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Middle School Teachers' Perceptions of Using Social Media in Teaching

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This is to certify that the doctoral dissertation by

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Walden University
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Abstract

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Abstract

Secondary teachers and college instructors use social media to engage their students in learning; however, little is known about middle school teachers' use. The problem is that although middle school students intuitively use social media in their personal lives, it is unclear why and how teachers use it for instructional purposes with learners who are assumed to be digitally literate. The purpose of this basic qualitative study was to explore the extent to which eight middle school teachers from two schools in one school district used social media with students for teaching. The two conceptual frameworks used for this study were Davis's technology acceptance model, and Koehler and Mishra's technological pedagogical content knowledge model. The research questions asked why and how middle school teachers used social media for student engagement and learning. Data from semi structured interviews with teachers and lesson plans were analyzed using verbatim coding to identify final codes, categories, and themes. The key findings indicated that teachers attributed their use of social media to the learners' needs and were influenced both by administrators and their observations of other teachers using social media. Teachers created opportunities for students to actively collaborate, discuss, explore, practice, and work independently, which put students at the center of their own learning and teachers as the facilitators and support system throughout the learning process. The results of this study provide teachers and school leaders with knowledge about the use of social media to foster autonomy in learning for middle school students.

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Dedication

"No discipline seems pleasant at the time, but painful. Later on, however, it produces a harvest of righteousness and peace for those who have been trained by it" (Hebrews 12:11). First and foremost, I would like to express my highest gratitude to God for giving me the strength, wisdom, and knowledge to complete this research study.

I would like to dedicate this study to my father and mother. Without my parents' support throughout all of my academic endeavors, this accomplishment would never have come to fruition. This study is also dedicated to my husband and our children. I couldn't do this without them. Lastly, this study is dedicated to my siblings, family, and close friends who have been there for me throughout my lifelong journeys. Thank you for never giving up on me and always believing in me.

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I would first like to acknowledge and thank my committee chair, Dr. Patricia McGee, for believing in my competencies as a researcher and guiding me in my quest for scholarly knowledge throughout this extensive, laborious, and purposeful academic endeavor. I would also like to acknowledge Dr. Asoka Jayasena and Dr. Paul Englesberg for stepping in as my other committee members. I would like to thank them for reviewing my drafts and providing me with constructive feedback that informed my final study. My committee's guidance is greatly appreciated!

I want to acknowledge and thank my husband and children for hanging in there with me through this process that felt like a never-ending journey. Without their encouragement, support and patience, none of this would be possible. Finally, I want to acknowledge everyone who has offered me much-needed emotional support, advice, and encouragement throughout this journey. I am eternally grateful.

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Chapter 1: Introduction to the Study

Social media (SM), made up of a variety of dedicated platforms, has reshaped modern communication by instantaneously connecting users from both personal and professional environments with current user-generated content (Freitag et al., 2017). Various stakeholders have recognized the relevance of SM and use it in personal, professional, or educational settings. The general public uses SM platforms to stay connected, create and share content, and as a means to receive relevant information related to the user's interests in online communities (Kapoor et al., 2017). Businesses, on the other hand, have used SM as networking and information sharing tools to build a client base (Jin et al., 2017). Educational institutions use SM as collaboration and communication tools for new ways of learning, to discover and access resources electronically, and to interact and collaborate through instructor-facilitated lessons (Gruzd et al., 2018).

Researchers have suggested that SM has influenced social interaction in different sectors and areas of life, including K-20 education. Researchers have found that educators are using various SM platforms as tools to enhance and expand learning experiences innovatively and to provide students with the ability to participate in collaborative instruction actively (Gruzd et al., 2018; Krutka & Carpenter, 2016; Platon et al., 2018). For example, K-16 social studies educators have integrated Twitter for students to engage in class discussions, connect academically with other classes, become responsible digital citizens when online, improve on learning skills, and as a means to share completed activities, projects, or ideas (Krutka & Carpenter, 2016). Instructors in

higher education are using blogs, YouTube, Facebook, Twitter, and Google Docs to facilitate student engagement, expose students to innovative learning resources, extend the learning environment, or to promote learning through social and collaborative activities (Gruzd et al., 2018; Tang & Hew, 2017). Messenger and WhatsApp are also used at the collegiate level as learning tools that allow students to communicate, connect, and collaborate with teachers and students outside of the traditional learning environment (Platon et al., 2018). High school teachers have structured their lessons with the educational inspired Edmodo application to engage students in learning and to communicate with a generation of learners who are less receptive to traditional learning methods (Trust, 2017). Thus, educators use various platforms for a range of purposes associated with pedagogical practices to facilitate and promote student learning.

The study of SM use and integration varies across academic levels. Much of the research about SM use in teaching has focused on higher education (e.g., Akcaoglu & Bowman, 2016; Al-Rahmi & Zeki, 2017; Gülbahar et al., 2017; Sobaih et al., 2016). Research at the high school level focuses on teachers' perceptions of why they chose to use SM with their students and how they have used it in teaching (e.g., Casey & Evans, 2018; Dennen & Rutledge, 2018; Rap & Blonder, 2016). However, there is limited research on teacher perceptions of SM use and integration into the learning environment at the middle school level (Gleason & von Gillern, 2018; Muls et al., 2019). Research in this area is essential because researchers have suggested that teenagers 13 to 17 years of age are avid users of SM in their personal lives (Gramlich, 2019). Research in this area is important because teenagers use SM outside of school, typically beginning in

adolescence when they enter middle school (Hughes & Read, 2018) and when they are learning to become digitally literate (Blummer, 2017).

SM platforms such as YouTube, Instagram, and Snapchat have played a prominent role in the lives of teens 13 to 17 years of age (Hughes & Read, 2018). Early teens in middle school are beginning to use SM outside of school, and some high school teachers use SM in the classroom, as do college instructors, yet it is unclear if or how middle school teachers use it at the time their students are learning to use it. This study offers insights into middle school teachers' experiences using SM and contributes to research in educational technology to fill a gap in the field. This chapter includes an overview of the study's background, the problem statement, the purpose of the study, research questions, conceptual frameworks, the nature of the study, operational definitions, assumptions, scope and delimitations, limitations, and significance of the study.

Background of the Study

Adolescence coincides with a focus on digital literacy in K-12 education, although educators often assume that middle school students know how to use digital materials because they grew up using them as digital natives (Prensky, 2001), which is not always the case (Marksbury & Bryant, 2019). The development of digital literacy may relate to how SM being used as a learning tool for adolescent students (Tsvetkova et al., 2021). Seventy-nine percent of young American teenagers use SM in their social lives (Gramlich, 2019). Usage varies by application. Eighty-five percent of youth ages 13 to 17 years of age were using YouTube, 72% were using Instagram, 69% were using Snapchat,

and 51% were using Facebook (Anderson & Jiang, 2018). However, even though early teenagers quickly become fluent in how to use online tools, they lack the skills needed to use them safely and responsibly (Blummer, 2017; Lee et al., 2016; Marksbury & Bryant, 2019; Porat et al., 2018). Because this group of students uses SM as a primary vehicle for socialization, there is a need to understand how teachers use it to engage them in learning.

Researchers have confirmed that SM is being used to support learning in various ways, particularly in postsecondary education (Adalberon & Säljö, 2017; Dumpit & Fernandez, 2017). It is reported that college instructors use SM to support learning in multiple ways, including communication with students, facilitation of lectures, exchanges for collaborative dialogue, and enhanced learning outcomes by either posting text, video, audio, pictures, or images to students (Freitag et al., 2017). Similarly, researchers found that SM platforms had been used to facilitate learning using collaboration, communication, and discussion tools in higher education learning (Dumpit & Fernandez, 2017). For example, in the undergraduate medical curriculum, Facebook was used for learners to communicate and share content-specific documents and notes within a small collaborative learning group (Cole et al., 2017). Panke et al. (2017) found the use of three SM applications triggered self-directed learning in three applied science courses that integrated screencast lectures hosted on YouTube, in correlation with a learning management system (LMS) and an audience response system.

Secondary teachers use SM in different ways to share content and communicate with students. For example, teachers use SM with students as a communication and

collaboration tool and as a way to update students about instructional activities (Forkosh-Baruch & Hershkovitz, 2019; Rap & Blonder, 2016). Teachers also use SM as an extension for learning to take place outside of the classroom and for students to participate in class discussion activities (Rap & Blonder, 2016). Other researchers found the secondary teachers use SM to post resources for class discussions and assignments for students to work on and complete (Krutka & Carpenter, 2016; Trust, 2017). Secondary teachers use online blogs and discussion postings to engage students in participatory learning (Scolari et al., 2018) and YouTube to host videos for learners to seek information and learn content (Moghavvemi et al., 2018). Gleason and von Gillern (2018) found that SM provided students with digital citizenship and literacy skills needed to communicate and collaborate online at the secondary level. Therefore, the researchers have indicated that implementing SM in secondary learning environments can serve as an instructional tool to support active learning, expose students to digital literacy practices, and expand the ways that individuals within an educational institution collaborates and communicates.

Educators using SM platforms as a learning tool have found students are more engaged with instruction and aware of SM use in their daily life (Gleason & von Gillern, 2018), particularly in secondary and postsecondary education. However, there is limited research on teacher perceptions of SM use at the middle school level. There is a gap in the literature regarding middle school teachers' use of SM and, if they do use it, for what purpose and manner is it applied for student engagement and learning. This study can

provide new literature for researchers, teachers, administrators, or content specialists seeking information about middle school teachers' use of SM in their teaching practices.

Problem Statement

Younger teens begin to use SM as they enter middle school, yet until this time, they have not been prepared to acquire digital literacy about these online social tools because they have not used them in their personal life or school (Gleason & von Gillern, 2018; Marksbury & Bryant, 2019). Although middle school-aged children use SM in their personal lives (Pew Research Center, 2019), as do secondary teachers (Gleason & von Gillern, 2018) and college instructors (Al-Rahmi & Zeki, 2017), researchers have not revealed why and how middle school teachers use SM when teaching students in their content areas.

A digital native is a young person who has grown up in the digital age (Prensky, 2001), and research has shown that they need innovative structures in place for meaningful learning to occur (Kimbell-Lopez et al., 2016). Middle school students lack this structure because they use SM as a primary vehicle for socialization (Blummer, 2017), and teachers are not providing this structure with students who are digitally competent (Hatlevik, Throndsen et al., 2018). Teachers assume that middle school students are digitally literate because of their ubiquitous use of technology as digital natives (Marksbury & Bryant, 2019) and experiences they may have with SM in the classroom (Gleason & von Gillern, 2018). The problem is that although middle school-aged children intuitively use SM personally (Blummer, 2017; Pew Research Center, 2019), it is unclear why or how middle school teachers use SM with students who are

skilled in its use only for social interaction. Without directed use of SM in learning, it is unclear how this group of students learn how to use these tools safely and responsibly, and how teachers use a tool they accept and use it to engage them in the learning process, thus helping them gain the digital literacy skills required for further education and the workplace (Falloon, 2020).

Purpose of the Study

The purpose of this basic qualitative study was to explore how and why middle school teachers use SM technologies in their teaching for student engagement and learning. For purposes of this study, SM refers to any online platform or interactive application tool that allows users to communicate with others, share information, and generate content (Rodesiler, 2017). The sample population consisted of eight teachers who have used SM from two middle schools located in one district in the northeast United States. Interviews and available lesson plans were the data sources. Davis's (1989) technology acceptance model (TAM) and Koehler and Mishra's (2005) technological pedagogical content knowledge (TPACK) model were both used as the conceptual frameworks to help interpret the data and guide the research study.

Research Questions

The following research questions guided the study about middle school teachers who currently use SM in the classroom.

RQ 1: Why do middle school teachers use SM for student engagement and learning?

RQ 2: How do middle school teachers use SM for student engagement and learning?

Conceptual Framework for the Study

This study examines *why* middle school teachers use SM and *how* they use it in teaching for student engagement and learning. The connections between technology acceptance, knowledge of technology, pedagogy, and course content are factors that are related to this study. Two models comprise the conceptual framework for the study: TAM and TPACK. These models help to explain the process of teachers' decision-making as they use technology to facilitate lessons in their given subject areas (Joo et al., 2018; Okumuş et al., 2016).

One of the most recognized models used in K-20 settings is TAM, which stems from Rogers's (2003) diffusion of innovations theory (Scherer et al., 2019). Davis (1989) developed TAM to explore the use of technology by how one perceives its use to be beneficial, the usability of an information system, and an individual's attitude toward using a system. TAM's main focus is the acceptance of technology systems by behavioral intentions, which includes the user's attitude, perceived usefulness, and their perceived ease of use. (Nagy, 2018). Regarding this study, TAM is used to examine reasons teachers accept SM technology as an engagement and learning tool for middle school learners. Using TAM to guide and structure this study expanded and increased knowledge on factors influencing middle school teachers' acceptance and use of technologies, particularly SM.

Koehler and Mishra (2005) structured TPACK on a comprehensive understanding of teacher knowledge needed to facilitate learning with technology. According to Okumuş et al. (2016), Shulman's (1986) pedagogical content knowledge (PCK) model informed TPACK's main components. Two decades later, his work served as the foundation for Koehler and Mishra's (2005) TPACK model, which integrated technology to extend knowledge areas in teaching. According to Olofson et al. (2016), PCK represents the knowledge teachers possess to effectively teach content in different ways. Technology pedagogical knowledge (TCK) is the manner technology influences or hinders teaching subject matter. TPK incorporates technology and pedagogy, emphasizing how they influence each other. Thus, TPACK provides an analytical lens that looks at the relationships between teachers' knowledge of technology, pedagogy, and content (Koehler & Mishra, 2005). Blonder and Rap (2017) indicated when teachers gained knowledge on technology use for instruction, they increasingly applied it in their teaching. Therefore, the TPACK framework is used in this study to understand the constructs of knowledge teachers have attained to effectively facilitate learning using SM with their students. A comprehensive examination of both models is discussed further in Chapter 2.

Nature of the Study

For this study, I selected a basic qualitative approach to explore why and how middle school teachers from two schools in the northeast region of the United States used SM to instruct students in their subject area. Patton (2015) maintained that qualitative research intends to help researchers better understand, capture, and communicate

individuals' perceptions of their experiences in a physical, social, or cultural setting. A basic qualitative approach was most suitable for this study, rather than other qualitative research traditions, because the study's purpose was to understand middle school teachers' perceptions of SM use in their pedagogical practices. According to Merriam (1998), a basic qualitative research approach focuses on "how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their own experiences" (p. 23). Additionally, this approach allows the researcher to collect data through interviews and archived materials and records.

Data sources used to gain insight into the teachers' experiences include interviews and lesson plans. In relation to the first data source, I first conducted semistructured telephone interviews with eight middle school teachers who had used SM in their teaching for at least one semester. I intended to conduct face-to-face interviews; however, due to the COVID-19 pandemic, I could not. Second, to establish validity in the research findings and to fully understand the phenomena, I collected and analyzed teacher lesson plans that included the use of SM. This allowed me to triangulate and look for congruence between some of the interview data. According to Patton (2015), triangulation refers to using multiple data sources to test the validity of the information. Because of school closures due to the pandemic and teachers having limited access to classroom materials that were not electronically accessible, I was only able to collect two lesson plans. After data were collected and interviews were transcribed, I began the coding process by reviewing the data from interview transcripts, lesson plans, and reflective notes. I then identified all possible precodes from which categorical patterns

were derived from the data to construct a coding scheme. Merriam and Tisdell (2016) compared the process of analyzing data to "seeing the forest or big picture and to seeing the trees, or particulars, within the forest" (p.208). For this study, the raw data from data sources were the "forest" and the developed categories and codes eventually became final codes that served as the "trees." From coding and categorizing, emergent themes and subthemes were formed.

Definitions

Content knowledge: Content knowledge is what the teacher knows about the subject matter he or she teaches (Koehler & Mishra, 2005). This includes principles, concepts, and generalizations, as well as processes that are inherent to a discipline.

Instructional strategies: These are educational techniques that may include group discussions or online blogs that educators use to help students achieve intended learning goals within the content of the course (Lumpkin et al., 2015).

Pedagogical content knowledge: Conceived by Shulman (1987), PCK embodies the idea that educators are knowledgeable not just about the subject matter that they teach but also how to teach it (Koehler & Mishra, 2009).

Pedagogy knowledge: This term refers to a teacher's understanding of how to create instructional experiences based on the learner's prior knowledge and level of understanding (Shulman, 1986).

Social media (SM): Online platforms or interactive application tools that allow users to communicate with others, share information and generate content (Rodesiler, 2017), including technology applications such as Facebook, Twitter, Instagram, and

YouTube (Arceneaux & Dinu, 2018; Asterhan & Rosenberg, 2015; Moghavvemi et al., 2018).

Social networking sites: Websites that offer the opportunity for social communication, collaboration, and interaction (Gray, 2018).

Technological content knowledge: This term refers to the knowledge teachers need to integrate the technology used in subject matter teaching (Keçeci & Zengin, 2017).

Technological acceptance: Technology acceptance explains one's behavior and attitude when choosing to use technology (Song & Kong, 2017).

Technology knowledge: This knowledge is the aptitude to plan, implement, and manage learning activities with technology (Guerra et al., 2017).

Technology integration: This practice involves the implementation of technology-supported learning activities and aids into the curriculum (Hughes & Read, 2018).

Assumptions

Assumptions are those aspects of a study that the researcher believes but cannot demonstrate to be true (Anderson, 2017). The assumptions of this study consisted of factors based on middle school teachers' experiences using SM. The first assumption was that teachers who participated in the study reported honestly and accurately when discussing their SM experiences in teaching. The next assumption was that teachers' lived experiences using SM in teaching were shared and discussed honestly in their responses during the interview process. Lastly, it was assumed that the selection criteria identified

teachers who used SM to support learning and that the selected participants experienced the tools in similar ways.

Scope and Delimitations

The focus of this study was to understand why and how middle school teachers use SM in support of student learning and the process through which they made decisions about how to use it. I limited the scope of this research study to learn about the perceptions of middle school teachers at schools in one district in the northeast region of the United States who used SM in their classrooms. The selected participants must have used SM in their classes for at least one semester, indicating they had accepted it as a viable instructional tool aligned with TAM (Davis, 1989). I limited participants to these teachers because they had experience with integrating SM into their curricula and had factual, theoretical, conceptual, and procedural knowledge of the subject area that they taught (Keçeci & Zengin, 2017). These types of knowledge are integral to the TPACK model (Koehler & Mishra, 2005), which I used as one of the frameworks for data collection and analysis protocols.

I focused on middle school teachers' use of SM because little is known about why or how they use it (Gleason & von Gillern, 2018; Muls et al., 2019). Middle school students did not participate or provide their insights about the use of SM in this study. Due to the limited target population and sample, findings are not generalizable to all middle school teachers in other schools.

