks of sharing information	-YouTube -Ted Talks	-Students perceive the school as not having embraced social media as a form of teaching -Social media is highly opinion based and it is easy to misrepresent facts or biases; hard to judge quality or accuracy	-Easy and convenient access to learning materials and resources -Filling knowledge gaps/ clarifying things that are not immediately understood -Finding extra resources -Finding tutorials -Communicating with peers -Finding answers to questions quickly -Ability to be anonymous on platforms like Pinterest and YouTube	-Concerns about the accuracy of information -Unsure where to find apps for learning -Don't like using devices -Don't want the invasion of privacy -Negative implications for professionalism	-Access to mnemonics and study tips -Access to online videos and flashcards -Clarify content areas where class lectures were confusing -Being able to share academic concerns with people who have already done the program	

Appendix G

Information Letter- Phase 2 (Digital Artifact Collection)

Title of the study: Social Media in Educational Practice: A Case Study of an Ontario School of Nursing

Research Team: Catherine Giroux (PhD Candidate)
Faculty of Education
University of Ottawa
Ottawa, ON

Dr. Katherine Moreau (Supervisor)
Assistant Professor
Faculty of Education
University of Ottawa
Ottawa, ON

Invitation to Participate: You are invited to participate in Phase 2 of the abovementioned doctoral thesis study conducted by Catherine Giroux, who is being supervised by Dr. Katherine Moreau.

Participation: In Phase 2 of this study, I, Catherine Giroux, will follow your social media account(s) for a period of **five months** to observe what you share for teaching and learning purposes. I encourage you to not change your social media posting behavior during this phase of the study. Participation in this phase is voluntary and you can withdraw at any time. If your social media accounts are publicly available, you do not need to do anything further. If your social media accounts are private or protected, your acceptance of my social media research account as a follower will signify your consent to participate in Phase 2 of this study.

A maximum of 30 people can participate in Phase 2 of this study. If more than 30 people volunteer to participate in Phase 2, 30 participants will be randomly selected. Those who are not selected to participate in Phase 2 of the study will be notified by email.

Purpose of the Study: The purpose of the study is to understand how social media is currently being used by students and faculty members in a School of Nursing for teaching or learning.

Benefits: You will not immediately benefit from this study. However, the results from this study will contribute to the body of literature on social media use in nursing education by both students and faculty members. It may also provide a

better understanding of philosophical paradigms and learning theories that currently occur in technology-driven nursing education.

Risks: There may be some risk of emotional discomfort if you share something on social media during the five month digital artifact collection period that you later determine to be too sensitive.

Confidentiality and Anonymity: The information that you will share will remain strictly confidential and will be used solely for the purposes of this research. The only people who will have access to the research data are Catherine Giroux and Dr. Katherine Moreau

Social media postings will be analyzed and reported in a pooled (aggregate) format. Your name or social media handle(s) will not be included with your postings. None of your posted pictures or videos will be collected, shared, or included in presentations and publications. All identifying information in your postings will be removed to ensure anonymity.

Conservation of Data: The research data will be stored in a password protected file, on a password protected computer, in the University of Ottawa research office of Dr. Katherine Moreau. It will be stored for a period of 5 years after the publication of findings, at which time the data will be securely deleted. Following Catherine Giroux's graduation from the University of Ottawa, the data will be conserved in a password protected file, on a password protected computer at the University of Ottawa research office of Dr. Katherine Moreau.

Compensation: There is no compensation for participating in this phase of the study. You will be able to receive a copy of the study results by contacting me, Catherine Giroux, at the contact information provided herein.

Voluntary Participation: You are not required to participate in Phase 2 of the study and if you choose to participate, you are free to withdraw from Phase 2 at any time. If you choose to withdraw from Phase 2 of this study, please contact me, Catherine Giroux, at the email included in this information letter. If you withdraw, I, Catherine Giroux, will unfollow you on your social media accounts and remove and securely delete all of your Phase 2 data from the study findings.

Information about the Study Results: If you are interested in receiving a summary of the study results, please contact me, Catherine Giroux, at the email included in this information letter.

If you have any questions or require more information about the study itself, you may contact the research team at the contact information herein.

If you have any questions with regards to the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret

Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5, tel.: (613) 562-5387 or ethics@uottawa.ca.

Please keep this form for your records.

Thank you for your time and consideration.

Catherine Giroux:

Date Signature

Dr. Katherine Moreau:

Date Signature

Appendix H

Phase 2 Data Extraction Form Template

Note: One entry per social media post

Unique Participant Code	Date Posted	Social Media Platform Used	Purpose	Description of Post Content	Multimodal observations (e.g., colour, space, font)	Other observational notes
			☐ Teaching ☐ Learning ☐ Other: _____			
			☐ Teaching ☐ Learning ☐ Other: _____			
			☐ Teaching ☐ Learning ☐ Other: _____			
			☐ Teaching ☐ Learning ☐ Other: _____			

Appendix I

Phase 3 Semi-Structured Interview Guide

1. Tell me about your experience using social media for teaching or learning purposes **as a nursing student**.
   PROMPT: Are you involved in any closed social media groups that help with your nursing education? Tell me about your experience with them.
   PROMPT: Do you prefer using certain platforms for certain teaching or learning purposes? Can you tell me about it?

