5-28-2021 9:00 AM

Teachers' and Students' Experiences Using Social Media as a Pedagogical Tool Within Classrooms: A Systematic Literature Review

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A thesis submitted in partial fulfillment of the requirements for the Master of Education degree in Education

Abstract

This study is a systematic literature review (SLR) that intended to understand the reported views and experiences of teachers and students about using social media in elementary and secondary classrooms in existent literature. This SLR also explored the pertaining challenges in using social media in classroom settings and implications of using social media in education. A total of 40 articles were included for the SLR and thematic data analysis was implemented. Reported findings show that using social media in classrooms was positively and negatively perceived by teachers and students, where positive perceptions overweighed negative ones. Social media was viewed as an important and useful tool for teaching and learning that facilitated assessment and feedback, increased students 'motivation and engagement, and allowed students to acquire some of the core media literacy social skills and cultural competencies. Yet, students' distraction was reported as one of the common drawbacks, along with other challenges such as unclear policies and guidelines. Findings will contribute to the literature in the field of social media and education and help understand the relationship between using social media in class and other educational outcomes.

Keywords

Social media, Social networking sites, Social constructivism, New media literacies, New media literacies skills, Thematic data analysis, Elementary, Secondary.

Summary for Lay Audience

Today, social media platforms are widely distributed among children, youth, and adults. While social media were mainly created for social purposes such as users' interaction, communication, and sharing personal stories, social media have recently entered the field of education as tools for learning and teaching. Despite the wide distribution of social media users around the world, using social media within education systems remains a debatable subject.

Based on my literature search, I have not found a systematic literature review that summarizes the existing literature related to the use of social media in education. Additionally, I wanted to understand the experiences and perceptions of teachers and students regarding this matter. For that reason, I have reviewed 40 peer-reviewed articles related to the use of social media within classrooms as learning and teaching tools. Articles were selected based on specific inclusion criteria. Additionally, these reviewed articles where "thematically" analyzed through the theoretical lenses known as "social constructivism" and "new media literacies".

After conducting a thorough analysis of selected articles, I reported findings through different themes (i.e., inductive and deductive). I found that teachers and students had positive feedbacks about using social media within classrooms and I included examples of affordances by social media as reported by reviewed articles. Nevertheless, there were some negative perceptions reported by users of social media in classrooms such as distraction from learning.

Findings of this SLR could help researchers interested in the field of social media and education to further research about the use of social media in primary grades with regards to reasons for limited use of social media in their classrooms, potential concerns of parents or teachers to incorporate social media at such beginner grades, or infrastructure needed to incorporate social media use in early learning. Future research could look at the impacts of different social media sites (i.e., popular SNS and enclosed social sites) to understand optimal learning via social media. Policy makers and education stakeholders will benefit

from this study by understanding the relationship between the use of social media in classrooms and educational outcomes.

Acknowledgments

I would like to show my sincerest gratitude and thanks to my supervisor, Dr. Zheng Zhang who guided me throughout this program. Dr. Zhang has been with me on this quite longer than expected journey since the beginning. Her valuable suggestions, feedback and comments taught me a lot. I have learned a tremendous amount of information and knowledge through her supervision and through our regular meetings. Her constructive, deep, thoughtful, and timely suggestions have helped me to accomplish my work. Her supporting and encouraging words have empowered me and raised my spirit throughout this Master's Program.

I also extend my thanks and gratitude to Dr. Rachel Heydon, the committee member, for reviewing my thesis. I appreciate her encouraging words and constructive feedback throughout my thesis writing.

Being a wife of doctor and a mom of three lovely children made me take this journey on a slower pace. I started my first semester in Fall 2017. However, I had to take a maternity leave for a year right after the first semester and returned as a part-time student. When Covid-19 started, I had to stay home for one semester to take care of my children. Going back to study was not easy, yet it was inspiring and empowering.

I would like to thank and appreciate my beloved husband Safwan, who has been in this journey with me since it started. Despite his challenging schedule and major work commitments, in accomplishing his career as an Oncology doctor, Safwan was always standing by my side, providing me with support and encouragement. My children, Faisal, Haya, and Adel are the ones who inspired me to be the best version of myself and to keep working and studying.

My sincerest thanks go to my dear parents and sisters Lujain, Noran, Afnan, and brother Rayan for their continuous support from thousands of miles away. Their prayers and kind words have kept me strong. I also extend my thanks to my dear friends for their support and wishes.

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Chapter 1

1 Introduction

In this chapter I present an introduction for my MA study.

1.1 Context Review

1.1.1 Web 2.0 and Social Media

There has been a significant impact of Web 2.0 on the new generations who are referred to as generation Y and X (Brooks, 2008) or digital natives (Prensky, 2001), or those born in the era where technologies have "extensively" and "significantly" affected their social lives and enabled them to naturally acquire technological skills (Harendita, 2016, p. 11; Arquero & Romero-Frías, 2013). The term "Web 2.0" refers to websites or platforms that emphasize user-generated content or participatory culture (O'Reilly, 2005). McLoughlin and Lee (2007) define Web 2.0 as "a second generation, or more personalized, communicative form of the World Wide Web that emphasizes active participation, connectivity, collaboration, and sharing of knowledge and ideas among users" (p. 665). Unlike Web 1.0, where users are only able to view content, Web 2.0 allows users to contribute, collaborate, interact, add, and exchange content (Harendita, 2016).

O'Reilly (2005) suggests that web-based social media platforms fall under the category of Web 2.0. These platforms facilitate collaboration, interaction, and the exchange of user-generated content. What makes social media platforms different is the shift from viewing the web as a place for retrieving information to a participatory platform where anyone can add content (Churcher, Downs, & Tewksbury, 2014). In addition, social media sites are primarily organized around people, enabling them to share and interact with one another in a dynamic and multimodal environment (Arquero & Romero-Frías, 2013). Popular examples of social media platforms include Facebook, Instagram, Twitter, Snapchat, YouTube, and Pinterest, but there are many others.

Social media has become a key feature of individuals' interactions and connections today. There are over two billion Facebook users in the world, which means that at least one-in-three people are using social media platforms (Ortiz-Ospina, 2019). According to Pew Research Centre (2019), there are seven in ten Americans who use social media to connect or entertain. For example, about 75% of Facebook users in the United States visit the website at least once a day (Pew Research Center, 2019). Additionally, in the United States, 90% of young adults (aged 18-29) use at least one social media site, and 72% of Americans use social media to connect, engage, entertain, and share information (Pew Research Center, 2019). Social media platforms have seen increasing participation among young people and have become the subject of ongoing discussion and debate in the field of education (Jenkins, 2009). Despite the wide distribution of technology and social media users around the world, using instructional technology (Mehlenbacher, Miller, Covington, & Larsen, 2000) or social media within education systems remains a debatable subject (Ahmed, 2016; Chugh & Ruhi, 2017; Greenhow & Lewin, 2016; Luckin et al., 2009).

1.1.2 Social Media and Education

Many scholars have called for a reformed pedagogy in the 21st century. For instance, Scott (2015) asserts that it is crucial to rethink the pedagogy of the 21st century. She notes that traditional learning methods that involve memorization or application of simple procedure will not promote deep learning, critical thinking, and autonomy. Furthermore, van Laar, van Deursen, van Dijk, and de Hann (2017) assert on the importance of 21st century skills for future workers in this changing world. These skills include collaboration, communication, digital literacy, citizenship, problem solving, critical thinking, creativity, and productivity (Voogt & Roblin, 2012).

The research demonstrates that sharing information and learning through social media platforms can provide engaging learning experiences as participants are able to connect with each other, share their content, and provide feedback. Boyd and Ellison (2007) define social media as:

> Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. (p. 211)

Furthermore, Kaplan and Haenlein (2010) define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (p. 61). They categorize social media applications into the following: (a) collaborative projects (Wikipedia etc.), (b) blogs and microblogs (Wordpress.com, Blogger.com, etc.), (c) content communities (YouTube, Flickr, SlideShare, etc.), (d) social networking sites (Facebook, Instagram, etc.), (e) virtual game worlds (Minecraft, World of Warcraft, etc.) and (f) virtual communities (Second Life, etc.).