Limitations

Limitations are assumptions that limit the conditions within the study that the researcher has no control over (Theofanidis & Fountouki, 2018). There were several limitations to this study. The first limitation was the study's sample size, which was limited to eight middle school teachers from two schools in one school district. The size could limit the generalization of results to other populations. According to Nørreklit et al. (2016), generalization refers to the development of knowledge assertions gained from research in education that may be limited to samples, settings, perspectives, and restrictions.

A second limitation was the possibility of personal bias altering the validity of the study's results. According to Noble and Smith (2015), biases are shaped by personal beliefs and experiences and have the potential to and cause invalid and misleading findings of a study Because I am personally involved with the research and work in the same school district as the participants, I was aware of and avoided potential personal biases. Following all IRB guidelines, keeping detailed records of personal reactions that may be biased, documenting all findings in a reflexive journal, working together and sharing work with peers at various stages of the research process, and acknowledging all of the study limitations, will help to avoid any biased behaviors.

The third limitation to the study was having access to readily available participants during the time allocated for interviews. Therefore, the flexibility and adaptability to the participants' needs were important aspects to adhere to during the data collection process. According to Carr et al. (2019), researchers use alternative means to

in-person interviews, such as SM, email, instant messaging, photo voice, and audio diary to collect data in qualitative research studies. Therefore, I conducted interviews by phone due to COVID-19 restrictions and social distancing regulations.

Significance

The study's findings will help fill the gap in the literature that relates to why and how middle school teachers use SM to instruct their students. Understanding middle school teachers' perceptions can effectively expand knowledge about using SM to support learning and enhance the content. Additionally, more research in this area can also aid in providing middle school students with meaningful and effective instruction that can expose them to innovative ways to use technology that they may already be familiar with. Therefore, using SM in learning, students may be more likely to become digitally literate, responsible and competent SM technologies users. The study's findings may also provide school administrators, curriculum specialists, educational technology professionals, and professional development specialists with effective instructional strategies to share with middle school teachers during staff development sessions.

Summary

Middle school teachers can use SM as an innovative strategy to engage students in learning. Although high school teachers use SM, as do college instructors (Gülbahar et al., 2017), and younger teens use SM in their personal lives (Anderson & Jiang, 2018), it is unclear why middle school teachers use of this type of technology or how they use it in teaching. Much of the current research on SM use in high schools and postsecondary institutions have provided insight into why and how educators have used it for student

engagement in learning (Al-Rahmi & Zeki, 2017; Casey & Evans, 2018; Dennen & Rutledge, 2018; Gülbahar et al., 2017); however, a gap in the literature has revealed that more research is needed to understand this matter at the middle school level.

Understanding middle school teachers' perceptions can not only expand knowledge about how to effectively use SM to support and enhance instruction in their content areas, but it can also identify instructional strategies using SM for those children who use it in their personal lives. Additionally, SM use in learning can expose students to new approaches of use where they have the potential to develop as responsible users of technology that they are already familiar with.

This basic qualitative research study explored the use of SM from the perspective of middle school teachers who have used it in teaching, specifically as it relates to why and how they used it. Davis's (1989) TAM, along with Koehler and Mishra's (2005) TPACK frameworks, served as the lens through which findings were analyzed. Chapter 2 explains the literature review process, describes the conceptual framework, and provides a review of the relevant research literature-based research topic.

Chapter 2: Literature Review

The purpose of this study was to gain insight into why and how middle school teachers use SM technology at two middle schools in one school district in the northeast section of the United States. Society has integrated SM in various contexts. According to Kilis et al. (2016), educational institutions have followed suit using various platforms such as Facebook, Twitter, Instagram, and YouTube to support academic activities. Recent research on SM use by teachers has primarily examined higher education (Freitag et al., 2017;) or secondary education at the high school level (Gleason & von Gillern, 2018; Hershkovzt & Forkosh-Baruch, 2017; Rap & Blonder, 2016; Trust, 2017), rather than at the middle school level.

Researchers have shown that higher education faculty members use SM to facilitate lectures, exchange collaborative dialogue, and enhance learning outcomes by either posting text, video, audio, pictures, or images to their students (Freitag et al., 2017). Similarly, online communities in higher education institutions have used SM platforms for collaboration, discussion, and student engagement (Hamadi et al., 2021). Research examining secondary level teaching using participatory learning and SM indicates that high school teachers utilize online blogs and discussion forums to engage students in dialogue and critical thinking activities (Kilis et al., 2016). Despite the body of scholarly literature based on the educational uses of SM in various educational settings, more research needs to explore why and how middle school teachers use it. Therefore, other middle school teachers can have access to relevant resources to help guide them with learning strategies to incorporate SM in their future teaching practices.

This chapter includes the literature review search strategy and an overview of two conceptual frameworks: the TAM and TPACK. It also includes a review of current literature that reveals why and how educators from various educational settings and levels use SM for student engagement and learning.

Literature Search Strategy

I identified research literature primarily from a collection of peer-reviewed publications dated between 2016 and 2021. I accessed the research from databases within Walden University's online library using limiters and retrieved publications using keywords and subject searches from the library's databases. The databases used to retrieve literature for this study included Academic Search Complete, Education Source, ERIC, Research Starters-Education, Thoreau Multi-Database Search, ProQuest Central, and SAGE Journals.

I split the topic into individual keywords, avoiding lengthy phrases. The keywords contained three general concepts: *middle school curriculum, teachers using technology*, and *SM in education*. Alternate search terms were used to search for topics relating to the middle school learning environment, including *secondary education* and *secondary curriculum*. Alternate search terms for teachers using technology included *facilitators of technology, computer-assisted instruction*, and *web-based instruction.* Alternate terms for *social media in education included social learning networks, educational technology, technology learning tools, the technology uses in education*, and *technology integration*. The focus of this study led me to search for literature from peer-reviewed articles and publications regarding educators' perceptions and experiences using SM technology from

multidisciplinary databases. Finding the most current literature posed a challenge because SM use in education was described using a range of descriptive keywords within the topic. Therefore, I combined specific types of SM platforms and similar technologies within the keywords in the search field to find literature based on the topic.

Conceptual Framework

To explore why and how teachers use SM technology in the classroom, the conceptual framework for this study is based on two models of technology acceptance and use, which are Davis's (1989) TAM, and Koehler and Mishra's (2005) TPACK model. By using TAM, I uncovered the prominent factors that may influence middle school teachers' decisions to use SM. I chose TPACK to focus on understanding how teachers' knowledge of technology, pedagogy, and content relates to why they come to use SM technology for instruction.

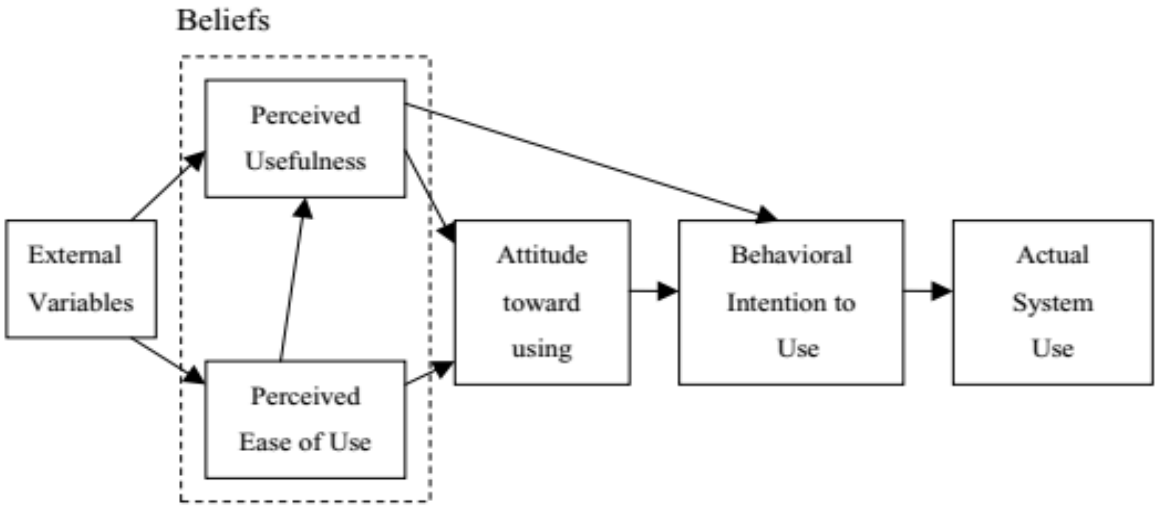
Overview of Technology Acceptance Model (TAM)

Davis (1989) proposed the TAM based on Fishbein and Ajzen's theory used to study individuals' behaviors and attitudes, also referred to as the theory of reasoned action (Douglas, 1977). TAM allows researchers to explore the use of technology by determining how an individual perceives its use as beneficial, the usability of an information system, and one's attitude toward using a system (Davis, 1989). According to Dziak (2017), users of technology form attitudes about its use, which motivates them to use the system if it is useful or easy to use.

TAM's overall focus is on the user's acceptance of technology systems by perceived beliefs, including their attitude towards use, intention to use, and actual use (Davis, 1989) (see Figure 1).

Figure 1

Technology Acceptance Model



Note. Technology acceptance model. Adapted from "Davis et al.png," by Pham Thi Ly Na. https://creativecommons.org/licenses/by-sa/4.0

Behavioral intentions refer to the users' beliefs to use a specific technology system (Scherer et al., 2018). For example, if a teacher learns about or experiences learning with a course management system, then decides to use it, they are likely to follow through and adopt it as an instructional tool. McCullouch et al. (2018) suggested that TAM helps in shaping an individual's attitude about using technology in their future behaviors and found that perceived usefulness influences the adoption of technology. Davis (1989) suggested that technology users believe if a system is perceived to be useful, it will enhance their daily routines. According to Dziak (2017), an individual's

perceived ease of use is acquired when there is minimal effort or exertion using a given technology system.

Applications of TAM in Education

TAM's key constructs provide insights into why individuals accept or do not accept technology systems in education. Researchers have used the model as the conceptual framework for research examining teachers' acceptance of and the use of new technologies (Arshad & Akram, 2018) at all levels of education to support the study of attitude and intention to use technology and information systems in a variety of settings (Scherer et al., 2019). Researchers have not widely used TAM in the study of SM, and research that has used TAM to examine SM has not focused on any one level of education, particularly middle school. Thus, this section includes research from K-20 learning environments.

Research using TAM in Higher Education. TAM-based research studies have largely focused on technology acceptance in higher education. For example, Sapkota and Vander Putten (2018) conducted a qualitative study investigating business communications faculty members' acceptance and use of SM technologies in the classroom and the world of business. TAM was used as a framework to guide this study, and the findings indicated that faculty member's positive attitudes, followed by perceived usefulness, ease of use, and additional external factors toward SM use, influenced and increased acceptance of technology systems. In a qualitative case study focusing on the skepticism of technology adoption of 95 higher education staff members from a distance learning university revealed that central principles of TAM attributed to understanding

why technology was accepted by some of the staff (Rienties et al., 2018). With additional training and follow-up support, the staff had a positive attitude toward using learning analytics tools. Sánchez-Mena et al. (2019) utilized TAM as a guiding framework in their quantitative study on how attitudes of 312 faculty members from one university influenced their intention to use technology tools and equipment in their teaching practices. The study findings indicated that most faculty agreed that technology-supported instructional activities were useful toward the learning process, and user motivation increased when technology was used effectively in their institution. Therefore, supporting education and training, technology not being too difficult to use, and technology usefulness were the top three reasons that the faculty accepted technology for instructional use.

Research using TAM in K-12 Education. Researchers have also used TAM as a guide to study teachers' intentions of using technology in their pedagogical practices. Li et al. (2016) used TAM as a framework to investigate factors that influenced 87 preservice teachers' decisions on implementing technology for future practice. Using a qualitative design to collect data, the researchers found that teachers' attitudes toward technology was an influential and significant factor in technology adoption. TAM was applied in another study based on the intentions of 226 preservice teachers' use of technology in primary mathematics classrooms (Teo et al., 2017). The researchers found that elements of the model, along with technological pedagogical content knowledge, and experience, functioned as contributing factors of technology use and adoption. They also

found that one of the central elements of behavioral intentions to use technology was linked to the teachers' attitude.

TAM has also informed research about the intent to use specific software in secondary learning environments. For example, Okumuş et al. (2016) examined how high school teachers made decisions about integrating Geometer's Sketchpad and Fathom software tools into their algebra and geometry curriculum. The researchers examined teachers' decision-making process of using the new tools and how it aligned with teachers' attitudes, perceptions of ease of use, and usefulness. Their findings showed that the teachers were more inclined to use the technology tools if they perceived them to be useful. Fang and Liu (2017) used TAM to gain insight into the reasons why teachers adopted micro-lectures in K-12 learning environments. The researchers defined a micro-lecture as a teaching tool and approach that implemented short video presentations about one specific topic. The results revealed teachers accepted this tool because of its simplicity and ease of use.

Summary of TAM

This section explored the foundation of TAM and why it is an applicable model for researchers to use as a guide to understand why users of technology systems either accept or reject it. Educators from various educational levels and backgrounds have adopted more than one SM platform in alignment with the constructs of TAM, confirming why educators adopt the technology. The most prevalent technology acceptance components of TAM in the reviewed studies were perceived usefulness and attitude. Therefore, using TAM as a framework for this study is an appropriate approach

to gaining an understanding of reasons and ways middle school teachers have come to use SM technologies in teaching.

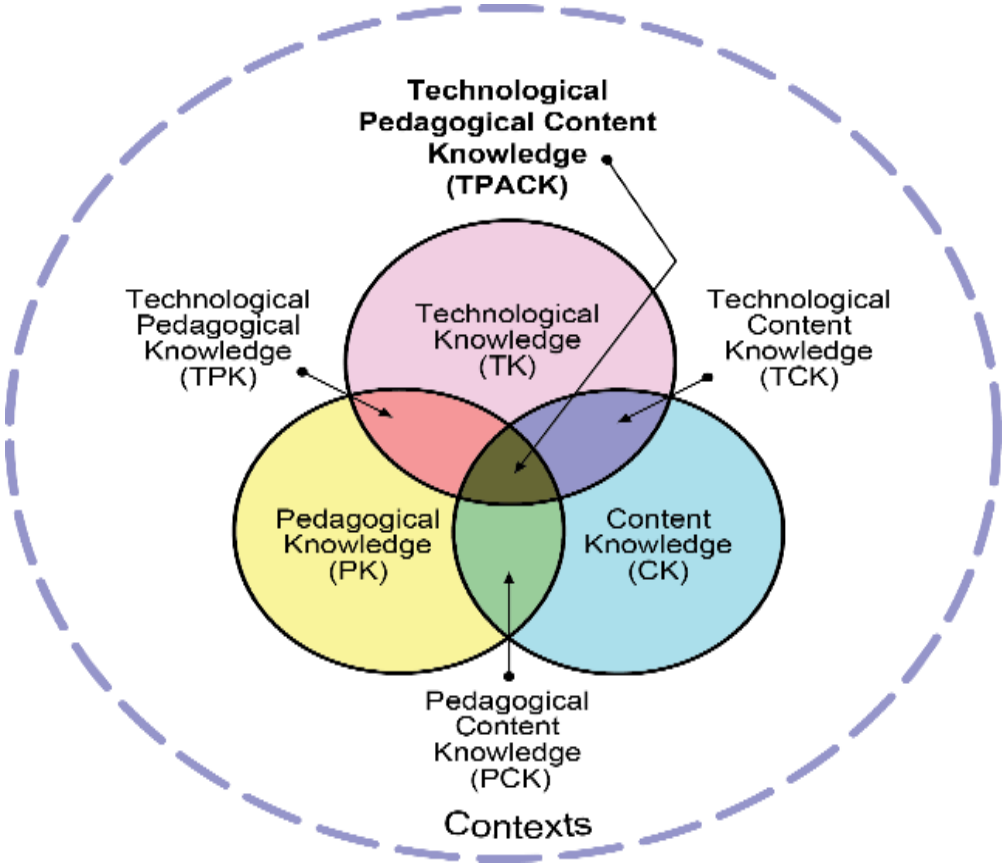
Overview of Technological Pedagogical Content Knowledge (TPACK)

TPACK is a framework that distinguishes the knowledge needed to effectively facilitate learning with technology (Koehler & Mishra, 2005). Piotrowski and Witte (2016) defined TPACK as a framework that identifies segments of knowledge that teachers should have as they integrate technology into instruction. Lee Shulman's early work based on the teacher pedagogy and content knowledge informed TPACK (Willermark, 2018). Two decades later, his work served as the foundation for Koehler and Mishra's (2005) TPACK framework, which integrated technology as an extension to the bodies of knowledge (Swallow & Olofson, 2017).

TPACK consists of three domains of teacher knowledge: technology knowledge (TK), pedagogy knowledge (PK), and content knowledge (CK) (Koehler & Mishra, 2005). TK is a teacher's knowledge about technology and how to solve technical problems. PK is the way a teacher adapts teaching styles to different learners. CK is the knowledge teachers have about the subject matter acquired through learning or teaching. When the domains overlap, they form the TPACK framework. The framework consists of pedagogical content knowledge (PCK), technological content knowledge (TCK), and technological pedagogical knowledge (TPK) (Koehler & Mishra, 2005) (see Figure 2).

Figure 2

TPACK Framework



Note: TPACK framework showing the triangulated areas of knowledge that constitute technology, pedagogy, and content. From http://TPACK.org

Pedagogical Content Knowledge (PCK)

PCK is known as the art of teaching, and it represents the knowledge that teachers in varied subject areas possess to effectively instruct their students (Swallow & Olofson, 2017). According to Shulman (1986), teachers demonstrate PCK when they transform subject matter for instruction so that the learner can understand the content of a lesson. In this case, teachers who show expertise and have attained knowledge that they previously

acquired in specific subject areas communicate knowledge in ways that students can comprehend and remember for future use. For example, students may not be aware of shortcut keys until their keyboarding teacher taught them about it, so after applying this new skill, they may start using shortcuts more often to make it more time-efficient at doing certain tasks on the keyboard.

Technological Content Knowledge (TCK)

TCK is one of the domains of TPACK and describes the knowledge of how to use or pair the appropriate technology to teach a specific content (Koehler & Mishra, 2005). TCK explains how technology influences the content and how teachers use available digital applications to improve or transform effective student engagement (Listiawan et al., 2018). For example, a classroom activity may involve daily group discussions about students' favorite parts of a story. However, if many students are not engaged, the teacher may decide to use an online blog or hold online discussion groups to keep students engaged.

Technological Pedagogical Knowledge (TPK)

TPK incorporates technology and pedagogy when teachers use technology to instruct (Swallow & Olofson, 2017). In this case, technology and pedagogy influence each other by incorporating technology into instruction that can cause changes in the way teachers deliver lessons. An example is when a science teacher who traditionally modeled the periodic table by displaying it on a bulletin board or an overhead projector now uses an instructional YouTube video as a modeling tool.