2. Tell me about the role that social media plays in teaching and learning in nursing education.
   PROMPT: As a nursing student, have you ever used social media to teach **somebody else** something? Tell me about your experience.
   PROMPT: As a nursing student, have you ever used social media to teach **yourself** something? Tell me about your experience.

3. Tell me about your experiences using social media as a teaching or learning tool.
   PROMPT: In your opinion, does your program incorporate social media into nursing education? How so?
   PROMPT: Describe how your professors use social media for teaching, if at all.

4. Tell me about how social media contributes to your learning both in-class and out of class.
   PROMPT: Describe how social media affects your learning environment.
   PROMPT: Describe the impact of social media on your learning as a distance student.
   PROMPT: Describe the impact of social media on your learning as an on-campus student.

5. What do you think are the benefits of using social media for teaching and learning as a nursing student?

6. What do you think are the challenges of using social media for teaching and learning as a nursing student?

7. What types of health- or nursing-related content do you like to share to your social media accounts for your friends/followers? How come?
   PROMPT: As a nurse/nursing student, do you use social media for any public health-related education or advocacy activities? Tell me about your experiences.
   PROMPT: Why do you choose to use social media for these purposes?
   PROMPT: Who do you hope to target as the audience when you share health- or nursing-related content to your social media accounts?

8. How do the posts you see on social media influence your perception of the role of a nurse?

PROMPT: What do you learn about being a nurse from social media, if anything?

9. Is there anything else that you would like to share related to your use (or non-use) or social media for teaching and learning purposes in nursing education that I have not already asked you?

Appendix J

Information Letter- Phase 3 (Interviews)

Title of the study: Social Media in Educational Practice: A Case Study of an Ontario School of Nursing

Research Team: Catherine Giroux (PhD Candidate)
Faculty of Education
University of Ottawa
Ottawa, ON

Dr. Katherine Moreau (Supervisor)
Assistant Professor
Faculty of Education
University of Ottawa
Ottawa, ON

Invitation to Participate: You are invited to participate in Phase 3 of the abovementioned doctoral thesis study conducted by Catherine Giroux, who is being supervised by Dr. Katherine Moreau.

Participation: If you wish to participate in Phase 3 of this study, please reply to the invitation email from Catherine Giroux to arrange a one-on-one interview at a time that is convenient for you. The interview can be conducted in person, by telephone or videoconference (e.g., Skype, FaceTime), and will last approximately 60 minutes. You do not have to answer any questions that you do not want to answer. The interview will be audio-recorded and transcribed verbatim by Catherine Giroux. If your interviews occurs by telephone or videoconference, you can verbally consent to participate prior to starting the formal interview. However, if you would prefer, you can sign, scan, and return the consent form to Catherine Giroux at the contact information herein. If your interview occurs in person, you will sign the consent form prior to the start of the interview.

You will have an opportunity to review the transcript of your interview to clarify any statements or correct any errors in the transcription. Catherine Giroux will send your interview transcript as a password-protected document in one email. You will receive the password to the document in a separate email. You will have one week from the receipt of your transcript to review it and to suggest any changes.

Purpose of the Study: The purpose of the study is understand how social media is currently being used by students in a School of Nursing for teaching or learning.

Benefits: You will not immediately benefit from this study. However, the results from this study will contribute to the body of literature on social media use in nursing education by students. It may also provide a better understanding of philosophical paradigms and learning theories that currently occur in technology-driven nursing education.

Risks: There may be some risk of emotional discomfort if you share something on social media during the five month digital artifact collection period that you later determine to be too sensitive.

Confidentiality and Anonymity: The information that you will share in the interview will remain strictly confidential and will be used solely for the purposes of this research. The only people who will have access to the research data are Catherine Giroux and Dr. Katherine Moreau.

The interview will be audio-recorded. You will not be asked to share identifying information such as your name or institution during the interview. If any potentially identifying information is shared during the interview, it will not be included in the transcript. The digital audio-recording of the interview will be downloaded and erased from the audio-recorder immediately after the interview. Results will be published in a pooled (aggregate) format.

Conservation of Data: The research data will be stored in a password protected file, on a password protected computer at the University of Ottawa research office of Dr. Katherine Moreau. It will be stored for a period of 5 years following the publication of findings, at which time the data will be securely deleted. Following Catherine Giroux's graduation from the University of Ottawa, the data will be conserved in a password protected file, on a password protected computer at the University of Ottawa research office of Dr. Moreau.

Compensation: You will receive a $20 Tim Hortons gift card for participating in this phase of the study. You will receive this gift card regardless of whether you decide to withdraw from Phase 3 of this study. You will also be able to request a copy of the study results by contacting Catherine Giroux at the contact information herein.