It is generally recognized that the accelerating popularity of social media plays a role in the pedagogical implementation of online technologies (Solmaz, 2016). Scott (2015) claims that social media has transformed teaching and learning environments where leaners are able to share experiences through photos uploaded from their phones. Some scholars, such as Berk (2009), believes that the role of social media has changed from a form of entertainment to a way of enhancing learning in the classroom environment. Social media platforms can be used in pedagogical applications in many ways. For example, social media was used as reflection tools, in addition to facilitating classroom discussions (Abe & Jordan, 2013). Social media can support students to have a personal and meaningful learning through connection, collaboration, and shared knowledge building (McLoughlin & Lee, 2007). Educators need to consider the affordances offered by social media which can improve or transform the educational experience (Krutka & Carpenter, 2016). Additionally, they should help their students (who are consuming and producing media contents) to do so "critically, wisely, and creatively" (p. 10).

1.2 Research Questions

To date, and based on my literature search, I did not find a comprehensive systematic literature review that summarizes the existent knowledge about the experiences of teachers and students using social media within classrooms as a pedagogical tool. For that reason, this systematic literature review aimed at presenting the reported views and experiences of teachers and students regarding the use of social media inside elementary and secondary schools, reported challenges, and implication of social media. The study asked:

1. What are the reported teachers' views of their experiences using social media in the classroom as learning tools (e.g., what is thier effectiveness in enhancing student motivation and engagement, and creating a collaborative learning environment)?

2. What are the reported students' experiences of using social media as learning tools inside the classroom, and what are the impacts upon their overall learning?

3. What are the reported challenges or barriers that teachers or students face in using social media in the classroom, and what are some reported ways to address such challenges?

4. What are the implications of using social media in teaching and learning within elementary and secondary classrooms?

In this study, I searched for related articles between 2010 and 2020. When screening, I reviewed articles that explore the use of social media within classrooms at different education levels (i.e., from 1 to 12). Including elementary (i.e., grades 1 to 8) and secondary (i.e., grades 9 to 12) school levels was necessary for providing a summary on views and experiences of participants at different levels, in addition to acknowledging acquired core media literacy social skills and cultural competencies, affordances, and drawbacks.

1.3 Theoretical Framework and Research Methodology

The theoretical framework of this study consists of social constructivism and new media literacies. This systematic review is guided by social constructivism as the sociological theory of knowledge construction. Vygotsky (1978) asserted that meaning making takes place within social interaction. Social constructivism theory views social interactions as a source of learning (Romero-Frías & Arquero, 2009). New media literacies (Jenkins, 2009) also provided lens for me to view meaning making via the use of social media. Jenkins (2009) defines new media literacies as "a set of cultural competencies and social skills that young people need in the new media landscape" (p. xiii). Participatory culture enables strong support for sharing individual's creations within an informal culture. This culture is characterized by having "low barriers" to "artistic expression and civic engagement" (Jenkins, 2009, p. xi). Furthermore, participatory culture expands the focus from "individual expression" to "community involvement" (p. xiii). As Jenkins (2009) states, many have argued that participatory platforms represent ideal learning environments where people can participate more actively than they do with the content of regular textbooks. Scholars, such as Gee (2004), refers to these informal learning environments as "affinity spaces." Powerful learning opportunities are offered by affinity spaces because they bridge differences in age, class, race, gender, and educational level (Gee, 2004). This social dimension of new media literacies is undergirded by the concept of social constructivism as knowledge is "socially" constructed within participatory cultures. Emergence of information and technology, Internet, and social media, has influenced the definition of literacy. Traditionally, literacy is associated with the ability to read and write and is mainly print-based (Cope & Kalantzis, 2009; Harendita, 2016). While textual literacy remains essential as claimed by Jenkins (2009), 21st century students need to adopt new media literacies which should be considered as a social skill (Jenkins, 2009). Today, literacy has been well-explored in the research literature as multimodal and social (e.g., Cope & Kalantzis, 2009; Harendita, 2016; Jenkins, 2009; Li, Snow, & White, 2015; New London Group, 1996; New Media Consortium, 2005; Knobel & Lankshear, 2014; Zhang, Li, Liu & Miao, 2016). Jenkins (2009) contends the social dimension of new media literacies through media education for the 21st century.

According to Jenkins, literacy is expanded from “individual skills” to “social skills” through which collective and creative meaning takes place (p. 32). New media Literacies is concerned with participation, multimodality, and cultural and linguistic diversity (Zhang et al, 2016).

The lens of new media literacies enabled me to contextualize literacy beyond print-based literacy (i.e., the ability to read and write). Furthermore, new media literacies helped me to expand the conceptualization of literacy to cultural competencies, social skills, multimodality, digital literacy, and other forms of meaning making.

This study is a systematic literature review where I conducted thematic analysis as informed by Boyatzis (1998) and Braun and Clarke (2006). I reviewed selected 40 peer-reviewed articles that match the inclusion criteria.

1.4 Study Overview

This thesis includes the following chapters: Chapter 1 provides an overview of the research project by explaining the context, the research problem, and the research questions. In Chapter 2, I present the theoretical framework consisting of two theoretical lenses: social constructivism and new media literacies. Chapter 3 is the methodology chapter which explains the processes of data collection and data analysis as informed by Boyatzis (1998) and Braun and Clarke (2006). Furthermore, I included information about selected articles and indicated limitations of my study. Findings are presented in Chapter 4 after an in-depth thematic analysis. In Chapter 5, I discussed major findings and drew conclusions based on them. I also addressed pedagogical and policy implications, provided recommendations for future research, and included significance of this study.

Chapter 2

2 Theoretical Framework

This systematic literature review (SLR) is informed by the theoretical framework of social constructivism and new media literacies. This chapter will define each theoretical lens in detail, justify the use of each theory and its connection to the research focus, and demonstrate how both lenses are complementary to each other.

2.1 Social Constructivism Theory

Before introducing social constructivism theory, it is important to understand the theory of constructivism (as a solo notion) first, its development into cognitive constructivism, and finally, social constructivism. I believe in the concept of constructivism because of the potential it gives to learning through resources other than just the teacher. Hirtle (1996) states that constructivism challenges traditional hierarchical educational philosophy which assumes that knowledge can only be transmitted from educators to learners.

In 1952, Jean Piaget developed cognitive constructivism theory which states that knowledge is constructed individually through one's experience (Schreiber & Valle, 2013). According to the theory of cognitive constructivism, people can construct new knowledge by connecting to the existing knowledge, which stresses an individual's autonomy (Powell & Kalina, 2009). Social constructivism theory is considered as a branch of cognitive constructivism. In the 1930s, Russian psychologist, Lev Vygotsky (1978), developed the sociocultural theory, later applied and termed as social constructivism by other scholars (e.g., Arquero & Romero-Frías, 2013; Churcher et al., 2014; Hirtle, 1996; Mbati, 2013) which states that knowledge is constructed through communication and interaction with others. Vygotsky expressed that knowledge is co-constructed in a social environment where people use language as a tool to construct meaning through the process of social interaction. The work of Vygotsky focuses on the impact of social and cultural influences on learners through which their diverse

backgrounds and experiences can shape their learning (Schreiber & Valle, 2013). These social and cultural interactions can influence the way students understand and interpret various concepts. Through the theory of social constructivism, students mediate and construct knowledge within a social context (Hirtle, 1996). Thus, social constructivism theory views social interactions as a source of learning (Romero-Frías & Arquero, 2009). Vygotsky (1978) described the process of learning as deeply social. Social constructivism explains the process of learning through building on one's existing knowledge when interacting with others. Therefore, social constructivism situates learning within communities or among social interactions.