Applications of TPACK in K-12 Education. The TPACK model provides a framework and structure of knowledge for teaching and learning using technology across disciplines in K-12 education. For example, Purnomo and Hidayati (2018) conducted a study using pedagogical content knowledge (PCK) as a guide to uncover secondary science teachers' knowledge of the essential materials. They found that their proficiency in the subject area contributed to effective teaching practices. In a quantitative statistical study, Padmavathi (2016) found that the TPACK framework served as a guide to inform teachers on ways in which technology is used as a learning tool in their teaching practices. In another quantitative study, researchers found that 563 science teachers enhanced their TPACK competencies when they exhibited knowledge in their content and were skilled at implementing and using technology in instruction (Kıray et al., 2018).

When teachers understand how technology can be used in their classes, they are more likely to adopt it. Heitink et al. (2017) used TPK to explore how and why elementary teachers used information and communication technology (ICT) to effectively facilitate instruction in their classrooms. The researcher’s findings indicated that teachers would be more prone to use technology if they understood how to use it when they facilitated learning. Karatas et al. (2017) conducted a quantitative study on TPACK and used survey data to examine how middle school mathematics teachers’ self-confidence and positive perceptions of technology use aligned with gender and grade level. In this study, male teachers were self-confident when it came to using instructional technologies, and female teachers had more positive perceptions towards using technology in teaching.

Therefore, this study found that certain constructs of TPACK were associated with teachers' individual attributes and academic areas.

Teachers' subject matter knowledge can also support technology use. In a mixed-methods study, Hill and Uribe-Florez (2020) used the TPACK framework to guide their study based on middle school mathematic teachers' development of knowledge in teaching their subject effectively using technology. The results of this study found that teachers were aware of barriers that prevented the proper integration of technology into their classrooms. The barriers included lack of skills, time, access, resources, and support needed to use technology. Teachers expressed that because the barriers existed, they lacked two sub-areas of TPACK, which was TCK and TPK, to teach math effectively.

Applications of TPACK and SM. Some researchers have used TPACK as a framework to examine how well teachers use SM within their content (Hill & Uribe-Florez, 2020; Karatas et al., 2017). Blonder and Rap (2017) conducted a study based on high school chemistry teachers' TPACK and self-efficacy beliefs of using Facebook learning groups to facilitate learning. They found that teachers acquired TPACK competencies to facilitate instruction effectively using Facebook through professional development training. In a quantitative study, Bingimlas (2018) used the TPACK framework to understand how the integration and use of technologies that included Facebook, chat programs, blogs, and wikis aligned with Saudi educators' teaching performance from eight core subject areas. The researchers indicated in the study that 76% of the sampled population performed well when they trained to use SM technologies

in preparation courses. Therefore, the teachers gained sufficient technology, pedagogy, and content knowledge to confidently integrated and use SM in their content areas.

Content knowledge may be more important than technology skills for some teachers. DeCoito and Richardson (2018) conducted a mixed-methods study guided on the constructs of the TPACK framework. The researchers indicated that a small number of science, technology, engineering, and mathematics (STEM) teachers reported issues with using Twitter to promote online collaboration because they lacked proficiency in the area due to insufficient training, resources, and support. Therefore, the researchers found that SM could not be effectively integrated into one's teaching practices without knowledge of how to confidently use the system in teaching their content areas.

Summary of the TPACK Framework

Unlike TAM, which examines the acceptance of technology use, TPACK is structured on the knowledge needed to facilitate learning with technology in an educational setting (Olofson et al., 2016). In varied learning environments, it is used to examine the three domains of knowledge: TK, PK, and CK. The research in this section focused on the overlapping sub-areas which form the TPACK framework, consisting of PCK, TCK, and TPK. Therefore, the knowledge domains that make up the TPACK framework builds on and guides understanding about the knowledge that middle school teachers need to effectively use SM for student engagement and learning.

Literature Review Related to Key Concepts

This section includes a contemporary analysis of scholarly literature on SM use in education by describing what is already established, controversial, and under-explored.

To better understand why teachers have come to use technology systems such as SM in teaching, I first highlight research literature on technology use in education. The literature for the first section of this review is organized by the following categories: training supports for technology use, barriers towards technology use, and technology use for student learning. To understand why teachers choose to use certain SM platforms and to gain insight into how they use them in teaching, I highlighted the key concepts of SM use in education from the research literature. The literature in the second section of this review is organized by the following categories: definition of social media, description of social media platforms, educational applications of social media, and issues and challenges of social media use in education.

Training Supports for Technology Use

It may be that the more teachers train to use technology before integrating it into their teaching practices, the more they are willing to use it. For example, Margolin et al. (2019) sampled 524 high school teachers from 26 schools in their quantitative study and reported that many of the teachers expressed how technology and professional development support were high priorities when they considered using technology in their teaching practices. The study results revealed that teachers were more comfortable integrating technology-based pedagogical strategies into the classroom when professional development opportunities were made available to them. Osakwe et al. (2016) also found in their mixed-methods study that three high school teachers had positive attitudes toward the use of technology in their classrooms when they were provided with adequate training, along with internet access and mobile technology, reliable devices, application

accessibility, and access to electronic materials of instruction. Zehra and Bilwani (2016) used a qualitative approach to compare how eight teachers from various school systems perceived technology use. Findings revealed that even the most qualified teachers in their study were ineffective when using technology in their curriculum without appropriate professional development and that prior training on technology systems helped teachers gain the knowledge needed to implement it in their teaching for students to meet educational goals. Thus, exposure to technology increases the likelihood of adoption.

Teachers are aware of the benefits that technology training affords them when they choose to incorporate its systems into their pedagogical practices. For instance, Akman and Koçoglu (2017) explored social studies teachers' mobile technology use within Rogers's (2003) diffusion of innovations theory in their quantitative study. The areas included the decision stage and type, innovativeness level, and attributes of mobile learning. According to the results of the study, 65% of the participants reported they were willing to use mobile learning technologies through formal training opportunities. Accordingly, Tondeur et al. (2017) utilized a meta-aggregative approach to analyze and measure the results of 14 research studies concerning teachers' pedagogical beliefs about technology use. These researchers found that teachers were willing to use technology if they had practiced using it.

In a quantitative research study about technology integration in teaching, Qasem and Viswanathappa (2016) found that science teachers chose to use technology applications to facilitate student learning when hands-on training occurred prior to its integration. Moreover, Cagiltay et al. (2019) found in their qualitative study that 27

special education teachers perceived group training as a key reason to use technology in teaching their content. Siefert et al.'s (2019) qualitative research study selected four middle school English teachers to learn why they chose not to use technology in their teaching and found that if teachers were exposed to frequent professional development opportunities, more of the teachers would decide to integrate it in practice. As a result of the reviewed research studies, technology preparation and an awareness of its importance play key roles in the development of skills that teachers need to have when technology systems are integrated into teaching practices.

Research has linked the knowledge areas of the TPACK framework to technology use and training. In a qualitative study, Jones (2017) examined how four Montessori teachers with two to 15 years of teaching experience approached technology use. The researcher explored how the technology integration framework of TPACK, in conjunction with professional training, played vital roles in meaningful technology integration into the classroom. Jones found the knowledge constructs of TPACK guided teachers to effectively use technology resources, such as computers, programs, and applications, to help improve students' academic skills in alignment with the Montessori curriculum. Similarly, Bilici et al. (2016) explored the development in a case study of 27 preservice science teachers' technology, pedagogy, and content knowledge during a one-semester scientific methods training course. The course introduced teachers to a variety of content-related technology tools that prompted future use. Additionally, the researchers indicated that as teachers trained throughout the course to use the technology tools, their knowledge of technology use improved substantially when teaching in their

content. Thus, researchers have documented that professional preparation and the constructs of knowledge determine technology use in teaching.

Barriers Towards Technology Use

The benefits of technology training, along with specific barriers connected to technology use and acceptance in education, are also addressed in the current research. For example, Batane and Ngwako (2017) documented and analyzed the perceptions on technology use of 52 preservice teachers between 20 and 24 years of age in their qualitative study. Findings revealed that a majority of the teachers were comfortable and willing to use technology as an academic support once they were trained to use it. However, some teachers reported they would not integrate certain technologies if they were not readily available or required for facilitating learning in their content. Fernández-Cruz and Fernández-Díaz (2016) addressed in their quantitative study that early career teachers between the ages of 20 and 25 were afforded technology training opportunities; however, veteran teachers between the ages of 56 and 66 were not provided with the same level of training. The results of the study indicated a lack of training opportunities served as a barrier for veteran teachers developing core digital competencies as well as low confidence needed to effectively facilitate learning using technology. Therefore, this study indicates that new teachers are given more opportunities to receive the latest technology training than veteran teachers who also use technology in their teaching practices.

Some studies have shown that a lack of technological resources serves as a barrier to technology integration in education. Vongkulluksn et al. (2018) used a sample of 624

high school teachers to examine their perceptions of barriers and beliefs on technology integration in the classroom. In their quantitative study, the results showed that a lack of technology and organizational resources, and administrative support lessened teachers' intentions to adopted technology into the classroom. Similarly, Nikolopoulou and Gialamas (2016) sampled 119 high school teachers in their mixed methods study and identified that the level of training, unavailability of resources and support, affected confidence and the willingness to facilitate learning with technology. Ottenbreit-Leftwich et al. (2018) examined in their case study how four beginning teachers encountered barriers to technology integration. They identified the lack of preparation, along with the school structure, policies, and resources, as reasons to why some of the teachers were hesitant towards the integration of technology into their teaching practices.

Along with other technology integration barriers, researchers found there was resistance toward technology use in the classroom by teachers because they were not professionally trained to use it within their teaching practices. For instance, McKnight et al. (2016) used online surveys, focus groups, interviews, and observations to analyze 44 K-12 teachers' perceptions of technology integration and its influence on the learning environment. Ten to 25% of the teachers reported that a lack of training, in addition to preparation time, administrative support, and accessibility, hindered their commitment to integrating technology into the classroom. Guerra et al.'s (2017) qualitative study found the lack of technical equipment and training on using the equipment served were barriers for 36 in-service science teachers integrating technology into their teaching. Moreover, Osakwe et al. (2017) found in their mixed-methods study on adopting mobile learning in

high school that 12 teachers and 20 students reported on the need for teacher technology training, along with time, knowledge, skills, positive attitudes. Thus, without reliable tools and the support to use them, the adoption of technology systems is less likely to occur.

The lack of confidence in using technology systems has also been a barrier to teachers using it in their teaching practices. Liu et al. (2017) used a quantitative, multilevel path analysis approach to hypothesize independent variables related to 1,235 K-12 teachers' confidence and comfort levels when they used technology in the classroom. The variables included teacher and school characteristics, contextual factors, school support, and technology access. The study results showed that technology training, teachers' level of education and technology expertise, school support, and adequate access to technology either influenced or hindered teachers' confidence and comfort levels who considered using technology as a learning tool. Teacher comfort with technology was also evident in Peterson-Ahmad et al.'s (2018) mixed-method study of 82 preservice special education teachers who used the Pinterest platform to access instructional materials that aligned with a K-12 curriculum in an inclusive classroom setting at different stages. At the start of the term, teachers were not as experienced or comfortable using Web 2.0 technologies such as Pinterest. However, throughout the term, they became more familiar with the application and confident in developing lessons for their future teaching practices. Consistent with Peterson-Ahmad et al.'s (2018) findings, Boholano (2017) determined in a mixed-methods study that 250 preservice teachers were more comfortable using SM platforms like Pinterest, Facebook, Instagram, Twitter, and

YouTube when they learned how to use them professionally. Therefore, when teachers have prior professional experiences using technology applications and tools, they are more likely to develop the confidence to use it in teaching.

Technology Use for Student Learning

Not all teachers perceived technology training as to why they decided to use it in their teaching practices. Therefore, the following research literature in this section focuses on teachers' use of technology geared toward student learning. Accessibility is an important factor for teachers using technology to address students learning needs. For example, Bippert (2019) conducted a case study to analyze the perceptions of teacher, student, and administrator use of technology tools associated with a middle school reading intervention program. Based on the positive and negative perceptions of technology use, teachers shared that the computer-assisted programs they used with their students aligned with their academic needs. However, teacher learning was negatively affected when technology was not readily available or working during the instructional period. Therefore, this study's findings suggest that teachers are willing to use technology in teaching and learning if and aligns with the learner's educational needs and if it works effectively. Confirming Bippert's (2019) findings, Liu et al. (2016) conducted a mixed-methods study to examine the experiences of K-12 teachers' use of the iPad in their classrooms. The teachers reported they did not have adequate access to a class set of iPads and found it challenging to engage students with limited technological hardware. They also reported that connectivity issues, inadequate network security, lack of technology knowledge, and content alignment concerns with iPad applications adversely

affected the learning process. Additionally, other research findings contended that educators were more prone to use technology in teaching if it is useful and purposefully aligned with the students learning needs, supportive towards instructional learning goals, and accessible to all learners (Jones, 2017; Kayalar, 2016).

Teachers use a variety of technology tools to support student learning in a variety of ways. For example, McCullouch et al. (2018) found that mathematics teachers were more inclined to incorporate technology in the classroom if it provided opportunities for their students to comprehend and practice math concepts effectively. It was also reported when students solved equations (with graphing calculators), collaborated (via Google docs), took assessments (using Kahoot), and communicated (using Blackboard), student learning needs were successfully met. Park et al. (2019) conducted a mixed-methods study to investigate how 41 preservice teachers identified why they decided to use technology for instructional purposes in the classroom. Regarding technology use, teachers reported that they used virtual reality (VR) technology as a tool to get students engaged and actively involved in learning through the exploration and travels to locations and places around the world otherwise inaccessible to students.

Preservice teachers also recognize and learn to use classroom technology to support student needs. Kaur et al.'s (2017) qualitative study focused on the 10 preservice teachers' perceptions on teaching with technology. The teachers used iPads with supported math applications to tutor special needs students. The researchers found that the technology provided the teachers with methods to efficiently access student learning and differentiate instruction to meet students' individual learning needs. Therefore,

researchers have indicated that teachers implement technology systems in their teaching if it addresses the learners' needs, it is accessible and readily available, it is useful and meaningful in the content, or it adversely affects the way that students learn.

Defining Social Media by Use and Platforms

SM has been defined in a number of different ways in the research literature, and because there are similarities, there seems to be no singular or formal definition of the term. The definition of SM either focuses on different ways the technology engages its users (Duong, 2020; Quan-Haase & Sloan, 2017; Rodesiler, 2017), or it focuses on specific platforms connected to SM technology (Arceneaux & Dinu, 2018; Moghavvemi et al., 2018). Relating to methods of use, Rodesiler (2017) defined SM as interactive application tools that engage users to communicate with others, share information, and generate content. Similarly, Quan-Haase and Sloan (2017) defined SM as digital technologies that individuals interact with by connecting, communicating, creating, and distributing user-related content. Also, Duong (2020) provided five main characteristics in defining SM, which include the following: a group of users, sharing method, commonalities within a community, multiple methods of interaction, and multimedia content. Other researchers have referred to SM as social networking sites (SNS) and defined them as websites that offer opportunities for social communication, collaboration, and interaction (Gray, 2018; Muls et al., 2019).

Relevant to the research that defines SM through its individual platforms, Freitag et al. (2017) identified SM as a variety of dedicated digital platforms, which provides communication by instantaneously connecting users from both personal and professional

environments with current user-generated content. Arceneaux and Dinu (2018) referred to Twitter and Instagram when defining SM and mentioned that both platforms served as digital media applications that could be used as a means to share and disseminate information amongst its users. Tang and Hew's (2017) study on Twitter use in education describes SM as a platform that allows its users to electronically send and receive information in real-time. Moghavvemi et al. (2018) studied how YouTube enhanced learning experiences and classified SM as any visual or audio tool that could be used for entertainment, research, and learning support. Blonder and Rap's (2017) research study on how Facebook was used by high school chemistry teachers defined SM as platforms for sharing information, gaining knowledge, and supporting learning and development. Trust (2017) indicated that Edmodo was not only a learning management system that was commonly used in primary and secondary schools but also classified it as a social network and collaborative learning platform that provides a safe online space for teachers to connect, collaborate, and share content with their students. Edmodo is typically a school-provided tool rather than other social media which is available outside of a school network. Therefore, the researchers have found that SM can be defined or classified in terms of web-based systems or platforms that are unique to the interactions of the intended users.

Educational Outcomes of Social Media Use

Researchers have explored the educational outcomes of SM use in instructional settings. Their studies have revealed that SM use maximized or improved student engagement and communication (Gruzd et al., 2018; Matzat & Vrieling, 2016;

Namaziandost et al., 2019; Rosenberg et al., 2018; Seechaliao, 2017). Other studies revealed several issues associated with SM use in education (Al-Bahrani et al., 2017; Carpenter et al., 2016; Fedock et al., 2019; Keenan et al., 2018).

Student Engagement. Engagement can be behavioral, emotional, or cognitive (Trowler, 2010) and can be measured by the effort students put into achieving outcomes (Hu & Kuh, 2002). For example, Gruzd' s et al. (2018) conducted their mixed-methods study, which consisted of a sample of 333 instructors in higher education and found that most of the instructors preferred to use SM technologies such as Facebook, WordPress, Twitter, YouTube, and wikis to increase student participation in online discussion forums and research. They found that students were socially engaged because they initiated the effort to learn with SM. In another mixed-methods study, Nawaila et al. (2018) researched how to better understand why 60 university-level instructors decided to use SM during instruction. The researchers used open-ended questionnaires and reported that teachers facilitated learning with Facebook to engage and excite students in the learning process and to enhance their learning experiences. In a qualitative study, Schwarz and Caduri (2016) found that high school teachers used SM as an educational tool to motivate students to participate in daily class activities as a behavioral tactic.

Instructors also use SM for cognitive engagement. Al Obaidli et al. (2018) conducted a mixed-methods study to examine 168 university faculty members' perceptions on SM use and the need for administrative support to integrate it. The survey findings revealed that faculty members preferred using content-related YouTube videos to spark student's interest in the content. They also found that the platform visually

demonstrated concepts, procedures, and ideas that students were interested in and invested their time to work on content-related tasks. Similarly, Bardakcı (2019) found when YouTube was for educational purposes, academic performance significantly improved with students. Seechaliao (2017) conducted a descriptive quantitative study on the experiences of 11 instructional design experts from Thailand who used SM and technology devices to support student learning. The researchers concluded that SM use generated new possibilities for students to effectively improve their critical thinking and cognitive abilities as they actively participated in problem and project-based activities.

Other studies showed how teachers haves used SM technology to motivate students to actively participate and engage in the learning process in particular content areas, specifically English. For example, Namaziandost et al. (2019) conducted a mixed-methods study to understand the perceptions of 200 university-level instructors and students of SM from the English language content area. The study results revealed that instructors used applications such as WhatsApp and Telegram more frequently for online discussion, where learners became actively engaged as they practiced and improved on their language dialect skills. Similarly, Rezaei and Meshkatian (2017) conducted a quantitative study to explore the learning environment of 46 English teachers who also used Telegram and WhatsApp platforms as learning tools in their classrooms. It was found that their students actively and willing participated in writing and reading activities when they used the applications to practice and improve upon skills in the content.