Voluntary Participation: You are not required to participate in Phase 3 and if you choose to participate, you may refuse to answer questions or withdraw from the study at any time. You may withdraw from the study by contacting Catherine Giroux at the contact information provided. If you choose to withdraw, all data gathered during Phase 3 of this study will be removed from the study findings.

Information about the Study Results: If you are interested in receiving a summary of the study results, please contact me, Catherine Giroux, at the email included in this information letter.

If you have any questions or require more information about the study itself, you may contact the research team at the contact information herein.

If you have any questions with regards to the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5, tel.: (613) 562-5387 or ethics@uottawa.ca.

Please keep this form for your records.

Thank you for your time and consideration.

Catherine Giroux:

Date Signature

Dr. Katherine Moreau:

Date Signature

Appendix K

Consent Form- Phase 3 (Interviews)

Title of the study: Social Media in Educational Practice: A Case Study of an Ontario School of Nursing

Research Team: Catherine Giroux (PhD Candidate)
Faculty of Education
University of Ottawa
Ottawa, ON

Dr. Katherine Moreau (Supervisor)
Assistant Professor
Faculty of Education
University of Ottawa
Ottawa, ON

Invitation to Participate: I am invited to participate in Phase 3 of the abovementioned doctoral thesis study conducted by Catherine Giroux, who is being supervised by Dr. Katherine Moreau.

Participation: My participation will consist of one one-on-one interview at a time that is convenient for me. The interview will be conducted either in person or by video conference depending on my preference. The interview will last approximately one hour in length. I will be asked questions about how I use or do not use social media for teaching and learning. I am aware that the interview will be audio recorded and that I do not have to answer any questions that I do not wish to answer. I am aware that the interview will be audio-recorded and transcribed verbatim by Catherine Giroux. If my interview occurs by telephone or videoconference, I can verbally consent to participate prior to starting the formal interview. However, if I would prefer, I can sign, scan, and return the consent form to Catherine Giroux at the contact information herein. If my interview occurs in person, I will sign the consent form prior to the start of the interview.

I understand that I will have an opportunity to review the transcript of my interview. At this time, I will be able to clarify any statements or correct any errors in the transcription. I understand that Catherine Giroux will send me my interview transcript as a password-protected document in one email. I understand that she will send me the password to the document in a separate email. I understand that I will have one week from the receipt of my transcript to review it and to suggest any changes.

Purpose of the Study: The purpose of the study is to understand how social media is currently being used by students in a School of Nursing for teaching or learning.

Benefits: My participation in this study will contribute to the body of literature on social media use in nursing education by students. It may also provide a better understanding of philosophical paradigms and learning theories that currently occur in technology-driven nursing education.

Risks: There may be some risk of emotional discomfort if I share something on social media during the five month digital artifact collection period that I later determine to be too sensitive.

Confidentiality and Anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential. I understand that the contents will be used only for the purposes of this research and that my confidentiality will be protected. I am aware that the only people who will have access to the research data are Catherine Giroux and Dr. Katherine Moreau.

I am aware that the interview will be audio-recorded. I will not be asked to share identifying information such as my name during the interview. If any potentially identifying information is shared during the interview, I am aware that it will not be included in the transcript. The digital audio-recording of the interview will be downloaded and erased from the audio-recorder immediately after the interview. Results will be published in a pooled (aggregate) format.

Conservation of Data: I am aware that the research data will be stored in a password protected file, on a password protected computer at the University of Ottawa research office of Dr. Katherine Moreau. I understand that following Catherine Giroux's graduation from the University of Ottawa, the data will be conserved in a password protected file, on a password protected computer at the University of Ottawa research office of Dr. Katherine Moreau. I am aware that it will be stored for a period of 5 years following the publication of findings, at which time the data will be securely deleted.

Compensation: I am aware that I will receive a $20 Tim Hortons gift card for participating in this phase of the study. I will receive this gift card regardless of whether I decide to withdraw from Phase 3 of this study. I will also be able to receive a copy of the study results by contacting Catherine Giroux at the contact information provided.

Voluntary Participation I am aware that I am not required to participate in Phase 3 of this project and if I choose to participate, I may refuse to answer questions or withdraw from the study at any time. I understand that I may withdraw from the study by contacting Catherine Giroux at the contact information provided. If I choose to withdraw, all data gathered during Phase 3 of this study will be removed from the study findings.

Acceptance: I, *(Name of participant)*, agree to participate in the above research study conducted by Catherine Giroux of the Faculty of Education, whose research is under the supervision of Dr. Katherine Moreau.

If I have any questions about the study, I may contact Catherine Giroux.

If I have any questions regarding the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5
Tel.: (613) 562-5387
Email: ethics@uottawa.ca

There are two copies of the consent form, one of which is mine to keep.

Participant's signature: *(Signature)* Date: *(Date)*

Researcher's signature: Date: *(Date)*