To understand how knowledge is co-constructed when using social media in schools, I conducted this systematic literature review through the lens of social constructivism theory. I analyzed 40 studies that focus on school levels from elementary and secondary levels of education and intended to answer questions related to teachers' and students' views about using social media in the classroom as teaching/learning tools. Moreover, this analysis demonstrated reported challenges and implications of using social media within classrooms. I drew on the social constructivism theory and analyzed research findings, discussions, and conclusions in the reviewed studies that focus on learners' and teachers' experiences in using social media as both learning and teaching tools while students build knowledge and interact with one another. Hence, the theory of social constructivism emphasizes building individual's knowledge through socially interacting with others, using social media as a platform for learning and/or teaching may contribute to building knowledge of learners. Through analyzing findings, discussions, and conclusion, in the selected articles, I used social constructivism as the conceptual lens and intended to understand the reported experiences of teachers and students using social media inside their classrooms.

In his work, Vygotsky (1978) analyzed the unique aspects of human behavior through conducting many experiments. His analysis was concerned with issues like the relationship between human beings and their social and physical environment and the nature of the relation between the use of tools and the development of speech. After many observations, Vygotsky (1978) concluded that speech in children plays a very important

role in helping them accomplish their goals or tasks. For example, if children are unable to solve a problem, they might verbally describe what they could not do on their own. As Vygotsky stated in his *Thought and Language* (1986), the primary function of speech whether in children or adults is communication or social contact. Words, whether written or spoken, enables the construction of knowledge when used within a social context (Hirtle, 1996). Human capacity for language enables children to solve challenging tasks, plan a solution to a problem preceding to its execution, and master their own behavior (Vygotsky, 1978).

Vygotsky (1986) described an important concept related to the child's development known as the *zone of proximal development* (ZPD). It is defined as "the discrepancy between a child's actual mental age and the level he reaches in solving problems with assistance" (p. 187). Unlike the *actual development level,* which is the mental development level of the child who has done things alone, the zone of proximal development enables adults to understand the child's mental development level when a child does things with the assistance or in collaboration with others (Vygotsky, 1978). In other words, what children can do with the help of others might be more indicative of the development of their mental functions than what they can do alone. The concept of proximal development encourages the idea of teaching children beyond their actual level of development. To conclude, Vygotsky (1978) proposed that it is essential to let children learn through the zone of proximal development through which internal development is awakened. Most importantly, the internal development process takes place only when the child is interacting and cooperating with other individuals and peers. In this systematic literature review, I decided to use social constructivism, to interpret and understand the potential affordances and/or challenges of social media. As suggested by Vygotsky (1978), creating a zone of proximal development is an essential feature of learning. This means that when the child interacts with others in his environment and in collaboration with his classmates, learning happens and "awakens a variety of internal developmental processes" (p. 90).

There are four critical aspects that constitute a constructivist teaching or learning experience (Baviskar, Hartle & Whitney, 2009). The four elements are eliciting prior

knowledge, creating cognitive dissonance, application of knowledge with feedback, and reflection on learning. The first aspect means that the teacher should elicit prior knowledge of students to link it to the new acquired one. This can be done through different ways such as pre-tests, formal and informal questions, or setting up some activities to draw students' attention to prior knowledge (Mbati, 2013). In the second criterion, learner must differentiate his\her prior knowledge and the new one (Baviskar et al., 2009). It is important for the teacher to provide feedback to students along with the application of new knowledge. Such act will allow students to identify connections between new knowledge and other contexts in addition to interpreting prior knowledge to the context of the new knowledge (Baviskar et al., 2009; Mbati, 2013). The fourth aspect, which is reflection on learning, can be attained through assessment methods like presentations and examinations that contains reflective questions. As a result, students are made aware of the learning that has taken place.

There is a body of literature that connects the notion of social constructivism theory with the use of new media technologies in terms of pedagogical practices within different contexts (Churcher et al., 2014). For instance, Arquero and Romero-Frías (2013) believe that learning within communities is situated in social constructivism, through which learners have the autonomy to create their own content, to share it with others, and to express themselves online. In their research, Arquero and Romero-Frías examine the experiences of students in higher education using social network sites through the lens of social constructivism theory. Learners considered the experience as positive due to active role of students, collaborative learning, promotion of critical thinking, and content learning. Similarly, McLoughlin and Lee (2007) connect social constructivism with Pedagogy 2.0, which enables connectivity, communication, participation, and the development of dynamic communities of learning by making use of social software tools. They investigate the affordances of Web 2.0 and social software and the choices and constraints they offer to teachers and learners in higher education. McLoughlin and Lee believe that learning takes place in a socio-cultural system. Learners interact to create a collective activity and receive support from teachers, peers, and technology. According to McLoughlin and Lee (2007), today's learners look for autonomy, connectivity, and socio-experiential learning. For instance, using social software tools allows learners to be

empowered through the design of such tools which focuses on collaboration and social interaction. Web 2.0 tools offer personalized experience because they provide opportunities away from the basic and centralized model of learning that is teacher-centered rather than student-centered. Additionally, collaborative, networked communication and interaction are being emphasized through the design of Web 2.0 tools. Hence, authors conclude that learners can have the choice to control their own learning when using social software. Moreover, using Web 2.0 software, such as blogs and Facebook, enables exceptional learning opportunities (McLoughlin & Lee, 2007). This happens when students can connect with one another within dynamic social environments instead of learning through non-personalized learning management systems that are designed by administrators. For instance, in Web 2.0, learning content and curriculum are not fixed. Rather, they are learner-generated and open to negotiation based on students' interests when sharing their ideas. In other words, social software allows student-centered learning where users are interacting with one another, asking and answering one another's questions, and commenting on their peers' input.

In their paper, Romero-Frías and Arquero (2009) tend to provide evidence of the impact of using social networking sites at the higher education level through linking social constructivism theory with the use of social networking sites. They believe that the characteristics of social networking sites fit well within the requirements of a social constructivism's approach to education. Through Web 2.0, where social networking sites are one of its forms, teachers and students can have access to a more dynamic, immediate, and communicative environment and, consequently, to a potentially meaningful experience through social constructivist learning. The findings of the study conducted by Romero-Frías and Arquero (2009) show that perceptions of students seem to be positive about using social networking sites as a learning tool. Students reported positive reactions in terms of the increased active role of students, collaboration and content learning, and the promotion of critical thinking.

Previous literature demonstrated how the theory of social constructivism has been applied to studies related to social media. For instance, learners who seek for autonomy, connectivity, and socio-experiential learning can find that through social media tools.

Such learners have the ability to create their own content and share it with others when learning within communities. In other words, today's learners are becoming able to have control over the learning experience due to opportunities offered by social media tools.

2.2 New Media Literacies

'New media literacies' is the second theoretical lens that informed this systematic literature review. Before defining this theoretical perspective, it is important to note that some scholars use a plural form (i.e., literacies) (Jenkins, 2009; Solmaz, 2017) and others use singular form (i.e., literacy) (Chen, Wu, & Wang, 2011; Lin, Li, Deng, & Lee, 2013). In this study I followed Jenkins' (2009) plural form which is new media literacies as I believe that plural form makes more sense in terms of inclusivity of multiple forms of literacy in addition to the following reasons. Jenkins (2008) explains that literacy is not just one thing but rather a set of interconnected skills and practices. Additionally, the field of literacy has moved towards a more expansive conceptualization that includes signs and symbols of culture and communicating through audio-visual media, instead of just specific practices associated with print literacy (Jenkins, 2008). In other words, literacy has evolved from "classic" literacy which is concerned with reading and writing to audiovisual, digital or information literacy and recently to new media "literacy" (Chen et al., 2011, p. 84). Furthermore, Zhang et al. (2016) state that theoretical framework of new media literacies is concerned with "participation, multimodality, cultural and linguistic diversity" (p. 146). New media Literacies is inclusive of multiple forms of meaning making and not only concerned with print-based literacy. Cappello, Felini, and Hobbs (2011) use the concept of "expanded literacy" (p. 68) to highlight the shift from read and write literacy to a one that focuses more on social communication. Lin et al. (2013) state that the role of media in society has been changed which "leads researchers to re-construct the meaning of literacy from classic literacy to new media literacy" (p. 160). Jenkins (2009) defines new media literacies as "a set of cultural competencies and social skills that young people need in the new media landscape" (p. xiii). Moreover, Jenkins (2008) states that the new media literacies "refer to skills which will support young people in their future roles as learners, creators, workers, and citizens" (para. 7).