In similar studies, teachers have used SM for engagement, support, critical thinking development, and knowledge acquisition. For example, in a case study, two

English teachers reported their students were more engaged in reading and writing activities after using Twitter for class discussions (Hsieh, 2018). Al-Rahmi and Zeki (2017) conducted a quantitative study where instructors reported that SM served as a collaborative learning tool, which engaged Islamic students as they learned about the Quran and Hadith. In a qualitative study based on SM use by educators, George (2018) used a sample of 20 assistant English professors to understand how SM affected language learning. The professors reported that students understood the content better and were more willing to participate in class activities when SM was incorporated. Wahyuni et al. (2020) conducted a quantitative study on how Edmodo was used as an interactive learning tool to improve middle school students' critical thinking skills in science. The findings indicated that students improved on this skill significantly when Edmodo was used as an interactive learning tool where shared material was in the form of example problems, question exercises, images, and videos. Similarly, Ali et al. (2019) found in their mixed-methods study that students improved on their reading skills when they were provided by their teachers with user-friendly and digitally connected activities that prompted their interests in a reading course.

Although studies show that SM stimulates learning, negative aspects of use are also prevalent in research. For instance, Rusli et al.'s (2019) qualitative study about 34 pre-service teachers' perceptions of leveraging SM's use in teaching English as a second language (ESL) found that learners improved on their writing skills when they were engaged with SM technology. However, the findings also revealed that SM brought about challenges that included students being distracted with its use, language not being

appropriately learned due to the distractions, and students began plagiarizing information from SM outlets. Lambton-Howard et al.'s (2020) qualitative study was based on teachers' SM use in language education. They also found that teachers reported that students were engaged in learning when SM was intergraded in instruction. However, teachers reported major concerns with SM use which included the appropriateness of use and the lack of student's proficiency when using SM for language learning tasks. Thus, these studies reveal both positive and negative results of SM use in specified fields, and educators have noticed both aspects, yet implementing SM resulted in different types of engagement that might not have occurred without the technology.

Communication. Studies have shown that teachers use SM in their teaching practices as a communication tool. For example, Matzat and Vrieling (2016) conducted a qualitative study on the effects of SM use in a self-regulated learning environment and student-teacher relationships. After analyzing survey data on the perceptions of how 459 secondary social science, humanities, and natural science teachers have used applications SM in their teaching practices, the researchers found that a third of the teachers used it to provide support, share information, and communicate with students outside of the learning environment. Using a qualitative approach, Kilis et al. (2016) focused on higher education instructor's teaching preferences to use SM. With the use of an SM toolkit developed for the study, 583 instructors from 39 countries indicated that they could teach their problem-based or presentation-based courses using varied SM platforms as a communication tool to exchange ideas and to share information.

Teachers use SM for a variety of communication strategies, although in some cases, other media may be more appropriate and be used for non-instructional purposes. Rosenberg et al. (2018) explored 11 Israeli high school teachers and 113 teenage students' perceptions of communicating with SM use during a time of war in their country. The analysis of the teacher interview data revealed that teachers communicated through SM to help students maintain normal routines, help diffuse stress, and provide emotional support during dangerous times of war. However, when comparing SM interactions to more direct forms of communication, some of the teachers preferred phone conversations to detect emotional distress from verbal cues. Therefore, the use of SM may not allow teachers to detect verbal cues of distress, but it does provide instructional and psychosocial support, which in turn may improve students' ability to learn in stressful times. Similarly, Al-Maliki and Al-Mas'ad (2017) examined in their qualitative study how 115 secondary mathematic teachers perceived the role SM played in their teaching practices. They found that a majority of the teachers agreed that SM served as an effective means of communication because it helped build appropriate and supportive social interactions between the teacher and student in the learning environment. Therefore, the literature suggests that educators have chosen to use SM in their teaching practices as a supportive tool for communication and support.

Issues of Social Media Use in Education

Although the previous studies indicate that SM use produces many positive outcomes for student engagement and communication, there are still some issues with its use in educational systems. Research has shown that SM use can enhance instructional

activities, but instructors have been hesitant to use it due to several constraints and concerns. For instance, Fedock et al. (2019) found in their qualitative study that most of the 14 online higher education instructors did not have good experiences using SM platforms such as Facebook, blogging, and Twitter to facilitate instruction. Only four instructors reported its usefulness in their instruction, and the majority of instructors indicated that SM did not align with their content and would not help their students learn the curriculum effectively. Manca and Ranieri (2016) found in their quantitative study that university instructors chose not to integrate SM into their teaching practices due to resistance in their organization, pedagogical issues, and institutional constraints.

Instructor resistance to SM adoption may be rooted in pragmatic perceptions and decision-making. In a qualitative study, Al-Bahrani et al. (2017) used a sample of 446 instructors to learn about SM use in higher education and found that student privacy issues, distractions in learning with technology, served as barriers to integration. Similarly, Forkosh-Baruch and Hershkovitz's (2019) qualitative study of 180 secondary public school teachers revealed that a majority of the teachers reported privacy issues, student and teacher friending, and respect issues as barriers to SM integration. Additionally, Al-Otaibi (2018) found that a lack of time to implement SM use in instruction was a significant challenge in this area. The teachers reported that time did not permit them to use SM due to their busy schedules and daily instructional tasks. Thus, an array of complex SM issues may occur when instructors intend to use it as an instructional tool.

Using SM as a personal and professional tool has proven to be readily accepted or challenging for some educators. In a quantitative study, Keenan et al. (2018) sampled 62 university instructors in the medical field and found that many of them struggled to separate personal online profiles from their professional profiles. Therefore, instructors chose not to incorporate SM due to their personal use. Carpenter et al. (2016) conducted a mixed-methods study to identify how instructors perceived Twitter as an educational application used in their teaching practices. Findings showed that half of the instructors were not comfortable using Twitter outside of their personal use, such as for educational purposes. Similarly, Persson and Thunman (2017) conducted an exploratory qualitative study on the use of Facebook by 25 secondary teachers. The researchers found that communication boundaries between teachers and students were not crossed with SM when some of the teachers used separate accounts designated for classroom use only. These studies indicate if teachers can separate personal SM use from professional use, it can serve as a teaching and learning tool.

Summary and Conclusions

This chapter included the literature review search strategy and an overview of two conceptual frameworks: the TAM and TPACK. It also included a comprehensive analysis of the existing literature on technology and SM use in educational settings. Research literature revealed that training supports for technology use is an important aspect as to why teachers chose to use it in teaching, although specific barriers towards technology use exist. Teachers use technology as a strategy to support student learning, focus on outcomes, and determine how to use technology to achieve these.

The research-based on why teachers choose to use technology revealed that inexperienced and experienced educators had purposefully aligned and integrated technology tools into their teaching and learning environments (Batane & Ngwako, 2017; Domingo & Garganté, 2016; Liu et al., 2017; McCullouch et al., 2018). The research also revealed that confidence, comfort, and skill levels prompted or prevented technology use by educators (Kayalar, 2016; Park et al., 2019). Additionally, other researchers found that factors such as technology access and support had either positively or negatively impacted educators using technology in the classroom (Kayalar, 2016; Lee et al., 2016; Liu et al., 2017; McCullouch et al., 2018). Furthermore, the research addressing how educators have come to use SM technologies in their pedagogical practices revealed teachers wanted to support learning by providing students with innovative learning experiences to keep them actively engaged. The research also addressed the barriers teachers faced when they implemented SM into their teaching practices, which included the lack of training, support and access (Nawaila et al., 2018; Rosenberg et al., 2018).

The research analysis included detailed descriptions and explanations of technology and SM technology use by educators across the content, but the literature lacked on this topic at the middle school level. Hence, there remained to be a lack of literature that addresses why and how middle school teachers who teach with SM use it for students whom they assume are digitally literate and who have begun to use SM technologies in their personal lives. Research in this area will help to reduce the gap in the literature.

Chapter 3 details the research design and rationale as it aligns with the study's two research questions, my role as the researcher, the methodology as it relates to the participant selection logic, data collection, instrumentation and data analysis plan, issues of trustworthiness, and a summary which concludes the chapter.

Chapter 3: Research Method

This basic qualitative study aimed to explore middle school teachers' intent to use SM in their teaching and explore the approaches they took when used with students in their subject areas. In this study I intended to add new research-based insights in this area. Using a basic qualitative approach allowed me to gain an in-depth insight into teachers' perceptions of SM use in their teaching. According to Merriam (1998), a basic qualitative research approach focuses on "how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their own experiences" (p. 23). Through interviews and available lesson plan documentation, I analyzed why and how middle school teachers used SM in facilitating instruction to middle school learners.

Chapter 3 provides a detailed description of the methodology that was used as data was collected to answer this study's research questions. There are five major sections in this chapter that captures this process. The first section addresses the research design's choice and the rationale for the design related to the two research questions. The second section addresses my role as the researcher and the ethical issues addressed. The third section addresses the methods used to select the study's participants, the procedures for recruitment, participation, data collection, the instrumentation used during data collection, and the data analysis plan. The fourth section addresses the issues that ensured trustworthiness and ethical procedures used to gain access to the participants who were recruited for this study. The fifth and final section concludes with a summary of the chapter's main points.

Research Design and Rationale

Research Questions

The following research questions guided my study about teachers' perceptions of SM use in their teaching:

RQ1: Why do middle school teachers use SM for student engagement and learning?

RQ 2: How do middle school teachers use SM for student engagement and learning?

Design and Rationale

This study aimed to gain insight into why and how middle school teachers used SM with students they assumed were digitally literate learners. I selected a basic qualitative approach rather than a quantitative approach to understand teachers' experiences from this phenomenon. The benefit of this approach is that it uses a constructivist philosophy that explores the phenomenon without preconceptions, and it uncovers individuals' perceptions of their own experiences (Merriam, 1998; Patton, 2015). It also helps find meaning and understanding through inductive analysis of interviews, observations, or documents and includes comprehensive and descriptive findings (Merriam & Tisdell, 2016). Therefore, this approach allowed me to uncover teachers' views and unreported experiences through first-person interactions.

A basic qualitative method is appropriate for researchers who want to understand how individuals interpret their experiences, construct what goes on around them, and find

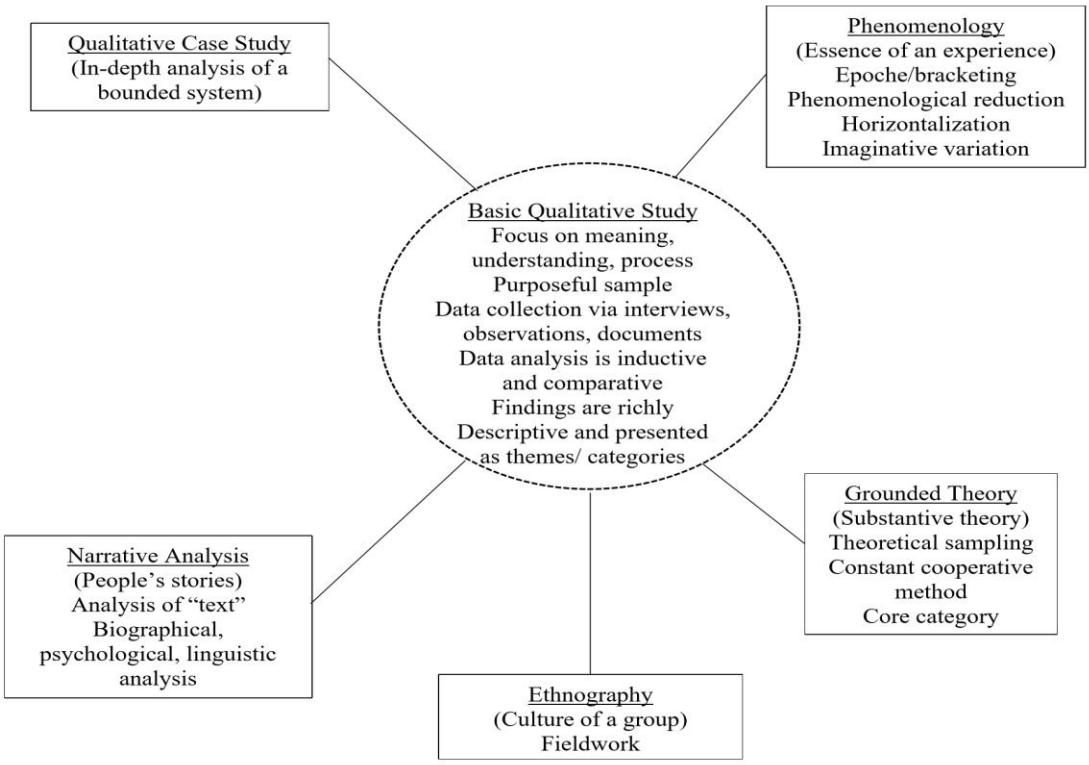
the meaning to what they have experienced, primarily in the field of education (Merriam, 1998). Additionally, this method is appropriate when the researcher is familiar with the phenomenon studied and wants to explore the participants' perceptions of the event (Liu et al., 2016). Because I understand the meaning of the phenomenon, as a teacher who uses technology for teaching, I chose a basic qualitative approach over other methods to examine the perceptions of middle school teachers who use SM in their teaching practices.

I rejected a quantitative research approach for several reasons. This study did not intend to test an assumption of the phenomena using statistics, as in some quantitative research approaches. For example, correlational research looks for relationships between two or more variables, and experimental research draws on the scientific method to identify a cause-and-effect relationship between variables (Merriam & Tisdell, 2016). A quantitative investigation aims to predict, confirm, and hypothesize; however, the intention of this research study was not to quantify or make predictions but rather to obtain rich descriptive data about social phenomena through the participants' unique experiences and perceptions. Another problem with using a quantitative approach is that it can use structured data collection and random sampling methods to analyze data based on predetermined categories that are applicable to larger populations (Merriam & Tisdell, 2016). This study used semistructured interviews to collect data from a small and non-random sample population; thus, findings are limited in applicability (Merriam & Tisdell, 2016). Because I was seeking to discover why and how a smaller population of middle school teachers had come to use SM in the classroom within their content subject areas, a

quantitative approach was not appropriate for this study. Each qualitative research method shares common characteristics but differs in process and intent (Merriam & Tisdell, 2016; see Figure 3).

Figure 3

Qualitative Research Types



Note. Types of qualitative research. Reprinted from Qualitative Research: *A Guide to Design and Implementation* (4th ed., p.42), by S. Merriam & E. Tisdell, 2016, Jossey-Bass. Copyright 2016 by John Wiley & Sons. Reprinted with permission (see Appendix C).

Other qualitative research approaches such as ethnography, case study, phenomenology, grounded theory, and narrative were not an excellent methodological fit

for this study. Ethnography was not a good fit for this study because this approach requires the researcher to become an active participant, eventually accepted over time as a natural part of the environment that is being observed (Patton, 2015). Due to the COVID-19 pandemic, initially planned classroom observations did not take place. However, unlike the ethnographic approach, my role was to be the researcher and not an active participant in the classroom. Additionally, I rejected a case study because it was not my intent to examine one bounded system (see Merriam & Tisdell, 2016), such as SM used in different ways by different teachers across other schools. The phenomenology approach focuses on the lived experiences of a study's participants (Patton, 2015). My research did not inquire about the bigger picture of the teachers' experiences as the phenomenology approach does, but only about the single phenomenon of how SM was used in the classroom. I also did not choose grounded theory because it relies on multiple empirical data sources to develop a model or theory of the studied phenomenon (Patton, 2015). Lastly, a narrative approach was not chosen because it involves an analysis of biographical stories that explain the individuals' experiences directly involved with the study's phenomenon (Patton, 2015).

Role of the Researcher

A researcher seeks to understand participants' perceptions related to a specific phenomenon in their practice by engaging them in the process to address and solve the studied problem (see Merriam & Tisdell, 2016). My role as the researcher was to conduct interviews and analyze middle school teachers' perceptions of SM use in their teaching practices. At the time of this study, I had served as a technology teacher for 16 years at

one of the research sites. Because I recognized that I intended to interview teachers at my workplace, I started my position in recognition of reflexivity. Merriam and Tisdell (2016) described reflexivity as the self-analysis process that the researcher must go through when interacting with subjects in their study. Therefore, I did not impose any of my personal views on the participants during the interview process. I did this by setting aside my understanding of the researched subject matter. I was also receptive and open when it came to understanding and receiving information shared with me by the participants at my workplace and immediately avoided any subjective thoughts, actions, or behaviors. Rogers (2003) suggested that the qualitative researcher should recognize self-characteristics, which may include any preconceptions, personal beliefs, experiences, and expectations.

The researcher's role is to communicate research honestly and ethically, and one way to accomplish that is to question and look at what is happening in their own lives (Merriam, 1998). I have used SM technology to extend to the learning environment, particularly at the middle school level. Although I am familiar with using different SM platforms in my personal and professional life, I was not familiar with why or how it has been used by other middle school teachers in their disciplines. Because qualitative research involves understanding the phenomenon from participants' perspectives (Merriam & Tisdell, 2016), I conducted this study to learn about other teachers' perceptions surrounding SM use in their pedagogical practices rather than my own. Therefore, as I researched this study, I recognized and managed my personal biases by

intentionally avoiding any preconceived notions, beliefs, or potential biases that may have affected the research process's integrity.

Methodology

The following section outlines the methods used to select the study's participants, recruitment procedures, and participation. This section describes the data collection process, the instrumentation used during data collection, and the data analysis.

Participant Selection Logic

Although middle school-aged children use SM in their personal lives (Pew Research Center, 2019) as well as secondary teachers (Gleason & von Gillern, 2018) and college instructors (Al-Rahmi & Zeki, 2017), researchers have not determined why or how middle school teachers use SM technologies for student engagement and learning. For this reason, the population for this study was middle school teachers who have used SM technology in their teaching practices for at least one semester and who taught in one state located in the northeast United States. In addition to the specific inclusion criteria for the study, I recruited teachers who were willing to participate, if they had instructed students in Grades 6 through 8, and, when possible, a representative of either the language arts, mathematics, science, foreign language, social studies, fine arts, technology, and physical education academic areas.

To identify key participants, I began to seek out teachers willing to share their SM experiences in the middle school learning environment via email recruitment. The email solicitation contained information about the research and its purpose, the requirements for teachers to participate in the study, and the time required by each participating teacher

(see Appendix A). If teachers who used SM in their teaching and showed interest in participating in the study, they replied to the email. Once I received email notifications of interest, I provided participants with an informed consent form via email (see Appendix B). When I received the consent forms as an email message with “I consent” indicated in the message reply, I began to schedule interviews.