Many scholars believe that being new media literate is essential in the 21st century society in order to participate responsibly (Chen et al., 2011).

Nevertheless, Jenkins (2009) asserts that "textual literacy remains a central skill in the twenty-first century. Youths must expand their required competencies, not push aside old skills to make room for the new. Second, new media literacies should be considered a social skill" (p. 28). In other words, Jenkins (2009) does not agree with the assumptions in which newer forms of literacy such as digital, visual, or audiovisual will displace reading and writing. Rather, Jenkins stresses that before students could involve with the new participatory culture, they should be able to read and write.

Chen et al. (2011) frame new media literacies as two continua, from consuming to prosuming literacy and from functional to critical literacy. While consuming literacy means the ability to access media and utilize it, prosuming literacy is the ability to produce content. On the other side, in functional literacy, individuals can understand the media content at a textual level while they can analyze, evaluate, and critique media at the contextual and social level. Based on these two continua, there are four types of new media literacy: functional consuming, critical consuming, functional prosuming, and critical prosuming.

Lin et al. (2013) found that Chen et al.'s (2011) framework has two limitations, and they proposed a refined framework that addresses these two limitations. The first limitation that Lin et al. (2013) point to, is that key words mentioned in the four types of new media literacies are not clearly defined and boundaries among them are unspecified. For instance, they believe that it might be challenging to differentiate between "understand" (from functional consuming literacy) and "analyze" (from the critical consuming literacy). The second limitation is that Chen et al.'s (2011) framework does not differentiate between Web 1.0 and Web 2.0. Lin et al (2013) believe that it is significant to distinguish Web 1.0 from Web 2.0 because the latter allows learners to participate as a group, negotiate, and discuss their perspectives while the Web 1.0 does not. Hence, Lin et al. (2013) further expand on the four types of new media literacies by unpacking them into ten more fine-grained indicators and suggest new divide that distinguishes Web 1.0

from Web 2.0. The ten indicators represent consuming media literacy and prosuming media literacy:

1) Consuming media literacy indicators are consuming skill, understanding, analysis, synthesis, and evaluation.

2) Prosuming media literacy indicators are prosuming skill, distribution, production, participation, and creation.

These 10 indicators, along with the core media literacy social skills and cultural competencies suggested by Jenkins (2009) were used as deductive themes in the analysis process. It is important to note that the term "skills" in this MA study refers to the core media literacy skills suggested by Jenkins (2009) and the 10 new media literacies indicators identified by Lin et al. (2013). Figure 1 shows the refined framework of new media literacies (Lin et al., 2013, p.163). Further explanation of the 10 indicators will be presented later in the chapter.

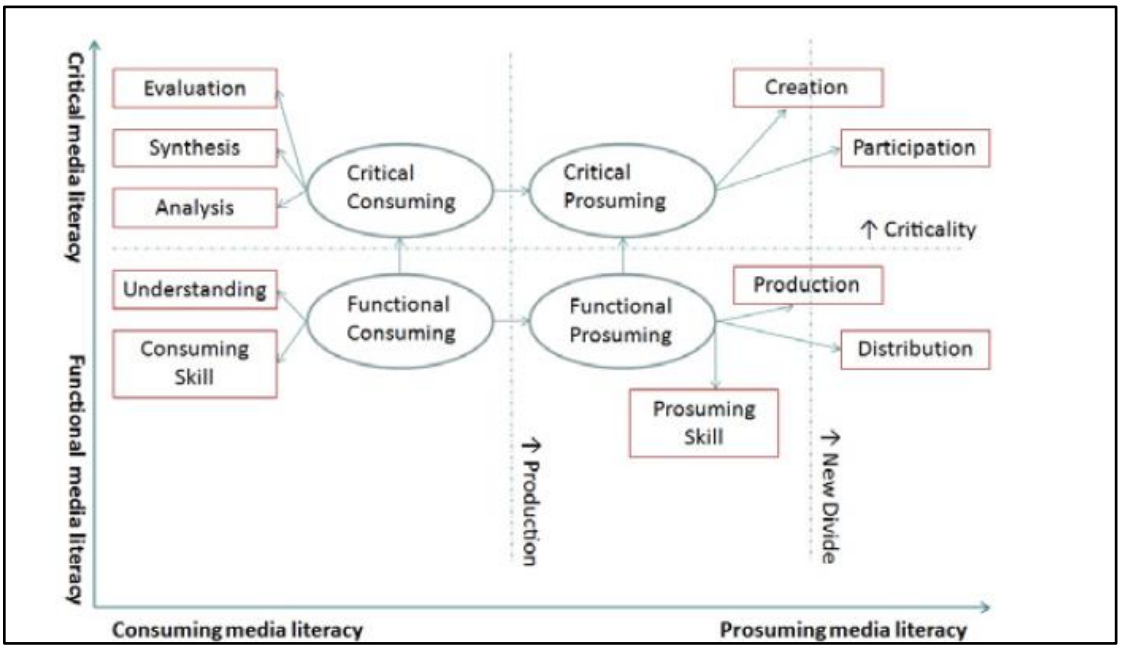


Figure 1: A Refined Framework of New Media Literacies (Lin et al., 2013).

2.2.1 Participatory Culture

Under new media literacies theory, this systematic literature review will be backed up by the framework of participatory culture. Lin et al. (2013) noted that they proposed the 9th indicator *participation* based mainly on Chen et al.'s (2011) framework and Jenkins's (2009) participatory culture. Compared to the first eight indicators mentioned above, participation (the 9th indicator), tends to clearly focus on the social connection among individuals where each contribution is valued (Lin et al., 2013). Participatory culture is created through sharing information and collaboration within social media platforms (Jenkins, 2009). Jenkins defines it as a "culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices", p. xi). In a participatory culture, the emphasis is more on community involvement rather than individual expression where social skills are developed through collaboration and networking (Solmaz, 2017). Through participatory culture, people can participate interactively and critically in new media environments (Lin et al., 2013). Values such as diversity and democracy are embraced in a participatory culture through every aspect of peoples' interaction with each other (Jenkins, Ito, & Boyd 2016).

In a participatory culture, not every member must contribute, but all members feel that their contribution matters and that they are socially connected with one another. One of the characteristics of participatory culture is that it shifts the focus of learning from individual expression to community involvement (Jenkins, 2009). Thus, learning is taking place through participation and sharing information, rather than being an individual process. In a participatory culture, people participate through and within communities where the focus is beyond individual expressions. Rather, it is about "doing it together" in addition to "doing it yourself" (Jenkins et al., 2016, p.278). According to Jenkins (2009), the concept of participatory culture helps new media technology users to utilize media content in new and powerful ways. Many young people are developing different skills, ethical frameworks, and self-confidence which make them full participants in today's culture (Jenkins, 2009). Jenkins expresses that young people are

part of this development process through the following: affiliations (memberships in formal and informal online communities such as Facebook), expressions (producing new creative forms, such as digital sampling and fan videomaking), collaborative problem-solving (working in formal or informal teams to complete tasks and develop knowledge, such as Wikipedia), and circulations (such as podcasting and blogging).

Jenkins (2009) contends that "collective intelligence" is one of the core media literacy skills that students need to acquire to participate in todays' world, which was originally suggested by Pierre Lévy (1997). Jenkins defines collective intelligence as "the ability to pool knowledge and compare notes with others toward a common goal" (p. xiv). Lévy (1997) frames collective intelligence by arguing that nobody knows everything, but each individual knows something and what any person knows can be obtained by the group as a whole. Lévy asserts that individuals should work on developing their own expertise so they can contribute to a collective production of knowledge. Delwiche and Henderson (2012) state that we are living in a world which is being transformed by participatory knowledge cultures. Through these participatory cultures people are working together to collectively classify, organize, and build information. Such ways of gaining knowledge became an integral part of people's lives as they can find answers to their questions or find reviews about books, restaurants, or even college professors (Delwiche & Henderson, 2012).

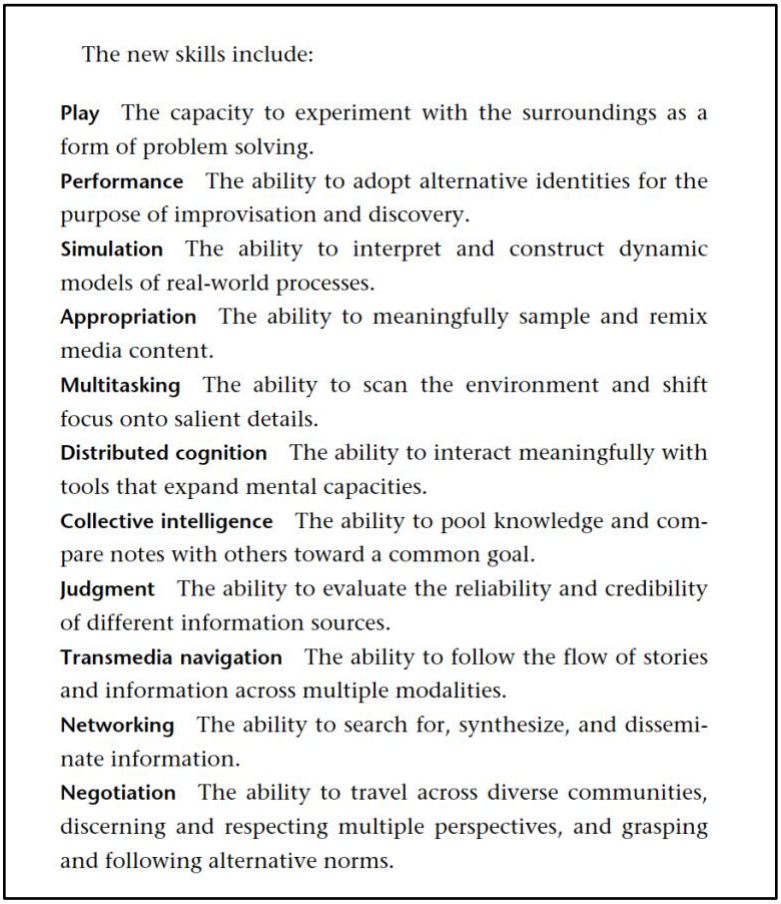
In contemporary times people are producing more media and sharing their creations with each other (Jenkins et al., 2016). Jenkins (2009) advocates for the increasing use of technology in education to decrease participation barriers in schooling. He claims that youth may demonstrate more forms of engagement in their schools when these institutions reflect the participatory culture of many of the spaces that young people inhabit in their time out of school. Powerful learning opportunities are offered by the informal learning environments or "affinity spaces" as named by Gee (2004) because these spaces bridge differences in age, class, race, gender, and educational level. Additionally, participants within these informal learning environments can learn from each other where each participant is sharing content or contributing according to his/her skills and interests (Gee, 2004). Web 2.0 technologies or current social software enable

participants to socially interact and connect with one another within participatory culture (McLoughlin & Lee, 2007).

McLoughlin and Lee (2010) state that it is important for teachers and students to move toward a participatory pedagogy rather than one based on acquiring pre-packaged content. McLoughlin and Lee (2007, 2010) believe that within today's world which is characterized by social mobility, high connectivity, and demand-driven learning, there is a need to reconsider and expand the notion of pedagogy. Such view of pedagogy sees learners as active participants and coproducers of learning resources rather than passive consumers of content where learning becomes participatory and social. With careful planning and a thorough understanding of the dynamics of social software affordances, these affordances stimulate the development of participatory culture (McLoughlin & Lee, 2007). In their paper, McLoughlin and Lee (2007) give examples of these affordances such as: connectivity and social rapport, collaborative information discovery and sharing, content creation, and knowledge and information aggregation and content modification. Besides, Jenkins (2009) states that every child has the right to express himself or herself through different ways like words, sounds, and images. Such experiences of self-expression alter the way children think about themselves and change the way they look at others' work. Similarly, when using social media within classrooms, students have the chance to participate in a platform through writing a text or posting a picture or a video. Additionally, Solmaz (2017) argues that, based on the features of participatory culture defined by Jenkins (2009), social networking sites are the ones of participatory culture through which participants can create, contextualize, and share content in a culture with low barriers for artistic expression and civic engagement. Sharing and participating content in a certain platform will foster the concept of social and participatory pedagogy. Additionally, Jenkins (2009) believes that new media literacies, which include the traditional print-based literacy and the new forms of literacy such as digital media, should be viewed as a social skill—as a way of interacting with others—and not just as an individual skill used for personal expression.

Jenkins (2009) believes that students need to acquire core media literacy social skills and cultural competencies for them to be equal participants in today's world. Youth have the

chance to acquire the following core media literacy social skills and cultural competencies (displayed in Figure 2) when they learn through a participatory culture which is created within informal learning communities found in social media.



The new skills include:

Play The capacity to experiment with the surroundings as a form of problem solving.

Performance The ability to adopt alternative identities for the purpose of improvisation and discovery.

Simulation The ability to interpret and construct dynamic models of real-world processes.

Appropriation The ability to meaningfully sample and remix media content.

Multitasking The ability to scan the environment and shift focus onto salient details.

Distributed cognition The ability to interact meaningfully with tools that expand mental capacities.

Collective intelligence The ability to pool knowledge and compare notes with others toward a common goal.

Judgment The ability to evaluate the reliability and credibility of different information sources.

Transmedia navigation The ability to follow the flow of stories and information across multiple modalities.

Networking The ability to search for, synthesize, and disseminate information.

Negotiation The ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.

Figure 2: Social Skills and Cultural Competencies That Students Need to Acquire, As Suggested by Jenkins (2009, p. xiv).

2.2.2 The 10 Indicators and Suggested Core Media Literacy Skills

Despite the fact the Lin et al. (2013) refer to new media literacy by using a singular form, I believe that referring to their ten indicators remain relevant to my study. Lin et al. (2013) discuss similarities and differences between their “new media literacy” ten indicators and the core media literacy social skills suggested by Jenkins (2009). The following section will further elaborate on these ten indicators created by Lin et al.

(2013) and show how some are different or similar to the social skills suggested by Jenkins (2009):

Consuming Skill. This indicator refers to a set of technical skills that an individual needs when consuming media contents. For example, this skill allows the user to know how to operate a computer and how to search and look for information.

Understanding. It means the ability of an individual to grasp the meaning of media content at a *textual* level only. Lin et al. (2013) state that four of the social skills suggested by Jenkins (2009) are other representative illustration of *Understanding.* These skills are play, simulation, multi-tasking, and transmedia navigation. Understanding media at a *critical* level takes place through the following three indicators (i.e., analysis, synthesis, and evaluation).

Analysis. The ability of an individual to deconstruct media messages by focusing on language, genres, and codes of multiple modalities such as print based and digital.

Synthesis. This indicator shares a similar meaning with Jenkins's (2009) *appropriation.* The former means that an individual can remix media content while integrating his/her own point of view and to recreate media messages.

Evaluation. It represents a higher level of criticality as individuals can question, criticize, and challenge the credibility of media content. The social skills *judgment* presented by Jenkins (2009) is similar to *Evaluation* because it refers to the ability to evaluate the reliability and credibility of multiple information resources.

Prosuming Skill. This indicator refers to a series of technical skills through which individuals can produce/create media contents. For example, creating an online social account and generating different digital artifacts including pictures, and videos.