To gain insight from the target population that met the study's criteria, I used a nonprobability purposive sampling design. Merriam and Tisdell (2016) indicated that a nonprobability sampling design requires the researcher to select nonrandomized, accessible, and convenient; it is the most common strategy for qualitative researchers to use when accessing a subset of people based on the problem studied. Additionally, because I wanted to avoid selecting participants I knew well within the population, I used a snowball sampling strategy to obtain more participants who also met the study's selection criteria. Merriam and Tisdell (2016) referred to snowball sampling as a process that has occurred when key participants refer the researcher to other participants that could contribute additional and new information vital to the study (Merriam & Tisdell, 2016). After each interview, I used this strategy, asking participants if they knew any other teachers who might be interested in participating in the study and who used SM technologies in the teaching.

This study's anticipated sample size was six to eight participants, and eight teachers participated in the study. The sample size in a basic qualitative study that can be as small as one, however, by obtaining data from six to eight participants, data collection has a higher potential to reach saturation than a sample size (Merriam & Tisdell, 2016).

Therefore, this basic qualitative study's sample size was large enough to obtain enough data to provide insight into why and how middle school teachers used SM technologies in pedagogical practices.

Instrumentation

A basic qualitative approach allows the researcher to use semistructured interviews as their primary data collection tool (Merriam, 1998). Merriam and Tisdell (2016) referred to semistructured interviews as a meeting that consists of flexible predetermined questions that align with the research questions and conceptual framework. Using this type of approach allowed me to answer the research questions by drawing upon teachers' prior experiences from the data acquired through interview questioning (see Table 1).

Table 1

Alignment of Research Questions, Interview Questions, and Conceptual Framework

RQ1. Why do middle school teachers use SM for student engagement and learning?

Interview Questions	Relation to TAM	Relation to TPACK
How did you decide to use SM?	Perceived Usefulness (PU)	
Do you find SM technologies to be useful in your class? If so, why	Perceived Usefulness (PU)	
How does SM technology use impact instruction?	Perceived Usefulness (PU)	
How does SM technology use impact learning?	Perceived Usefulness (PU)	
How easy is it to use SM technology while you teach? Explain	Perceived Usefulness (PU)	
How easy is it for you to align and integrate SM technology in your teaching? Explain.	Perceived Ease of Use (PEOU)	

(table continues)

Interview Questions	Relation to TAM	Relation to TPACK
What perceived barriers may prevent you from using SM in your teaching	Perceived Ease of Use (PEOU)	
What is your perception about SM use in the classroom?	Attitude	
Why do you like or dislike SM technology use in teaching	Attitude	
Why do you intend to use SM technology in your teaching?	Behavioral Intention to Use	
What are some factors that may impact your intent to use SM in your teaching?	Behavioral Intention to Use	
RQ2. How do middle school teachers use SM for student engagement and learning?		
Interview Questions	Relation to TAM	Relation to TPACK
Why is your subject area a good fit for using SM?		Content Knowledge (CK)
How do your students learn the content of your subject through SM?		Pedagogical Knowledge (PK)
What instructional strategies do you use to meet your learner's needs through SM?		Pedagogical Knowledge (PK)
What SM tools are available to you; which do you know well enough to use?		Technological Knowledge (TK)
How do you align an SM tool with lesson objectives?		Technological Knowledge (TK
If you haven't used all SM technology available to you, how might you use it to enhance or improve the lesson content? Explain.		Technological Content Knowledge (TCK)
Do you know how the SM technology that is available to you can be used to enhance or transform the content? Explain.		Technological Content Knowledge (TCK)
For what purpose(s) do you SM technology used in your classroom?		Technological Content Knowledge (TCK)
Are you using SM technology in your teaching practices? If so, which ones		Technological Pedagogical Knowledge (TPK)
In what way do the SM tools you use help you achieve the learning outcomes and experiences you want?		Technological Pedagogical Knowledge (TPK)

I interviewed each participant on the phone and used an interview protocol to help guide me during the interview process (see Appendix A). To gain additional information, I also allowed the participants to provide feedback as they reflected on their experiences throughout the interview process. I also reached out to the participants for follow-up interviews as needed (see Appendix A).

The second data source was teacher lesson plans. Complementary to interviews, the analysis of documents helped minimize bias and establish trustworthiness (Koehler & Mishra, 2009). Lesson plans described SM's use in action and corroborate why and how the participants have used SM in the middle school learning environment. I secured copies of these plans electronically via email and analyzed the plans by recording and categorizing the data using a document analysis file (see Appendix B). Due to COVID restrictions, only two teachers were able to provide these documents.

Interviews helped corroborate and clarify teachers' acceptance and intentions to use SM in their teaching. Because two teachers provided lesson plans, both interview and documentation helped to corroborate SM use. Thus, each data source provided a form of data triangulation to confirm and substantiate what a teacher did, says, and planned to do (see Merriam & Tisdell, 2016). Concerning RQ1, interviews provided data about middle school teachers' intentions of SM use. With RQ2, interviews provided detailed descriptions of teaching strategies used with SM use in the learning environment. Lesson plans provided data about how teachers have used SM in specific activities, assignments, and subject matter, responding to both research questions. Table 2 illustrates how the data sources align with the research questions, the evidence attained, and the two conceptual models.

Table 2

Alignment of Research Questions, Conceptual Framework, Data Sources, and Evidence

Research Questions	Relation to Conceptual Framework Models	Data Sources	Evidence
RQ1. Why do middle school teachers use SM for student engagement and learning?	TAM - Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Attitude, and Behavioral Intention to Use	Interviews	Teacher description of beliefs, reasoning, decision-making
RQ2. How do middle school teachers use SM for student engagement and learning?	TPACK - Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK)	Interviews	Teacher explanation of teaching strategies
		Lesson Plans	Intended learning outcomes aligned with activities Plans to use SM with specific activities, student assignments, subject matter

Procedures for Recruitment, Participation, and Data Collection

The process of reaching out to potential participants for my study began after I obtained approval from Walden University's institutional review board (IRB # 05-21-20-0196922) and approval from the two study sites' district office of accountability, research, and assessment. Once I received approval from both organizations, I began the recruitment process and the data collection process. To answer the study research questions, I collected responses about SM use from eight middle school teachers through phone interviews using a semistructured interview protocol and lesson plan documentation retrieved via email. However, before planned in-person interviews, COVID-19 restrictions were in place, and teachers worked from home rather than the

physical school building; therefore, phone interviews were scheduled. During this process, I informed the teachers that each interview would take 45 minutes to 1 hour. I recorded the interviews using the Voice Recorder & Audio Editor application because it offered unlimited recordings, cloud support, transcription, and sharing options. I also backed up the interview recordings from my mobile phone by uploading the files to a password-protected Microsoft OneDrive account.

During the interviews, I asked the teachers a series of questions about the two research questions (see Appendix A). I also asked all eight teachers if they could provide any lesson plans that included SM use in their pedagogy practices. After I collected all data, I informed the participants that the interview period had concluded and asked if they have any questions, concerns, or final thoughts. I also reassured them that confidentiality would be maintained, and any identifiable information would not be shared in the study. I also informed each teacher to expect a summary of the conversation as a form of member checking. I asked them to review the summary and email me if there were any inconsistencies within the data. Member checks, also known as respondent validation, is a common strategy used in qualitative studies to ensure internal validity and occurs when the researcher takes the preliminary analysis back to participants to determine if their interpretation of their finding is accurate (Merriam & Tisdell, 2016). The interview process took two consecutive weeks to complete. This period also included the retrieval of lesson plans provided by two teachers.

Data Analysis Plan

This section details the data analysis plan for interviews and lesson plan data sources. The goal of data analysis is for the researcher to develop a clear meaning of the data by "consolidating, reducing, interpreting" (Merriam & Tisdell, 2016, p. 202) the study's findings. I managed the data by analyzing it manually to find the recurring themes. Manually transcribing and analyzing data is beneficial to the novice researcher because it increases familiarity with the data (Merriam & Tisdell, 2016).

The analysis of the data was iterative and ongoing. I coded interviews as they were transcribed, beginning with pre-codes (see Table 3). Along with the research questions, the TPACK and TAM models informed the precodes.

Table 3

Research Questions, Data Sources, Connections to Frameworks, and Initial Precodes

RQ1. Why do middle school teachers use SM for student engagement and learning?			
Data source	Connection to TPACK	Connection to TAM	Initial pre-codes
Interviews	Content Knowledge (CK) Pedagogical Knowledge (PK) Technological Knowledge (TK) Technological Content Knowledge (TCK) Technological Pedagogical Knowledge (TPK)	Perceived Usefulness (PU) Perceived Ease of Use (PEOU) Attitude Behavioral Intention to Use	Student engagement assignments, assessment, access, prior experience, training, planning, support
Lesson Plans	Pedagogical Knowledge (PK) Technological Knowledge (TK) Technological Pedagogical Knowledge (TPK)	Behavioral Intention to Use	Lesson objectives, assessment, activities
RQ2. How do middle school teachers use SM for student engagement and learning?			
Interviews	Content Knowledge (CK) Pedagogical Knowledge (PK) Technological Knowledge (TK) Technological Content Knowledge (TCK) Technological Pedagogical Knowledge (TPK)	Attitude	Communication Collaboration
Lesson Plans	Technological Content Knowledge (TCK) Technological Pedagogical Knowledge (TPK)	Attitude Behavioral Intention to Use	Lessons, assessments, activities

I used deductive coding, starting with a predefined set of codes, and then assigned the codes to the data (Merriam & Tisdell, 2016). The coding process was as follows:

1. I started with identifying pre-codes.
2. I read transcripts to identify and assign the pre-codes.
3. I then identified and categorized emergent codes and common reoccurring patterns as I compared transcribed interviews.
4. I analyzed lesson plans to find patterns or disparities among the interview data that was provided by two of the teacher participants.
5. I defined each category and determined how these were related thematically, upon which time I described each theme.

I collected data to the point of saturation at which no new patterns emerged. However, from the analysis of interview data, I found one discrepant case that fell outside of the patterns.

Issues of Trustworthiness

Credibility

To establish credibility, I used two forms of data to develop a comprehensive understanding of the study's events, also known as triangulation (Patton, 2015). However, most of the data for this study was collected from semistructured interview responses. A limited amount of data was collected from two teachers who were the only ones able to provide lesson plan documentation.

Member checking is another effective strategy for qualitative researchers to ensure the internal validity and reliability of the researchers' interpretations of the participant's experiences (Merriam & Tisdell, 2016). By sharing a summary of the interview with each participant, I used member checking to accurately represent their perspectives. This strategy also ensured that I eliminated any possibility of misinterpreting the meaning of the participant's experiences interpreted in the interview.

Transferability

Also known as external validity, transferability is the extent to which research findings can be transferred across other settings and situations (Merriam & Tisdell, 2016). Another researcher should be able to generalize findings and replicate the study to similar contexts. To establish transferability, I wrote a thick and detailed description of my experiences during data collection and analysis. By providing the interview protocol and questions, readers of the study can have a deep understanding of what the researcher is seeking to answer in relation to the research questions.

Dependability

Dependability or reliability emphasizes the need for the researcher to be accountable for changes that occur during the research process (Merriam & Tisdell, 2016). I documented and evaluated the quality of the data collection process, data analysis, and findings in the study for accuracy and dependability. I recorded the interviews and then transcribed the transcripts, took journal notes for documentation during the data collection process, and triangulated the data through different methods to

achieve more accurate and dependable research. My report of the research process was captured in an audit trail.

Confirmability

Merriam and Tisdell (2016) refer to confirmability or objectivity as the degree to which others could validate the findings of the study. The strategies I used to ensure confirmability were reflexivity, rich descriptions, and an audit trail. To corroborate the findings, I maintained a daily reflexive journal that described my processes, reactions, and reflections about the data during the research process. Reflexivity, or the researcher's position, is a strategy that the qualitative researcher uses to ensure integrity throughout the researcher process (Merriam & Tisdell, 2016). By providing a rich and descriptive detailed presentation of the setting, I described the phenomenon in enough detail so others can begin to evaluate the settings for transferability. According to Merriam and Tisdell (2016), a rich description is the researcher's detailed account of the findings of the study. Finally, an audit trail is a detailed account of research steps and procedures conducted in the study (Merriam & Tisdell, 2016). To substantiate confirmability and establish the rigor of a study, I provide details of data analysis and the decisions that led to the findings in my reflexive journal, which served as an audit trail.

Ethical Procedures

The requirements to receive permission to conduct this basic qualitative study involved several important steps. Regarding the two research sites, I first contacted the department of research and assessment in the district where the sites were located and responded to the requirements for conducting an independent research study. Once I

received approval, in compliance with all information required on their independent research request form, I received written approval and proceeded to work with Walden University's Institutional Review Board (IRB # 05-21-20-0196922). I followed Walden's rigorous standards required and received approval to conduct my study. Therefore, I worked with Walden and the study site to meet both organization's requirements for research.

I assigned each participant a number and omitted all identifiable information from each transcript. The participant numbers were used on all documentation, including transcripts, coded data, and in my reflective journal. All data and documents regarding analysis were stored on a password-protected computer and backed up to an external USB drive and a cloud-based service as an additional layer of protected password storage required by Walden IRB. No one else had access to these files. I have since removed all files from my computer, transferred them to the password-protected cloud-based service, and have planned to keep kept any physical data in a secure and locked storage area for a period of 5 years, after which time the data and documents will be destroyed.

Summary

This chapter provided a comprehensive and detailed description of the methodology that was used when data was collected to answer the research questions for this study. I addressed why the research design was the best fit for the study and provided the rationale as to why a basic qualitative study was chosen. Therefore, I chose a basic qualitative approach over other methods to examine the perceptions of middle school teachers who use SM in their teaching practices. I then addressed my role as the

researcher, along with ethical issues that may have affected the integrity of the research process. I also described the methods used to select the study's participants, the procedures for recruitment, participation, data collection, the instrumentation used during data collection, and the data analysis plan. Lastly, I addressed issues to ensure that credibility, transferability, dependability, and confirmability were managed to avoid bias during the data collection process. In Chapter 4, I present the findings of this study as it relates to the research setting, demographics, data collection, data analysis, and evidence of trustworthiness.

Chapter 4: Results

The purpose of this basic qualitative study was to explore the intent and approach that middle school teachers had taken when they used SM technologies in their teaching for student engagement and learning. To gain insight from their lived experiences, I recruited teachers who used SM for at least one semester in their subject area from two middle schools in one school district in the northeast region of the United States. In this chapter, I describe the study's setting then explain participant demographics and data collection. I collected data through semistructured interviews and two available lesson plan documentation. I also detail my inductive data analysis methods taken to ensure trustworthiness in the study. Lastly, I provide study results and a summary of the answers to each research question.

RQ 1: Why do middle school teachers use social media for student engagement and learning?

RQ 2: How do middle school teachers use social media for student engagement and learning?

Setting

Eight teachers from two middle schools in one school district in the northeast United States participated in the study. I interviewed the teachers by telephone rather than in person due to COVID-19 pandemic restrictions implemented during my scheduled data collection period. During this period, campuses were closed, and remote learning required teachers teach from home. Therefore, planned classroom observations did not take place due to the enforced restrictions.

I also intended to collect and analyze lesson plans from each teacher; however, most participants could not retrieve written plans left in their classroom during the statewide closures of all school buildings due to the pandemic. Out of the eight participants, only two emailed me electronic copies of lesson plans that included the use of SM.

Demographics

The participants in the study were eight middle school teachers from two schools in one district. Each participant indicated that they used SM in the classroom for at least one semester (see Table 4). The teachers ranged in teaching experience levels from novice to skilled. In my study, both ‘novice’ and ‘skilled’ categories were applied. According to Brownell et al. (2019), K-12 novice teachers are not experts and tend to follow newly implemented procedures and strategies they have acquired from preservice preparation rather than from experience. Skilled teachers have acquired established knowledge from social interactions and extended practice. Of the eight participants who used SM in their teaching, two were at the novice level, and six were at the skilled level. Seven of the participants were female, and one was male. To ensure confidentiality for this study, I excluded any identifiable information about the teachers by initially listing them as pseudonyms but later changing and listing them as participant numbers. The participants received a number corresponding to the order in which I interviewed them.

Table 4 shows the demographics of each participant and the SM platforms they were using in their teaching practices at the time of data collection for this study.

Table 3

Participant Demographics and Social Media Use

Participant	Years of Teaching	Years of Experience Using SM in Teaching	Gender	Subject Taught/ Teaching Position	Social Media Use
P1	20+	8	F	Science	TeacherTube/ Twitter
P2	15-20	10	F	Math	Edmodo/ Twitter
P3	<5	1	F	Art	Instagram/ YouTube
P4	5-10	6	M	CTE	Edmodo
P5	15-20	10	F	Music	Facebook/ Instagram/ Twitter/ YouTube
P6	<5	3	F	Language Arts	Instagram/ Twitter/ YouTube
P7	5-10	7	F	Math	Edmodo/Twitter/ YouTube
P8	20+	11	F	Media Specialist	Facebook/Instagram/ Twitter

P1 was a seventh grade science teacher with over 20 years of teaching experience and eight years of experience teaching with SM. She taught at both the elementary and middle school levels in two states. She had taught all subjects as an elementary school teacher for seven years and taught reading at the elementary school level for three years. Over the past 12 years, she taught science at the middle school level and has assumed many leadership roles at her current position. She mentioned that she used Twitter to share information with her students and their parents. She also used TeacherTube to share age-appropriate and content-specific videos with her classes.

P2 was a special education teacher specializing in math with 15 to 20 years of teaching experience at the middle school level and ten years of experience teaching with SM. She had taught in two states throughout her teaching career and performed school leadership roles in both states. She reported that she preferred to use Twitter with her students to promote a special project and is an avid user of the Edmodo platform to help guide students in learning.

P3 was an art teacher with less than five years of teaching experience as well as experience teaching with SM. She taught sixth, seventh, and eighth grade. She reported that she used YouTube and Instagram as tools to engage her students in the content of art. She also mentioned that she used SM technologies in each of her classes at least two to three times a week and was excited to share insights of using SM in her teaching.

P4 was the only male participant in the study with five to 10 years of teaching experience and six years of experience teaching with SM. He was a career and technology education (CTE) teacher with additional teaching experience in math and physical education. Before transitioning to middle school, he taught high school and mentioned that he preferred to use just one SM application with his students. He used Edmodo, a school provided SM application, in both high school and middle school to provide his students with class information and lessons to work on in and outside of the classroom.

P5 was a music teacher with 15 to 20 years of teaching experience and ten years of experience teaching with SM at the middle school level. Throughout her years of teaching in the performing arts field, she took on multiple leadership roles. She reported

that she had used SM applications, such as Facebook, Instagram, and Twitter, to share student performance pieces and photos, as well as advertising upcoming performing arts events. She also mentioned that she used YouTube as a video resource and creative tool for her students to use.

P6 was an eighth grade language arts teacher with less than five years of teaching experience and three years of experience teaching with SM. She had taught both in and out of the United States. She shared that she was familiar with and had used multiple SM platforms in her teaching, such as Edmodo, SM applications in G Suite, and currently YouTube, Twitter, and Instagram as tools for students to engage and participate in-class activities.