Distribution. It refers to the individual's ability to publish or share information at hand. Along with *consuming skill* and *synthesis,* this indicator relates to Jenkins' (2009) *networking* skill which focuses on "the ability to search for, synthesize, and disseminate information" (p. xiv).

Production. This indicator refers to the ability to duplicate or mix media contents. It resembles two social skills mentioned in Jenkins' (2009) which are *distributed recognition* and *transmedia navigation.*

Participation. Through this indicator, an individual has to be more critical and aware of the socio-cultural values, ideology, and power embedded in their media participation. *Participation* is based on Jenkins' (2009) participatory culture and can be further illustrated by his *collective intelligence, performance,* and *negotiation.*

Creation. While this indicator shares similarity with *participation* in which both require criticality, *creation* requires an individual to initiate the creation of media content rather than bi-lateral interaction among participants.

When children interact with one another or with adults through using social media platforms they can develop core media literacy social skills and cultural competencies suggested by Jenkins (2009). As for this systematic literature review, I present how the use of social media inside classrooms or within learning institutions can develop such skills.

This systematic literature review is informed by new media literacies (i.e., "a set of cultural competencies and social skills that young people need in the new media landscape" [Jenkins, 2009, p. xiii]) and concepts of participatory culture (including: (1) low barriers to artistic expression and civic engagement, (2) creating and sharing one's creation with a strong support, (3) informal mentorship where the most experienced pass knowledge to novices, (4) participants believe that their contributions matter, and (5) high sense of social connection among members).

Informed by the theoretical framework of social constructivism and new media literacies, I ask questions related to reported teachers' and students' views and experiences about using social media inside classrooms, possible challenges when using social media, and the impacts of using social media platforms on the learning and teaching process. Both the theory of social constructivism and new media literacies can be used to guide this systematic literature review as they connect with each other through the concept of

participatory culture. The theory of social constructivism provides a strong theoretical underpinning about how learning happens socially. Participatory culture offers this study a lens to view how 21st century learners build their knowledge through social media platforms which is a part of new media literacies and Web 2.0.

Chapter 3

3 Methodology

In this chapter I explain the process of data collection and data analysis methods. I list the databases, search terms, and inclusion criteria I used in the study. Readers will see the number of articles that resulted from this search query and how many I included and excluded, and reasons behind that. Additionally, I include further information about selected articles (e.g., chronological, and geographical distribution, summary of education levels, and type of social media sites used). Furthermore, I describe the process I used for thematic data analysis and the development of themes and codes.

3.1 Research Problem

To date and based on my literature search, I have not found a comprehensive systematic review of the perceptions of teachers and students using social media platforms within classrooms as a pedagogical tool. I was looking for articles that highlight teachers' and students' experiences when using social media. Additionally, I wanted to understand teachers' and students' attitudes, reactions, reported drawbacks or challenges and how they were managed. To construct such a review, I searched through ProQuest®, and I selected multiple online databases related to the field of education, such as Canadian Business & Current Affairs (CBCA) Education, Education Resources Information Center (ERIC), and the Educational Database. In order to make sure that there were no previous systematic reviews pertaining to the research questions, I applied the following search query: ((noft(elementary) OR noft(secondary)) AND (noft("student*") OR noft("learners*")) AND (noft(teachers*) OR noft(educators*)) AND (noft("social media") OR noft("social networking* site*") OR (noft("social platform"))) AND (noft(impact*) OR noft(affordances*) OR noft(challenges*) OR noft(perceptions*) OR noft(attitudes*) OR noft(experiences*))) AND noft("systematic review") AND (pd(20100101-20200903) AND PEER(yes)).The search resulted in one book titled: *Engaging Language Learners Through Technology Integration: Theory, Applications, and Outcomes*, which was edited by Shuai Li and Peter Swanson and published in 2014.

Based on my search query and the specified time range, I did not find any systematic literature review paper pertaining to teachers' and students' experiences using social media platforms as a pedagogical tool.

I conducted a systematic literature review (SLR) as this methodology can provide valuable information to respond to the research questions.

Compared with methodologies such as a case study approach, reviewing multiple articles (n = 40) would show the reader how different levels of education (i.e., elementary, middle, and secondary), including teachers and students, would correspond to the use of social media platforms. This systematic literature review also helped me understand trends of using different social media platforms across different levels of education and how social media were utilized.

3.2 Search Preparation and Strategy

Consultations with Western University librarians helped me to prepare the search strategy for this study. In November 2019 I attended a session at Western Library titled *Introduction to Systematic Reviews* by Acting Director of Education Library, Marisa Tippett. In this session, Tippett provided information related to the significance of systematic reviews and offered guidelines in conducting them. Tippett stated that systematic reviews have numerous affordances: they provide a scientific summarization of the literature rather than a subjective one, and they can provide a more reliable evidence which aids decision making. Another useful part of this presentation to my MA study concerned the importance of documenting the methodology. For instance, Tippett recommended researchers keep a list of databases being searched, dates of performing the search, filters or limits used, and search history. Other Western University librarians provided me with additional, target information such as which database could be useful for my MA study. I also learned how to operate search engines and what synonym keywords and\or terms could be used. Linking synonym keywords or terms helped to ensure that applied search query included as many relevant articles as possible.

Based on librarian guidance, I used the following databases to search for related articles: CBCA Education, ERIC, and the Education Database. I used these databases because they included education-related articles and journal papers. To find relevant articles pertaining to the experiences of teachers and students using social media within classrooms as a pedagogical tool, I used a set of keywords. These keywords included social media, social networking sites, social media platforms, student, learner, teacher, educator, perceptions, affordances, challenges, motivation, attitudes, and experiences. Boolean terms such as AND and OR were used in order to link synonym keywords and\or terms when searching. For instance, I used ("social media" AND "social networking sites"). Because researchers might have used different terms corresponding to the same concept, it made sense to include synonym keywords and/or terms. Doing so would potentially include a larger scope when searching articles.

3.2.1 Inclusion Criteria

To make the scope and scale of this systematic review manageable for an MA study, I followed a set of inclusion screening criteria. The inclusion criteria were: (1) peer-reviewed journal papers; (2) published between 2010 to 2020; (3) searchable and accessible on the databases of CBCA Education, ERIC, or Education Database; (4) included findings on experiences, attitudes, or perceptions of teachers or students within the elementary or secondary level of education; (5) included findings related to the use of social media within classrooms as a pedagogical tool; (6) included empirical studies and using qualitative, quantitative, or mixed-method approaches; and (7) was written in English. Articles that did not satisfy the above inclusion criteria were excluded.

To prepare for the thesis proposal, in February 2020, I conducted an initial screening in order to understand the possible scope of the proposed study by using the following search query (SQ1): ((noft(elementary) OR noft(secondary)) AND (noft("student*") OR noft("learners*")) AND (noft(teachers*) OR noft(educators*)) AND (noft("social media") OR noft("social networking* site*") OR (noft("social platform"))) AND (noft(impact*) OR noft(affordances*) OR noft(challenges*) OR noft(perceptions*) OR noft(attitudes*) OR noft(experiences*))). After applying a publication date that spanned

from 01/01/2010 to 02/29/2020 and checking the “peer reviewed” box, the result was a total of 129 hits. After screening abstracts and/or full texts (full-text screening for articles that did not include enough information in the abstracts), I identified 40 potential articles to be included in the systematic literature review, with 89 excluded (see Figure 3). Articles were excluded for different reasons such as duplicates (n = 4) and other reasons ((e.g., non-journal articles, or irrelevant topics (n = 85).

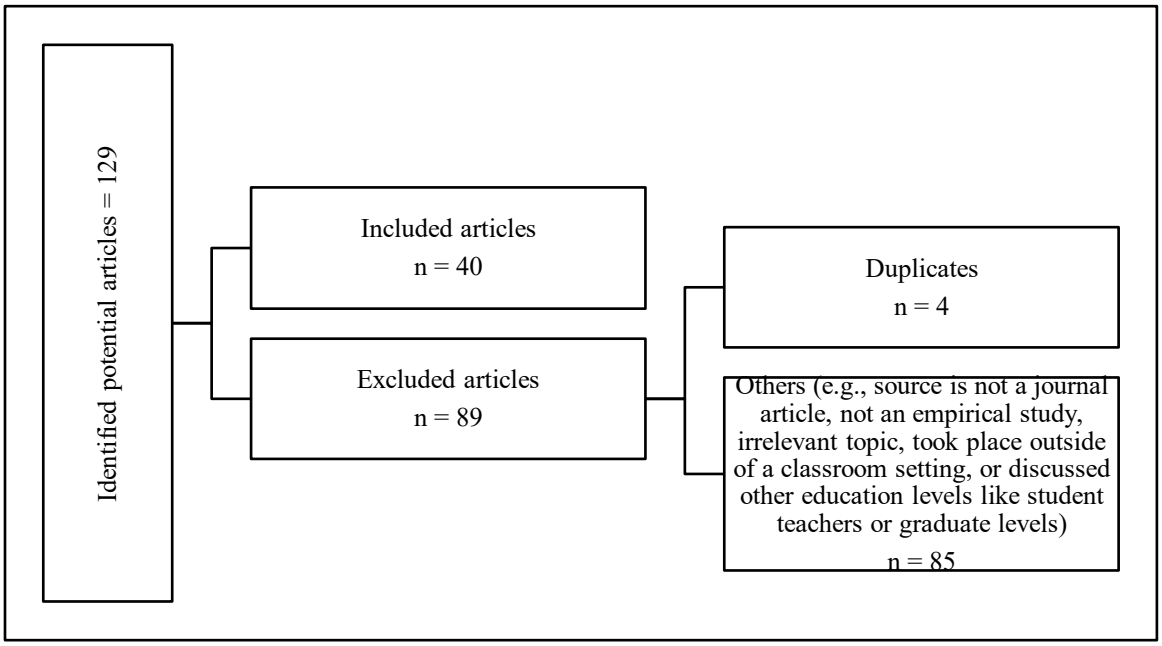


Figure 3: Flow Chart of Articles Screening Results in SQ1(Feb 2020).

To ensure that my systematic literature review included the most updated literature, I conducted a new search at the commencement of the thesis study in September 2020 (SQ2). I repeated the same search query and extended the end date to September 3rd, 2020. I found 152 hits. I checked for overlaps and did a second screening for articles and I identified a total 36 articles from SQ1. I screened new articles that resulted in SQ2 and did not exist in SQ1 and identified 4 articles to be included. In conclusion, I had 40 journal articles from SQ1 and SQ2 for this SLR. The following flow chart (Figure 4) shows the final number of included and excluded articles.

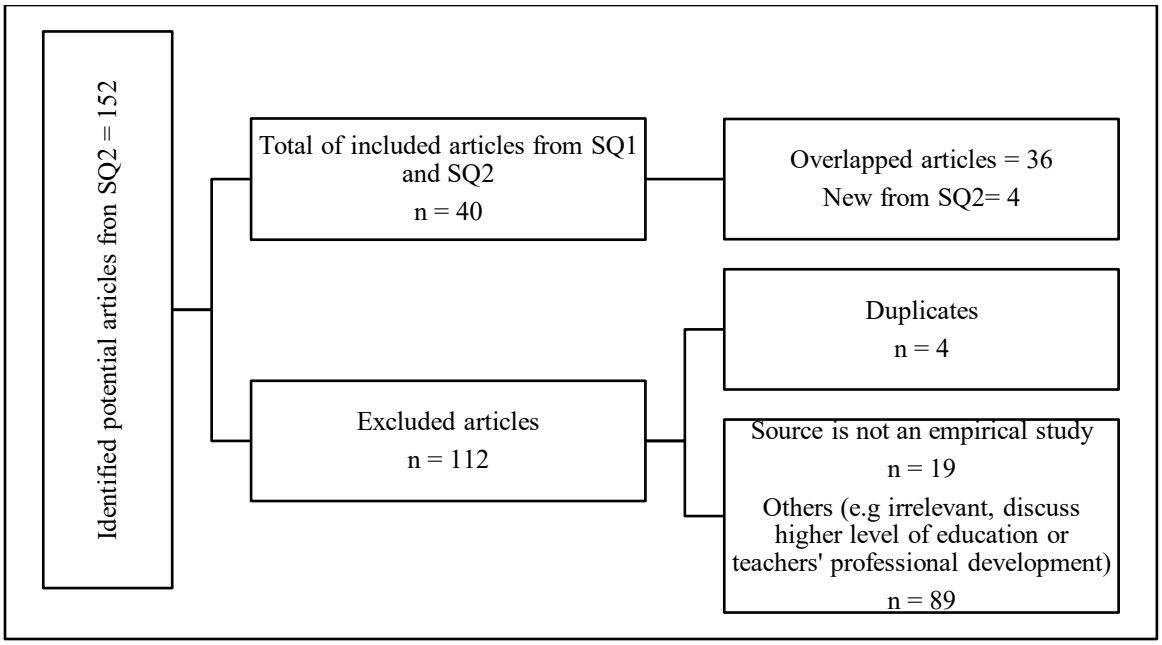


Figure 4: Flow Chart of Final Numbers of Included and Excluded Articles.

As shown in Figure 4, there is a total of 40 papers that met the inclusion criteria from SQ1 and SQ2 and were analyzed for this systematic literature review. 36 of the included articles were present in both search queries (SQ1 & SQ2). Four articles where new from SQ2. There was a total of 112 papers excluded for different reasons. Four articles were duplicates of included ones. 19 of the resulted papers were publications other than empirical studies (e.g., books, conference proceedings, speeches, or presentations). The remaining 89 papers were not included because topics were irrelevant, or they were about graduate education level or related to teachers' professional development. In the screening process, I read titles, abstracts and/or full text for articles that did not provide enough information in the abstracts.

3.3 Information About Selected Articles

In this section I include some information about selected articles such as chronological and geographical (i.e., the country where the study was conducted) distributions of included articles. Additionally, I included summary on education levels in each article and examples of social media platforms/applications used in each study (when

applicable). The following figures (Figure 5 and Figure 6) show the chronological and geographic (i.e., the place where the study took place) distribution of included articles.

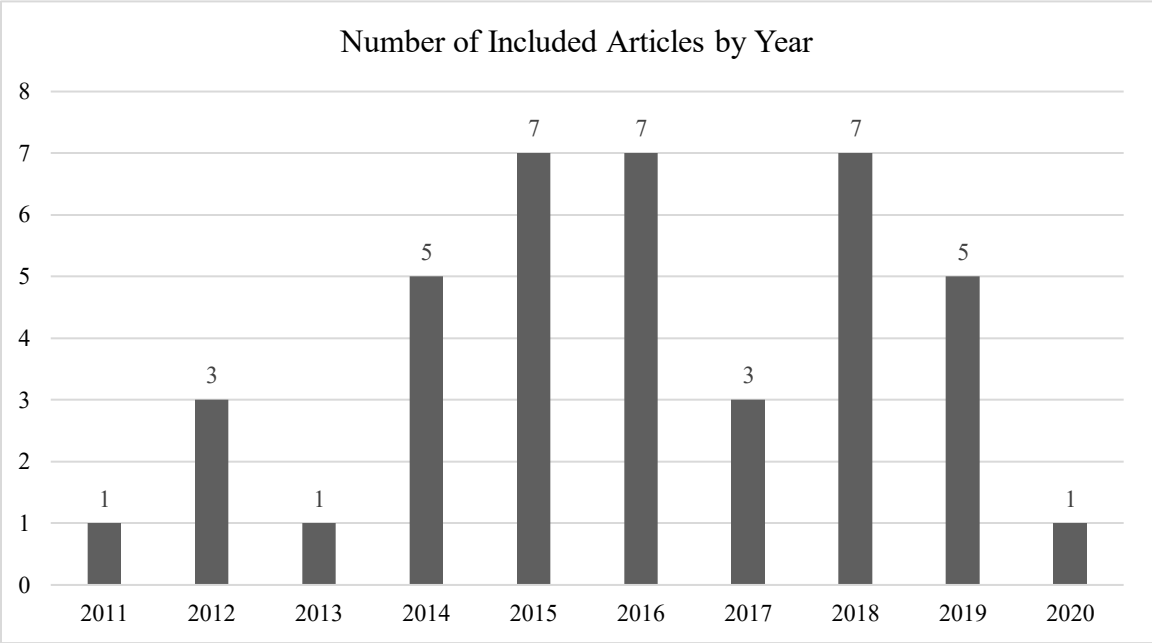


Figure 5: Number of Included Articles by Year.