P7, another math teacher who taught sixth grade, had five to 10 years of teaching experience and seven years of experience using SM in the classroom. She had four years of prior experience teaching math in another state. She used Edmodo to share and receive student work, YouTube as a tool for students to learn about mathematical concepts and to test their skills, and Twitter to share student accomplishments and other relevant class information.

P8 had the most years of teaching experience and experience using SM in teaching than the other seven teacher participants of this study. She had taught for over 20 years, all at the middle school level, and had incorporated SM in her teaching for the past 11 years. She began her career as a language arts teacher and had been a media specialist for over ten years. She taught students how to use library resources and technology tools and helped teachers find materials for classroom instruction. She

worked with different content area teachers and facilitated lessons in the library during scheduled times throughout the day. At the time of the study, she used YouTube for sharing visual resources across the content and Twitter, Facebook, and Instagram to promote school events.

Data Collection

Prior to conducting phone interviews, I received IRB approval to proceed with data collection and began the recruitment process by sending out email invitations to teachers at both research sites. I received a total of 14 responses, but only nine of the teachers who responded met the participation requirements. I sent consent forms to the remaining nine teachers, but only eight replied with consent. I scheduled the telephone interviews via email and conducted them the following week.

Data collection from eight participants took place over four consecutive days. In my proposal, I estimated that data collection would take 1 to 2 weeks; however, I completed interviews in 4 days during the last week of school for the year. During this time, public school buildings across the nation were closed to control and prevent the spread of the COVID-19 virus, which made it necessary for me to invite and recruit participants and collect data in a shorter period. I scheduled two interviews a day, and I gave each teacher the option to select a day and time out of the week that was convenient to them.

I use the same data collection protocol for each teacher. I recorded phone interviews and exchanged emails to collect lesson plans from two teachers. Before conducting phone interviews, I asked for consent to record the sessions. I then used the

Rev audio-to- text application to record and the Otter application to transcribe the phone interviews. At the beginning of an interview, I read the following statement to the participant (see Appendix A). The intent of this study is to understand how and why middle school teachers use SM technologies in their subject area teaching for student engagement and learning. For this study's purposes, SM refers to any online platform or interactive application tool that allows users to communicate with others, share information, and generate content. Right now, I will ask you a series of questions based on two research questions that guide my study. Also, at the end of each interview, I read the following statement to the participant (refer to Appendix A), "Do you have a lesson plan that you can email to me that included the use of social media?"

I conducted phone interviews from my home office because it provided me with the privacy that I needed to ensure confidentiality. During each interview, I asked members of my family not to disturb me for at least one hour. I locked the door and set my phone on a do-not-disturb setting.

I used a consistent protocol for each interview. At the beginning of the interview, I informed the teachers the phone interview would take between 45 to 60 minutes, and it would be recorded. I also informed them that I would send them a summary of the interview transcript via email within a few days and asked if they would take 5 to 10 minutes to review and check the data for accuracy as a form of member checking.

Throughout the interview, I asked additional questions, depending on the teachers' answers for clarification. At the end of each interview, I asked teachers for a lesson plan documenting their use of SM and if they would send it to me. Each interview

took between 48 minutes to 1 hour. I asked the teachers to take part in a ten to15 minute follow-up interview if I needed further clarification or elaboration of their responses. I also contacted three of the participants by text and email communication to further clarify their responses and obtain additional demographic information.

After data collection, I backed up the recordings from my mobile device by uploading them to my password-protected Microsoft OneDrive account. This made it possible to retrieve and work on the data from my computer. I also received two lesson plans three weeks after the interviews and saved the documentation to my OneDrive account.

There were three changes to my proposed data collection process due to the COVID-19 pandemic, which created a mass disruption of school operations across the nation. Schools were closed to combat the spread of the virus. Thus, I did not conduct classroom observations as planned and strictly relied on collecting data from phone interview and document data sources., I did not conduct face-to-face interviews as I initially intended. To adhere to all social distancing guidelines as outlined by the CDC and the local government, I had to conduct phone interviews. Because physical school l buildings closed during the pandemic and classrooms were not accessible to teachers, I was also unable to collect lesson plans from each of the teacher participants. Only two participants were able to supply electronic copies of lesson plans, which I analyzed according to the lesson objectives, assessments, and activities and used to corroborate interview data responses about how teachers used SM in teaching.

Data Analysis

This section details the progression of data construction to developed themes. The beginning stage of category construction is inductive and later shifts to a deductive mode when it reaches saturation (see Merriam & Tisdell, 2016). I describe the initial coding process and steps taken to develop final codes that came from the interview and document data sources into categories to themes.

Following the semistructured interviews, which consisted of flexible predetermined questions that aligned with the research questions and conceptual framework, I transferred the audio files from the Rev application. I then used the Otter application for transcription and copied and pasted it into a Microsoft Word document. To ensure transparency and the whole context of the interview responses, I captured all spoken communication of the recordings verbatim. Manually transcribing and analyzing data is beneficial to the novice researcher because it increases familiarity with the data (Merriam & Tisdell, 2016). In preparation for categorizing the data, I reviewed and studied hard copies of each transcript repeatedly. I first labeled pieces of the interviews with initial codes drawn from the exact terms and words expressed by the study's participants. I used a verbatim coding method and generated a lengthy list of initial codes refined throughout the coding process. I returned to the data, listed more codes, and highlighted important words and phrases that addressed the study's objective, research questions, and themes of interest. This document served as my initial codebook to help me interpret and make sense of the raw data based on the perceptions and experiences expressed by middle school teachers who use SM for student engagement and learning.

To refine my codebook, I highlighted and made notes of any noticeable pre-codes in the data and continued coding by looking for patterns that shared similar characteristics. This process was repeated until I grouped the codes into categories and eventual themes. I further refined my codebook by creating a document that included eight tables for each interview. Each research question was placed in a top merged cell, and interview, teacher responses, emergent codes, and an untitled designated for categories and themes were made for columns 1 through 4. This part of the coding process was repeated several times to find the best method to organize the codes into more refined categories. I then transferred all color-coded and highlighted data to an Excel spreadsheet. I created two spreadsheets for each research question and worksheet tabs that included each interview question. Each worksheet included columns for the participant's pseudonym, which was later changed to participant number, content area, the interview questions, and columns for final codes, categories, and themes. Using Excel allowed me to break up the data into smaller and manageable pieces to view the data more clearly. I also created a visual representation of the Excel spreadsheet by printing it out and pasting it on a large paper to gain another outlook.

As I continued analyzing the data to get to the final themes, I reviewed the pre-codes developed from the peer-reviewed literature and the study's conceptual frameworks. Six out of the ten initial pre-codes aligned with the 28 final codes, and I omitted the unused pre-codes, which were access, assessment, prior experience, and communication. From interview responses, provided lesson plans, reflective notes, and the conceptual frameworks used to guide this study, patterns within the data patterns

emerged. I was then able to refine the codes into categories and subsequently into three themes that organized the results: student-centered learning, organizational influence, and facilitating active learning experiences.

Aligned with RQ1, all eight teachers identified student-centered learning as a key attribute to using SM in teaching (Theme 1). Independent practice, research, and discovery, and content clarification serve as the three sub-themes under the first theme. Also aligned with RQ1, seven out of eight of the teachers mentioned that organizational influences motivated them to use SM in their teaching practices (Theme 2).

Administrative influence and observations both serve as the sub-themes to the second theme of this study. However, one discrepant case in the study regarding this theme was based on the discussion with one of the teachers who did not share the same sentiment. Aligned with RQ2, all eight teachers expressed how they facilitated learning with SM (Theme 3). Collaborative and interactive activities and providing relevant class information serve as the two sub-themes for the third and final theme of this study.

The final codes, categories, and themes that emerged were related to each research question. These final themes emerged with one apparent discrepant case. The results confirmed a consensus among middle school teachers' perceptions who used SM for reasons connected to student engagement and learning. All eight teachers identified as a key attribute as to why and how they used SM for that purpose. Tables 5 and 6 depict the final codes, categories, themes, and verbatim interview responses, which served as the examples in the table.

Table 4

List of Final Codes, Categories, Themes, and Examples for Research Question 1

RQ1. Why do middle school teachers use SM for student engagement and learning?			
Final Codes	Categories	Themes	Examples
Independent Learning Self-driven Learning Self-regulated Learning Active Learning Asynchronous Learning	Independent Practice	Student-Centered Learning	When discussing Edmodo use, P4 said, "I want my students to work outside of class to try to come up with possible solutions before asking me how to solve them. This way, students try to solve it themselves and think of the best way to proceed on their own."
Research Content Find Content Collect Information Exploration Investigation	Research and Discovery		When discussing Twitter use, P3 said, "I wanted them to use a tool so that they could actively research an influential artist to find interesting facts that they could share on the social media application."
Checks for Understanding Explanation of Concepts Learning Supports	Content Clarification		P2 said, "When I use YouTube in class, it is used to extend what was already taught. I find that students who need that extra help to understand these already taught concepts now have an additional tool to guide them into grasping these concepts."
Administrative Push Organizational Encouragement	Administrative Influence	Organizational Influence	When discussing Twitter use, P7 said, "My grade level vice-principal asked if I would showcase student work by posting short messages about student achievements…so I did, and it became a regular routine that I still use to this day."
Teacher/ Classroom Observation Lesson Ideas Meaningful Interactions	Observations		P6- "So, the use of social media came to me because another teacher introduced me to it…I observed her classroom, and her kids had a blast learning."

Table 5

List of Final Codes, Categories, Themes, and Examples for Research Question 2

RQ2. How do middle school teachers use SM for student engagement and learning?			
Final Codes	Categories	Theme	Examples
Facilitating Learning Active Learning Class Discussions Interactive Activities Cooperative Learning Creating and Sharing Discussion Posts Connecting Open Dialogue	Collaborative and Interactive Activities	Facilitating Learning with SM	P8- "During the second marking period, students had to correctly name and learn a fact about the influential women from images that I posted on Instagram to win a special prize. They had to conduct an image search to find out who they were and what they accomplished. Students were eager to participate, and the response was amazing." P3- "I started the activity by posting #Picasso's full name is made up of 23 words and asked the students conduct an internet search to discover other interesting facts about him. So, the students posted a tweet under that hashtag, and the entire class followed the activity."
Learning Resources Learner Support	Relevant Class Information		P2- "I use Edmodo as a way for my students in my classes to find their daily assignments and lessons."

Evidence of Trustworthiness

This section describes how I achieved trustworthiness in this basic qualitative study. Trustworthiness assures that findings can be trusted, and analysis accurately reflects the data collected from the participants (Saldaña, 2016). To demonstrate the trustworthiness and accuracy of the research study's findings, I describe how credibility, transferability, dependability, and confirmability ensured this concept.

Credibility

To establish credibility and develop a comprehensive understanding of SM's use in the middle school classroom, I used multiple approaches to collect and analyze the data. I used the Rev audio-to-text application to record the phone interviews and took short manual notes during each interview, using the teacher interview question document (see Appendix A). To avoid any potential biases and corroborate the study's findings, I used the document analysis protocol (see Appendix B) to record information collected from interview responses, available lesson plans, reflective notes. I noted any connections to TPACK and TAM frameworks. After completing the protocol, the two lesson plan activities and objectives aligned with two of the participant's responses to the interview questions and corroborate what teachers reported with their practice. The conceptual frameworks were also relevant to the development of the study's themes.

To establish internal validity and reliability, I obtained member checks from the participants, which provided additional feedback and a review of the data. Member checking is a technique used by qualitative researchers to eliminate any possibility of misinterpreting the meaning of others' lived experiences (Merriam & Tisdell, 2016). After transcribing interviews, I analyzed the data both deductively and inductively. To find emergent codes and common reoccurring patterns of the new qualitative data, I identified and noted which pre-codes applied and used line-by-line initial coding to analyze the data that did not align with the pre-established codes. I originally planned to conduct classroom observations, but due to the COVID-19 pandemic, I could not collect additional data using this method.

Transferability

Although transferability is limited, I followed Merriam and Tisdell's (2016) recommendations to increase transfer or findings to similar settings. I provided a detailed description of my experiences during the data collection and analysis process. This in-depth description of the research setting included each participant's demographics, information about the data collection setting, and evidence of data collection, retrieval, and storage. Before school buildings closed for the year, I planned to conduct classroom observations to learn more about the middle school cultural setting, which framed the research setting. Even though I was unable to collect this data, I collected enough data from interviews and lesson plans.

Dependability

To ensure dependability, I recorded the interviews using the Rev Recorder application instead of the Voice Recorder & Audio Editor application, which I intended to use. I transcribed the audio recorded interviews verbatim, rechecked transcripts for accuracy by member checking, took journal notes during the data collection process and collected the data using interview and lesson plan protocols to attain more accurate and dependable research data. Using an audit trail (Merriam & Tisdell, 2016), I kept detailed records and reports of the study's findings in a secure location to ensure reliability and integrity throughout the study.

Confirmability

To ensure confirmability and to corroborate the findings, I maintained a daily reflexive journal to describe my processes, reactions, and reflections about the data

during the research process. This process allowed me to identify any bias or misinterpretations I had about the data and my interpretation. I provided a rich and descriptive detailed presentation of the setting and described the phenomenon in enough detail so others could evaluate and potentially relate to their context.

Results

The purpose of this basic qualitative study was to determine why and how middle school teachers use SM for engagement and learning in their teaching practices. *Why* teachers used SM was reflected in their thinking processes and decision-making about choosing to use, or not to use, SM in their instruction. *How* teachers used SM was evident by their statements about what they and their students did when using SM. Three themes organize the results: student-centered learning, organizational influences, and facilitating active learning experiences. The themes are organized in response to the two research questions.

Research Question 1

The first research question asked why middle school teachers use social media for student engagement and learning? Two themes emerged from data analysis: student-centered learning and organization influences.

Theme 1: Student-Centered Learning

The first theme reveals that teachers used a student-centered learning approach when using SM for instruction purposes. Therefore, the teachers in this study reported that they used SM for independent practice, research and discovery, and content clarification, which are the sub-themes for this section.

Independent Practice. The term "independent practice" and terms synonymous with it were frequently mentioned by the teachers as independent, self-driven, self-regulated, and active learning. These terms also served as a key determinant as to why teachers decided to use SM in teaching. Seven out of the eight teachers decided to use SM in their individual content areas as a way for students to develop the skills needed to become more independent in learning. For example, P3, an art teacher, reported that she used YouTube for students to practice still life drawing skills outside of the classroom. She stated, "I think my students master skills that they have learned in class when they have opportunities to practice those skills independently." P5, a music teacher, had her students create their own videos using YouTube to practice vocal skills. She said:

> My kids were so excited when I introduced this project, or rather excited that they were using YouTube. Some of the students even informed me that they enjoyed the project so much, they started making music videos on their own YouTube channel to continue improving on this skill.

P6, a language arts teacher, shared that she has used various SM platforms in her teaching, including Instagram, Twitter, and YouTube. When referring to a collaborative class discussion using Twitter as the platform, she stated:

> As the classroom teacher, I have guided discussions and asked open-ended questions using SM to ultimately allow my students to develop their independence. I see increased confidence, improved communication among peers, and increased class participation when SM is used to drive class discussions.

P7, a math teacher clarifying why she used SM in her teaching, stated, “I use Edmodo to motivate students to become more self-driven and independent thinkers when they worked outside of the classroom to complete math work." P4, who teaches technology education, corroborated this idea by him saying, “I use Edmodo to have my students finish work and to continue learning the content outside of the classroom.” He went on to say:

> I want my students to work outside of class to try to come up with possible solutions before asking me how to solve them. This way, students try to solve it themselves and think of the best way to proceed on their own.

Two teachers agreed that SM had both positive and negative effects on students gaining knowledge autonomously. For example, P6, a math teacher, said, "YouTube platform assists my students in developing as independent learners." She also indicated that she had mixed feelings about using SM as a supplementary tool to gain clarification in her subject area of math.

> Sometimes SM can backfire when students are just provided with answers rather than the feedback needed to support their learning. When my students use YouTube to help them with different math problems, I make sure that they explain and list how the video helped solve the actual problem.

P2 not only made the difficult content less challenging for some students, but she also encouraged them to be more accountable when using YouTube videos to clarify math concepts. Similarly, P8, a media specialist, shared that she provided language arts students with YouTube instructional videos based on books and articles classes were

studying at that time, which were used as a prereading resource outside of the classroom. However, she expressed that students may have used the YouTube instructional videos more as a crutch and less as a resource:

> It is a two-edged sword. I think that when used well, it can serve as a powerful tool that supports, enhances, and extends learning…when it's not used well, it can damage the understanding and make the understanding superficial.

Overall, this subtheme revealed that the key determinate for teachers wanting to use SM for student engagement and learning was that they wanted their students to become independent learners. They accomplished this by using SM platforms that supported students' independent learning in their content areas.

Research and Discovery. Five of the eight teachers shared that they used SM as an engagement and learning tool for students to attain new knowledge through research and to gain understanding through discovery. For example, both P3 and P6 recognized that students were more engaged in the content when they participated in inquiry-based instructional activities that incorporated SM. For example, P3 discussed why she used Twitter in her teaching:

> It was used as a tool for student engagement. I wanted to get my students engaged and excited about the history of art unit…I wanted them to use a tool so that they could actively research an influential artist to find interesting facts that they could share on the social media application.

P6 used Twitter as the foundation for her students to learn about and report on the importance of fact-checking the legitimacy of information found on the Twitter platform. She said:

> Research sparks curiosity and further exploration on a specific topic, and that was my goal when I introduced the assignment to my students; and I think that the use of Twitter made my students even more interested in participating in this activity.

P5 and P2 shared similar perceptions of why they used SM to facilitate learning and engage students in their content areas. P5 said, "I have used YouTube for students to search for, view, and explore examples of breathing techniques to practice for mastery of the skill." P2 said, "I use YouTube as an added learning tool for students to use when they needed to search for alternative ways to solve mathematical equations."

Lastly, P1, a science teacher, allowed her students to research their own topics for their science projects using TeacherTube as the primary tool to attain information. She said, "when students have a choice in what they want to study about and use TeacherTube to search for it, they are definitely motivated and accomplish tasks in a safe and self-sufficient way."

In this subtheme, teachers described various reasons for their SM use in their teaching. They found that students actively participated and tended to be more engaged in the content when SM was used during research and discovery-based activities. The teachers used Twitter, TeacherTube, and YouTube as research tools for students to produce ideas when they explored specific topics. Teachers also used SM as an

instructional tool for their students to solve problems, share researched information, practice in the content, and to report on discovered findings.

Content Clarification. In a student-centered learning environment, new or previously learned content is delivered to students either inside or outside the classroom for them to gain content clarification independently (Villarroel et al., 2020). In this study, teachers reported that they provided students with YouTube video resources that were used in the same manner. Six of the eight teachers revealed that students comprehended the course content better when provided with course materials using SM platforms, particularly visual media sites such as YouTube or TeacherTube. Therefore, when teachers discussed using SM for content clarification in their subject area, the majority mentioned YouTube as the tool of choice. For example, P2 said:

> When I use YouTube in class, it is used to extend what was already taught. I find that students who need that extra help to understand these already taught concepts now have an additional tool to guide them into grasping these concepts. I also think that watching a video could be more helpful for those students who struggle than having someone lecture at them all the time.

P8 had some trepidations about YouTube resources being used as a prereading tool but said,

> When used correctly, these video [YouTube] clips are wonderful tools because they help students understand the content better. When I observe students watching short YouTube clips for learning, they seem to find that it is easier to

> follow along and understand something when they watch someone explain it visually.

P7 also found that YouTube was a helpful tool to get students engaged and help them understand the content. When referring to a playlist she created of YouTube videos that were based on a novel her students were beginning to read, she said:

> I think using social media like YouTube in learning can be a very powerful learning tool. If I can catch students' interests by providing them with relatable and interesting media sources, then why not use YouTube as that source. When students are interested, they will process and remember it better.

P1 was the only teacher to use a variation of YouTube called TeacherTube. She reported that the SM platform was used to build background knowledge on earth science concepts for a class project. This idea was reported in the objective section of her lesson plan, where she wrote:

> Students will examine the relationship between the Earth's interior and exterior systems by watching the Earth's Interior and Plate Tectonics video. After completing this task, students will be better prepared to develop a model of the Earth's internal structure and processes.

P1 also explained the significance of using an SM platform for her students and stated:

> It [TeacherTube] provides kid-friendly and easy-to-understand content for middle school learners to use. It is much safer to use and just as effective as YouTube, especially with my sixth-grade students. I really don't have to worry about any inappropriate content popping up when students are viewing videos in class.

P5 provided one of her music classes with access to YouTube video links to help students visually understand and practice proper chorus breathing techniques. She went on to say, "sometimes it's much easier for students to understand a topic when they watch a video." She went on to say:

> To help students perform breathing exercises, I shared a YouTube video with them in class. I told them that they could access it and use it as a tool to continue practicing their breathing techniques at home. I basically use YouTube a lot in my classes for that reason alone.

P5 also mentioned another way that she used YouTube with her students and said:

> Students have created music videos to illustrate and improve on their skills and abilities of showmanship, and then these videos would be posted on our class YouTube channel. This was also a great way for students to critique their own performances.

P3 reported how she used YouTube to provide a visual guide for students to practice art skills. She stated:

> I used a YouTube video to introduce them [students] to a still life drawing of an apple…they viewed proper hand movements and pencil pressure and used the video to independently practice and master this skill at home.

She went on to say, “my students gained a better understanding of the techniques when they referred to the videos as a guided example.”

Overall, the teachers used YouTube video resources and a variation of the platform for their students to practice and clarify content-related concepts. Therefore,

they all agreed that the SM platform was ideal for students to grasp the content better when demonstrated visually.

Theme 2: Organizational Influences

The second theme also aligned with the first research question. Organizational influences were a main reason *why* the participating teachers decided to use SM in teaching. Seven out of eight teachers revealed that administrative influences within their organization prompted them to use SM to facilitate learning. In addition to this theme, four out of the eight teachers indicated that observations of other teachers using SM in teaching provided them with lesson ideas and a new perspective on using SM technologies in practice. Therefore, both organizational influences serve as the subthemes for this section.

Administrative Influence. The data revealed that all eight teacher participants integrated and used specific SM platforms in teaching because administrators encouraged it. They used terms such as “pushed,” “asked,” or “suggested” when describing why they decided to use SM technologies in practice. The teachers mentioned that members within their organization, such as school principals, instructional support specialists, or other school district leaders, asked them to use specific SM platforms for informational or instructional purposes. They also reported that they integrated the proposed SM platforms within their instructional routines to promote student accomplishments and special projects, share class information, or facilitate student learning.

P1 reported that school administrators asked her to use SM to communicate information related to class activities and as a platform to engage with the community.

When asked how the decision was made to use SM, she stated, “I was encouraged to use Twitter to showcase students' work, and the administration kind of pushed its use throughout the school.” She went on to say, “school administrators wanted teachers to use Twitter as a tool to inform parents and other community members about activities and projects that students either participated in or contributed to.” She also reported that she only used Twitter as a way to share sample student work with parents since they were the only ones who had accounts and commented on the posts, which limited broad participation. She explained, "My students were not interacting with it really because they don't have personal accounts, but they have access from their parents.” P1 also mentioned that barriers such as technical issues and the lack of time to fix any problems as reasons for using Twitter in limited ways. When explaining her use of Twitter, she stated that “sometimes technical issues occur when I use social media applications, and with my daily schedule, I don’t have enough time to fix these issues.”

P2 stated that a school administrator asked her to use Twitter to promote a school-wide initiative on bullying prevention. She stated:

> Students seemed engaged in the process because when I posted pictures that I took of my students working on their posters, students took pride in their work and were excited that it would be shared and showcased. I think that this activity boosted their confidence to produce quality work.

She also shared that she did not mind using Twitter and said: “I used it just as long as it was used to protect student’s confidentiality.” P2 also mentioned that she would have never used Twitter if she was not asked because the application did not align with

anything she taught within her area of special education and math, suggesting that the nature of SM was a barrier to instructional use. She said:

> So, it [Twitter] would not really benefit student learning in my content area. But I use it because our school has a Twitter account where an administer is in charge of tweeting out different projects and things that have been going on throughout the school, which is fine because you have one person in control of everything as far as different projects and things going on in our school.

P7 used Twitter when after an administrator suggested that she use it for informational and instructional purposes. She said:

> My grade level vice-principal asked if I would showcase student work by posting short messages about student achievements and photos of students working in class, so I did, and it became a regular routine that I still use to this day. I also post homework to remind students of upcoming class activities and even throw in occasional extra credit questions.

She also shared that a math content specialist suggested that she should use a district-approved platform for instructional purposes and said, "that was when I started using Edmodo as a way to remind students of upcoming class activities, post homework, and provide extra credit work." P7 also mentioned that technology connectivity issues occurred periodically, which created issues during instruction when she used Edmodo; however, she still reported using it and worked around the connectivity issues.

Similarly, P5, like several of the other teachers, started posting on the school's Twitter page because her "school administration and content specialist highly encouraged

it" for her subject area in the performing arts. She posted school performance pictures, videos, student achievements, field trip schedules, concert, and assessment dates, and other class information. P8 posted library information on her school's Instagram, Twitter, and Facebook pages. She said, “as a media specialist, I am required to use SM applications to publicize school hours, class schedules, book fair and club dates, and other library resources.” Both P3 and P6 did not elaborate much about this theme, but P3 said, “since the school district promotes Twitter use and other teachers in the county suggested that I should use it, I said why not, so I did.” P6 said, “I was approached by one of the school administrators who asked if I could post some of my class projects on the school's Twitter page.”

All the teachers indicated that administrators and other members within the school district asked them to use various SM applications for instructional or information sharing purposes. However, P4’s perception on this topic was different from seven of the teachers’ perceptions about using the suggested platforms. P4 was the only teacher who did not care to use any of the SM platforms related to this theme and said, "the school district pushed for teachers to use it." Even though P4 shared that he used Edmodo in his teaching practices, he said, "I don’t think SM like Twitter or Facebook should be used by students because it is too open…students are exposed to too much.” Nevertheless, the majority of teachers mentioned that they embraced and continued using the proposed SM platforms as a part of their daily instructional routines because of their usefulness towards learning.

Observation. Teachers discovered new ways to use SM in their own teaching practices by observing other colleagues using different tools and instructional strategies. Four of the eight teachers mentioned they observed other teachers who successfully facilitated learning with SM applications and expressed that they acquired lesson ideas and interests in accepting and using SM in teaching. For example, P3 mentioned that she was interested in using Twitter during a countywide PD and said, “I observed another art teacher who modeled a lesson using a flipped model approach…the lesson involved posing questions and asking students to contribute to a hashtag to discuss the questions later in class.” In this way, she decided to use SM based on peers who already used it successfully. P7 shared that she not only used Instagram because she felt that the district wanted teachers to integrate at least one SM application in their teaching but also used it because she was intrigued to use one after observing how another teacher effectively used SM to engage students in learning. She explained:

> So, the use of social media came to me because another teacher introduced me to it…I observed her classroom, and her kids had a blast learning. I believe they were reviewing a lesson that was previously posted and viewed from YouTube. They started a classroom discussion based on the video, and the students seemed really engaged in the activity…And so that was kind of what started the fire in me to use SM in my classroom.

P8 also mentioned that her interest in SM use was inspired by another media specialist who used YouTube videos as video resources to introduce topics in different content areas. She said, "I regularly observe peers who are experienced users of

technology that includes SM when I am looking for innovative ways to implement it into my teaching practices." Likewise, P4 said, "I took advantage of an observation opportunity a few years ago and learned how to use Edmodo."

For this subtheme, observing other teachers served as a key factor in the development of teachers' improving their self-awareness of skills needed to use SM to engage student learners in the content effectively.

Research Question 2

The second research question asked how middle school teachers use social media for student engagement and learning. The one major theme that emerged from the data addresses the *how* question, and that is facilitating the process of active learning. In this approach to learning, teachers encourage students to take control and ownership of their learning, and the teachers' role in this process shifts from the provider of knowledge to the facilitator of learning. Therefore, teachers shared ways they provided learning activities, tasks, and resources when they incorporated SM to actively engage their students in the content.

Theme 3: Facilitating Learning with Social Media

All of the teacher participants described how they facilitated instruction and supported students in learning with SM. They accomplished this by providing students with collaborative and interactive activities and relevant class information. These two ideas also serve as the sub-themes under this topic and are further discussed in this literature review section.

Collaborative and Interactive Activities. Teachers shared how they used SM in their teaching practices to provide students with collaborative and interactive activities. For example, P3 mentioned how she used Twitter to engage her students in an interactive and collaborative activity in one of her art classes. She mentioned how she used Twitter for a research lesson based on the artist Pablo Picasso and said, "I initially guided my students with an outline of the procedures to use Twitter during the activity." Her lesson plan detailed the procedures for using Twitter:

> The hashtag symbol (#) always comes before a relevant keyword or phrase in a Tweet to categorize and easily find the Tweet in a search. Clicking or tapping on a hash-tagged word in any message shows other Tweets that include that hashtag.

She explained the activity in her lesson plan more in-depth by saying:

> I started the activity by posting #Picasso's full name is made up of 23 words and asked the students to conduct an internet search to discover other interesting facts about him. So, the students posted a tweet under that hashtag, so the entire class actively followed the tweet.

Her explanation of the activity also aligns with the assessment section of the lesson plan. P3 wrote, "students will communicate with one another by posting tweets about the subject. She also wrote, "I will observe participation of students and engagement with peers throughout the activity."

P6 also used Twitter with her students and shared how it was used not only as a way to get her students to be actively engaged but also as a way for her students to learn about the importance of validity in researched literature. She shared that her students

were fact-checking the legitimacy of information found in SM and shared a Twitter post about Travon Martin with the class. She directly quoted the post that stated:

> Trayvon Martin actually had a criminal record before he was killed, so he should have been a likely suspect. He was caught with a flathead screwdriver that was used as a burglary tool, and 12 pieces of women's jewelry, which he insisted did not belong to him.

She went on to say:

> For this activity, students had to actively fact-check statements found on the social media outlet…They had to be able to find and identify credible and accurate sources to back up that statement…They also had to search for other statements on Twitter to do the same thing.

P7 used Edmodo for student collaboration, peer help, and as a platform to provide students with feedback on their work. She explained how she used Edmodo for an activity where students helped one another solve math problems outside of the classroom and said:

> I would post math equations in Edmodo…Students had to solve the problems for homework. Each student had to show their work to provide evidence that they understood the concepts, but if some students had a hard time, they would ask for help on an open chat in Edmodo. Other students would chime in and explain how to solve the problem, and I would follow up by providing feedback.

P8 shared how she used the school's Instagram page to engage students to learn about Women's History Month. She explained that she used it for a school-wide activity and initiative where students in all grades could participate. She said:

> During the second marking period, students had to correctly name and learn a fact about the influential women from images that I posted on Instagram to win a special prize. They had to conduct an image search to find out who they were and what they accomplished. Students were eager to participate, and the response was amazing.

Relevant Class Information. For students to have readily available access to relevant class information, teachers provided them with content-specific classwork, homework, assignments, and lessons using SM. Teachers used Edmodo particularly for this kind of communication because it was a closed system offered through the school, unlike other SM applications. Because the school-sponsored it, teachers described it as accessible and secure. Security was a priority for P4 who did not use or agree with incorporating other SM platforms that teachers used in the district; however, he used Edmodo to extend learning beyond the classroom walls and for students to complete classwork asynchronously. He said, "I'm always providing students with homework that ties into what we are doing in class," and went on to say:

> Students were learning about the history of technology and were assigned different inventions related to a specific period in which those inventions were developed. To complete their work on time, the assignment was posted in Edmodo so that they were able to finish the assignment as homework.

Similarly, P2 used the Edmodo platform in a similar way but shared how it was used for an in-class activity. She said:

> I use Edmodo as a way for my students in my classes to find their daily assignments and lessons. One of my sixth-grade students' lessons was to use Google Maps to measure distances between two different destinations, like their home to school or their favorite place to travel to their school. Students had to construct a map and provide directional instructions, which built on their measurement skills in math.

P7 also reported that she used Edmodo to share and receive student work and Twitter to share other relevant class information.

However, P1 mentioned that she used Twitter to share information with her students and their parents. She also used TeacherTube to share age-appropriate and content-specific videos with her classes. Both P5 and P8 reported that they used YouTube as a video resource for students to learn concepts within their content areas. Therefore, the results of this subtheme indicate that middle school teachers facilitated and guided students in learning with SM by providing them with relevant class information to continue and complete work or practice skills in and out of the classroom. In this case, they tended to use the school-provided system more than stand-alone SM applications.

Summary of Results

The summary of the results in Table 7 provides an overview of the SM platforms used by teachers concerning the study's three themes. Table 7 shows that four out of six SM platforms align with all three themes.

Table 7

Social Media Platforms Organized by Use from the Data

SM Used	Description	Category	Student-Centered Learning	Organizational Influences	Active Learning Experiences
YouTube	A free video-hosting website that allows members to store and serve video content (Hosch, 2020).	Commercial stand-alone SM	X	X	X
Twitter	A free social networking microblogging service that allows members to broadcast short posts called tweets (Britannica, T. Editors of Encyclopedia, 2020).	Commercial stand-alone SM	X	X	X
Edmodo	All in one LMS, online, and mobile SM platform that provides a safe and easy way for students to connect and collaborate, share content, and access class work in an online environment (Edmodo, n.d.).	School-provided closed system: Learning Management System and SM tools	X	X	X
Instagram	An SM app that allows users to share photos, videos, add captions, edit filters, engage with others, and explore (Merriam-Webster (n.d.).	Commercial stand-alone SM	X	X	X
Teacher Tube	A video-sharing application designed for teachers to share educational resources such as video, audio, documents, photos, and (TeacherTube About Us, n.d.).	Commercial stand-alone SM	X		X
Facebook	A social networking application where users can post comments, share photographs, and post links to news or other interesting content on the web, chat live, and watch short-form videos (Hall, 2021).	Commercial stand-alone SM		X	

Summary

The results of this study uncovered themes that answered both research questions; why middle school teachers use SM for student engagement and learning and how middle school teachers use SM for student engagement and learning. Shifting the focus of learning to the student was a key reason why teachers used SM for engagement and learning. Teachers took this learning approach to help students take ownership of their learning through independent practice, discovery, and clarification when SM was incorporated into instruction. Teachers also reported that administrators prompted them to use SM when asked to and when they observed other teachers using it. This idea was evident in the use of Edmodo, which was provided by the district and not a stand-alone SM application. School investment played a part in accessibility and classroom management functions, such as assessment and distribution of assignments. Even though some barriers limited seamless use of SM in the classroom, teachers reported how they facilitated and guided students through the learning process with collaborative and interactive learning experiences and provided them with information relevant to the content as a form of engagement and collaboration.

The constructs of technology acceptance and technology knowledge were also evident in the responses of all teachers' participants. Most of the teachers accepted SM technologies and were knowledgeable enough to facilitate learning with instructional activities. Teachers shared many positive aspects of SM, and all agreed that the platforms they chose to use suitable for their students to learn with and were beneficial in enhancing student learning at the middle school level.

Chapter 5 includes an evaluation of the interpretation of the findings as it relates to the peer-reviewed literature and the conceptual frameworks, a description of limitations from the study, recommendations for further research, implications related to social change, and a final concluding statement.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this basic qualitative study was to explore the intent and approach that middle school teachers took when they used SM technologies in their teaching for student engagement and learning. Because it was unclear why and how teachers use SM to actively engage students to participate in and develop an understanding of the middle school content, the study's findings provide insight into this phenomenon. The two conceptual frameworks used to guide this study were Davis's (1989) TAM model, and Koehler and Mishra's (2005) TPACK model.

The study's findings confirmed that middle school teachers used SM as a support to guide students in learning. Teachers reported that their use of SM provided students opportunities to learn and work independently, solve problems, and collaborate in a student-centered learning environment. Peers within the teachers' organization also influenced most of the teachers to accept and use SM in their teaching. These factors included a push from administrators and teacher observations of SM being actively used in the learning environment. Teachers also reported ways in which several SM technologies were used in action and shared that students' activities were primarily facilitated and guided through collaborative, visual, and informational platforms.

Interpretations of Findings

One of the key findings relating to RQ1 confirmed that middle school teachers from this study, as well as other educators at different levels of education from the research, have used SM technology to support student-centered learning activities (Al Obaidli et al., 2018; Gruzd et al., 2018; Kilis et al., 2016; Nykvist & Mukherjee, 2016).

For example, study participants indicated they used SM to engage students in class discussions in which students posted and shared ideas and information on Twitter and Instagram. This finding confirmed the research of Matzat and Vrieling (2016), Seechaliao (2017), and Schwarz and Caduri (2016), where it was found that teachers used SM as a learning tool for students to contribute to class discussions and to generate and share ideas in an independent manner. Therefore, educators who include SM in their teaching look for ways to help their students develop learner autonomy and responsibility in the learning process.

In this study, middle school teachers used different SM applications such as YouTube and TeacherTube and reported that it provided their students with hands-on and visual learning resources to help them independently clarify concepts in their content areas. This finding is reflected in the research studies of Al Obaidli et al. (2018) and Moghavvemi et al. (2018), where they used YouTube for learners to attain new knowledge, build on the knowledge, and practice learned skills. The teachers also used Twitter, Instagram, and Facebook to communicate and share information with students, parents, and the school community and provide students with collaborative activities to engage independent learning. According to the studies of Al-Rahmi and Zeki (2017), Gruzd et al. (2018), Hsieh (2018), and Nawaila et al. (2018), teachers used the same SM applications for communication and collaborative learning tools with students.

Additionally, Edmodo was the only platform provided by the school system that teachers in this study regarded as a SM network designed for educational use in K-12 learning environments. According to Trust (2017), Edmodo is a learning management

system that is also classified as a closed social network and collaborative learning platform providing a safe online space for teachers to connect, collaborate, and share content with primary and secondary learners. This idea is consistent with the findings of Ali et al. (2019) and Wahyuni et al. (2020), who found that students improved on content-specific learning skills when Edmodo was used as an interactive learning tool. Therefore, the findings in this study and the literature research from Chapter 2 revealed that students comprehended the course content and were engaged in the learning process when they were provided with various innovative SM platforms that met their learning needs.

In alignment with the literature and RQ1, findings revealed that most teachers used SM in their teaching practices because they were encouraged by administrators and exposed to SM by other teachers during observations or training. Prior research focused on how exposure to technology through professional development and hands-on training opportunities motivated teachers use of technology in their pedagogical practices (Akman & Koçoglu, 2017; Bilici et al., 2016; Jones, 2017; Osakwe et al., 2016; Peterson-Ahmad et al., 2018; Qasem & Viswanathappa, 2016; Siefert et al., 2019; Tondeur et al., 2017; Zehra & Bilwani, 2016). Therefore, the findings from this study corroborate findings of prior research literature. With prior exposure to technology systems, either from observation of use or training, study participants appreciated SM and were motivated to use it in their teaching.

According to the findings that regarded barriers towards technology use, it was confirmed that issues could occur from classroom technology use. Researchers have

revealed that teachers were reluctant to integrate technology systems if they were not required to use them within their content areas (Batane & Ngwako, 2017; Fernández-Cruz & Fernández-Díaz, 2016; Peterson-Ahmad et al., 2018; Vongkulluksn et al., 2018). Results of this study revealed that teachers did use SM because of the encouragement of administrators and access to it. However, some teachers mentioned that Twitter was not a required application to teach with in their content but they still used it to inform and share student work, accomplishments, and information with parents and other members within the school community.

Other barriers documented in prior research included the lack of support from school leaders and the time teachers had to focus on using it in instruction (Boholano, 2017; Liu et al., 2017; McKnight et al., 2016; Nikolopoulou & Gialamas, 2016; Osakwe et al., 2017; Ottenbreit-Leftwich et al., 2018). However, findings in this study revealed that only one teacher mentioned time as being a negative factor towards technology integration, and two teachers mentioned technology connectivity as being another negative factor toward effective technology use in the classroom.

The findings that emerged from RQ2 and the research literature confirmed that SM is used as a tool for students to be actively engaged in the learning process (Carpenter et al., 2016; Namaziandost et al., 2019). In this study, teachers discussed how they used SM to engage students in the learning process. In doing so, students were responsible for using SM to seek out relevant class information, work on and complete assignments autonomously, work collaboratively with other students, share and elaborate on research, and practice skills independently. In concurrence, Namaziandost et al. (2019) used two

SM platforms as a tool to teach the English language. During instruction, WhatsApp and Telegram were both used for communication and online discussion, where learners practiced their speaking skills and developed writing skills through practice and peer feedback in a public forum. Carpenter et al. (2016) also found in their study that Twitter was used for instruction purposes for students to retrieve pertinent class information needed to complete classwork independently. In these findings and those of this study, teachers found SM to provide opportunities for students to take ownership and direction over their learning.

Interpretation with Study Frameworks

Results align and reflect with the study's two conceptual frameworks. TAM, as posited by Davis (1989), puts forth how the use of a technology is determined by an individual's attitude and behavior reflects perceived usefulness and ease of use (Dziak, 2017). Consistent with technology acceptance, which is related to TAM, all of the teachers in this study reported they used SM platforms in teaching and found a use for it as a tool to facilitate learning and to share pertinent classroom or school-related information. They shared positive insights and embraced using YouTube, Twitter, Instagram, Facebook, TeacherTube, and/or Edmodo in their academic environments. Therefore, their attitude and behavioral intent to use the system followed the TAM's tenets of perceived usefulness and ease of use.

Findings from this study about SM's usefulness and teachers' drive to use it were consistent with prior research (Fang & Liu, 2017; Okumuş et al., 2016; Sánchez-Mena et al., 2019). These studies indicated that teachers were motivated to use technology-

supported instructional activities when they believed it was useful and supportive in the learning process.

Findings from this study also confirmed the principles of Koehler and Mishra's (2005) TPACK framework as a lens to understand how teachers' content, pedagogical, and technology knowledge was an integral part of how middle school teachers used SM in teaching. Some of the teachers in this study reported that they became competent in SM use after observing more experienced teachers using different platforms or discussing the use of SM in teaching practices. This finding confirms Bingimlas's (2018) and Blonder and Rap's (2017) findings indicating teachers' TPACK and self-efficacy beliefs were attained from prior exposure from hands-on and applied professional development training. Therefore, the teachers gained sufficient technology, pedagogy, and content knowledge to confidently integrate SM in their content areas.

Limitations of the Study

There were three limitations in this study. The first limitation, which is an inherent weakness of a basic qualitative study, is the small sample size which limits generalizability to other populations of teachers. A small and limited sample of eight middle school teachers who used SM in their teaching for purposes related to student engagement and learning participated in this study. The population was also limited to one school district in the northeastern United States at two study sites. Moreover, teachers volunteered for this study because they were SM users, and they may have been biased in favor of SM. This may be why they reported so few barriers or issues. The responses of eight participants, who were enthusiastic users of SM, may not be

representative of all teachers in the school district who used SM. The small size limits the generalizability of the findings.

The second limitation centers on personal opinion and experience in the subject matter, as I knew some teacher participants. This limitation could influence the study's findings with the possibility of biases or preconceived notions. To avoid potential limitations that may have occurred, acknowledgment of all the limitations was documented. Drafts, data tables, and other study findings were shared with my dissertation committee members to address any constraints that could affect the integrity of the study's findings.

Limited data sources is the third limitation in this study. To provide the researcher with an adequate understanding of the study’s findings, qualitative data collection methods rely on in-person interactions through interviews, observations, and documentation analysis (Merriam, 1998). The inability to conduct classroom observations of SM use due to COVID-19 restrictions was a limitation to better understanding of middle school teachers' perceptions of SM use in teaching. I had to accept that school closures prevented this form of data collection and rely on telephone interview data rather than in-person observations as planned and very limited lesson plan documentation. The intent was to collect and analyze lesson plans from each teacher; however, but only two participants could retrieve electronic copies of their lesson plans and provide them to me.

Recommendations

Future research is recommended for the understudied use of SM in middle schools. The first recommendation is to replicate the study by obtaining and analyzing data about middle school student's perceptions of SM use in learning. Because this study only analyzed middle school teachers' perceptions, additional data from both populations could generate a rich and accurate description of SM use in the middle school learning environment. Additionally, the data could be valuable to the research in the discipline by providing insights about knowledge, interests, enjoyment, motivation, and attitude towards SM use through the lens of the learner. Other student inputs, such as positive or negative aspects of SM use with assignments, homework, and in-class activities could offer teachers innovative and effective ideas to help them plan and facilitate relevant lessons geared toward the middle school learner.

A second recommendation is to conduct a similar study using a larger sample size and not just enthusiastic users of SM. This study only included eight middle school teachers from two schools in one geographic location who were enthusiastic users which limits generalizability with a small sample and a population who may only represent successful use of SM. Obtaining a larger sample of participants from more teaching fields and expanding the geographical locations could yield results that could be applied to middle school teachers in general.

During this research study, the COVID-19 epidemic abruptly altered the educational landscape, and traditional learning shifted to virtual learning indefinitely. Additionally, observations could not occur as originally planned, and lesson plans served

as a limited data source for this study. Therefore, a third recommendation is to construct the same research in a new context, to understand middle school teachers' current experiences of SM use in a virtual and hybrid learning environment from observations and readily available lesson plans. This recommendation could add new knowledge to an area of knowledge about which little is known.

The fourth recommendation is to study how and why teachers select and use specific SM applications in teaching. This study specifically focused on SM applications that the school district provided or allowed teachers to use for educational purposes. Understanding how specific SM tools could leverage learning objectives and align with the content for student engagement and learning justifies further study.

The fifth recommendation for future research is to explore problems, barriers, and challenges that teachers may experience when using SM in the middle school learning environment. These factors were not addressed by a majority of the participants in this study, and the findings were limited in this area. Therefore, more research could address the unanswered aspects of the issues related to effective implementation of SM use by middle school teachers and address the limitations that other educators could be aware of or potentially avoid.

Implications

This study's findings on SM use in teaching could influence the middle school environment by reshaping and advancing the current curriculum with 21st century learning standards. Adolescents in middle schools will learn digital literacy and competency skills they will need in postsecondary learning institutions and the

workplace. This change will also bring an awareness of the benefits and challenges needed to be addressed by teachers, administrators, educational specialists, and school district leaders prior to integrating SM into the middle school learning environment.

Social Change Implications for Community

Results from this study add to strategies for successful SM use by middle school teachers that could be used by other teachers to make learning more meaningful for middle school learners. Exploring how teachers use SM in a beneficial way offers other middle school teachers inspiration on what to use and how to use it in their teaching practices. The study findings can be shared within the school district, state, or across the globe as a starting point for educators to generate and create engaging lessons in their content areas. Even though seven content areas are represented in this study, teachers can update and adjust lessons related to the educational levels and subjects they teach. Moreover, middle school educators and leaders can use the study's findings on SM use in teaching as a means to adapt to the current state of virtual learning due to the COVID-19 pandemic.

Theoretical Implications

This study's findings confirmed the principles of Davis's (1989) TAM theory and how it served as an integral lens to understand why teachers came to accept and use SM in teaching. TAM's overall focus is acceptance of technology systems by behavioral intentions, including the user's attitudes, perceived usefulness of the technology, and the perceived ease to use that system (Davis, 1989). This idea aligned with Theme 2 of this study, in which teachers came to accept SM technologies in practice after members

within their organization encouraged or demonstrated the use of several platforms. The teacher participants overwhelmingly expressed positive attitudes toward SM technology because it supported independent thinking and collaborative learning and was modeled by peers. The results revealed that teachers accepted and used YouTube, Twitter, and Instagram in their teaching practices because the platforms were useful tools for student engagement and learning.

The findings also confirmed the principles of Koehler and Mishra's (2005) TPACK framework as another guide to understanding how teachers' content, pedagogical, and technology knowledge was an integral part of how middle school teachers used SM in teaching. Most of the teachers in this study were confident and knowledgeable about using SM to facilitate student learning in their content areas, but they did not share in-depth information about how they attained most of their knowledge. Researchers indicated that TPACK was attained through professional development activities and the participants in this study shared that knowledge was attained primarily from prior observation of SM use by other teachers. Therefore, teachers' technological TPK was an important construct of TPACK that teachers attained to use SM in their teaching practices. Both TAM and TPACK can provide school and district decision-makers with insight into ways to support and encourage technology integration.

Educational Practice Implications

An increased understanding of SM use by middle school teachers can help guide other middle school level teachers to potentially adopt and use SM in their teaching practices, particularly through modeling and sharing ideas. Findings illustrate effective

strategies to integrate SM in the classroom to improve learning and reach students through engaging and collaborative classroom activities. The teacher-provided strategies can expand the SM knowledge of administrative and instructional staff in finding effective ways to use different platforms they never knew were possible to use across subject areas. Using the results, they can expand learning beyond the four walls of the classroom. By improving learner engagement through active and collaborative learning, educators are more likely to address the needs of those students who have less digital access outside of school. SM may also be a strategy to expose middle school learners to digital learning skills that they may not be able to attain on their own and offer different ways to engage in learning outside of the classroom.

It may be because teachers sometimes learned from experienced teachers, they encountered fewer problems than if they had not observed successful SM use. The few barriers reported may support the idea of peer-to-peer mentoring and intentional sharing of technological and pedagogical effective strategies through training and professional conversations.

Conclusion

SM has readily become a core technology that is currently used by educators at all levels, geographical locations, and content areas. However, prior to 2020 and the surge of the COVID-19 pandemic, research has shown that a majority of teachers, specifically middle school teachers, did not use SM in their teaching practices. This study revealed more positive rather than negative aspects of SM use by eight middle school teachers who chose to use several platforms for instructional or informational purposes previously

and at the time the pandemic closed all schools. Therefore, if SM applications, in conjunction with other technology hardware and programs, were prioritized in educational institutions as essential and required learning areas, more teachers and students would be better prepared to use them to support learning, particularly during the challenges of a pandemic.

Constructs of technology acceptance and knowledge of content along with technology and pedagogy are needed for the successful integration of SM use in any content area. Teachers need administrative support to build a strong foundation of the structures that make up the TAM and TPACK frameworks. With this foundation, teachers would be able to use SM as a part of their daily teaching routine with ease and confidence when teaching students whom they assume to be digitally literate but may need guidance in how to use SM for learning.

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Appendix A: Teacher Interview Questions

Name of Teacher: _____Content Area: _____

The purpose of this qualitative study is to understand how and why middle school teachers use SM technologies in their subject area teaching for student engagement and learning. So, for the purposes of this study, SM refers to any online platform or interactive application tool that allow users to communicate with others, share information, and generate content. Right now, I will ask you a series of questions based on two research questions that guide my study.

RQ1. Why do middle school teachers use Social Media for student engagement and learning?	
1. What is your perception about social media use in the classroom?	
2. Why do you like or dislike social media technology use in teaching?	
3. How did you decide to use social media?	
4. Do you find social media technologies to be useful in your class? If so, why?	
5. How does social media technology use impact instruction?	
6. How does social media technology use impact learning?	
7. How easy is it to use social media technology while you teach? Explain.	
8. How easy is it for you to align and integrate social media technology in your teaching?	
9. What perceived barriers may prevent you from using SM in your teaching?	
10. Do you intend to continue using social media technology in your teaching? If so, why?	

RQ. 2 How do middle school teachers uses SM for student engagement and learning?	
1. Are you using social media technology in your teaching practices? If so, which ones?	
2. For what purpose(s) do you use social media technology used in your classroom?	
3. Is your subject area a good fit for using social media? If so, Why?	

4. How do your students learn the content of your subject through social media?	
5. What instructional strategies do you use to meet your learner's needs through social media?	
6. What social media tools are available to you, and of the tools which do you know well enough to use?	
7. How do you align a social media tool with lesson objectives?	
8. Do you know how the social media technology that is available to you can be used to enhance or transform the content? Explain.	
9. For what purpose(s) do you use social media technology used in your classroom?	
10. In what way do the social media tools you use help you achieve the learning outcomes and experiences you want?	

Do you have a lesson plan that you can email to me that included the use of social media?

Appendix B: Document Analysis Protocol

Evidence from document **(Lesson objectives, assessments, and activities)**	Reflective Notes	Relation to Frameworks ***(TPACK and TAM)***	Connections to other data sources ***(Interviews)***
RQ1. Why do middle school teachers use SM for student engagement and learning?			
RQ2. How do middle school teachers use SM for student engagement and learning?			

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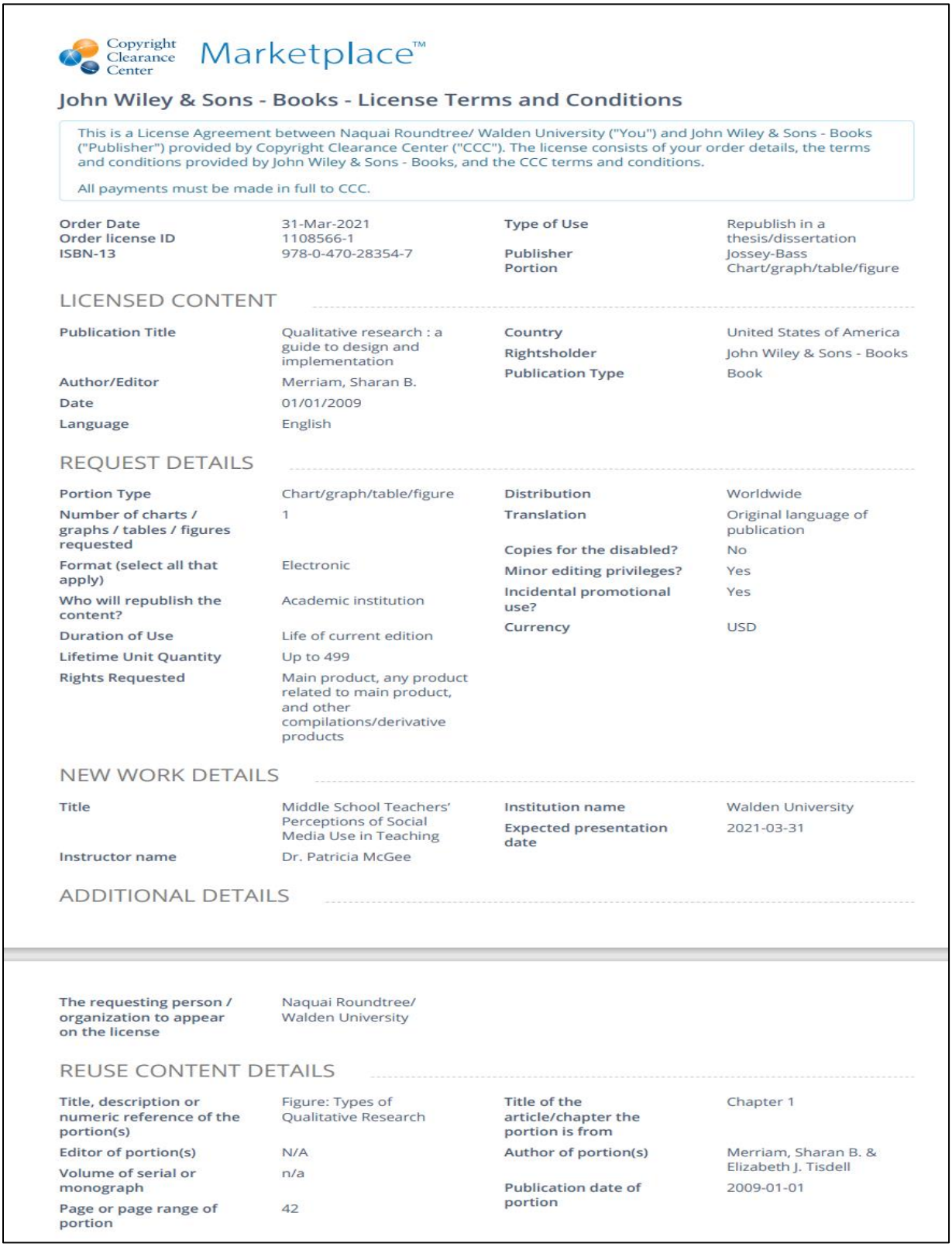

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