As shown in Figure 5, the years 2015, 2016, and 2018 had the highest number of published articles (n = 7 each). None was published in 2010.

Figure 6 illustrates the distribution of included articles geographically. Majority of articles took place in the USA (n=14). Three studies were conducted in Canada.

Figure 7 summarizes the Education levels in selected articles which were categorized according to International Standard Classification of Education 2011 (ISCED) published by UNISCO institute for statistics (2012). The reason I categorized the school levels into the three international names as identified by ISCED was to be more specific about which levels were included in reviewed articles. More than half of the articles did not discuss Primary education levels (i.e., grades 1 to 4). I noticed that most of the reviewed studies included higher grades (i.e., Lower and Upper Secondary). To be specific, 27 of the 40 reviewed studies included Upper Secondary level population (whether teachers or students). There are 6 articles that included Primary and other level of education (i.e.,

Lower or Upper Secondary) Based on my review, only two studies explicitly focused on grades 2 and 3 using social media in classroom. Please refer to Appendix A for full list of study IDs and corresponding levels of education.

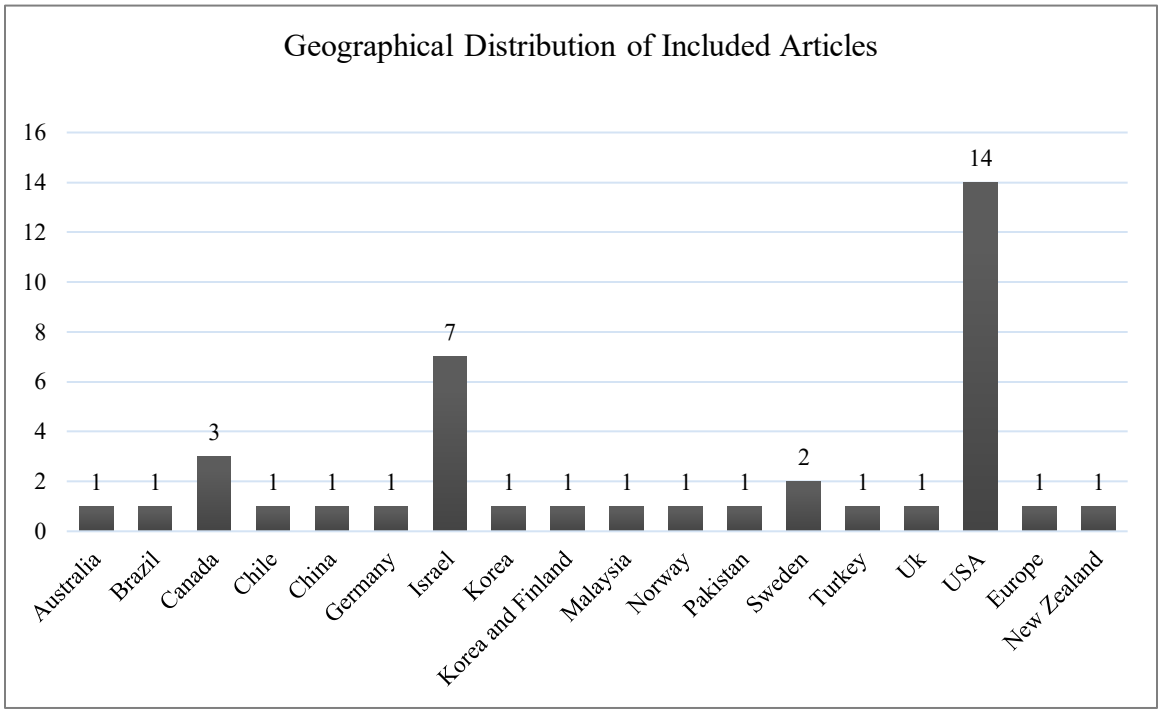


Figure 6: Geographical Distribution of Included Articles.

Reviewed articles included different forms of social media platforms or applications. Some applications were "closed" digital environments (i.e., designed for education purposes and had restricted access to users) (Becker & Bishop, 2016, p. 5). On the other hand, some studies discussed the use of common social media sites like Facebook, Twitter, YouTube, etc. Figure 8 shows that 75% of the reviewed articles used common social media platforms or site. Please refer to Appendix B for full list of study IDs and types of social media used or examined.

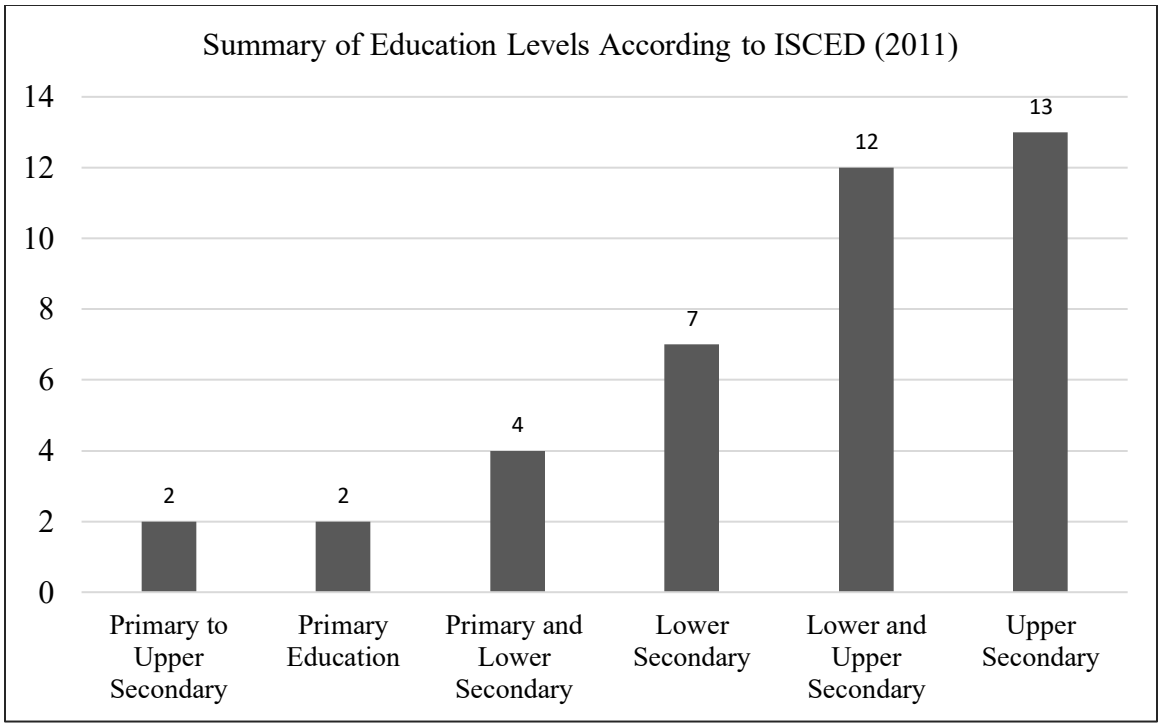


Figure 7: Summary of Education Levels According to ISCED (2011).

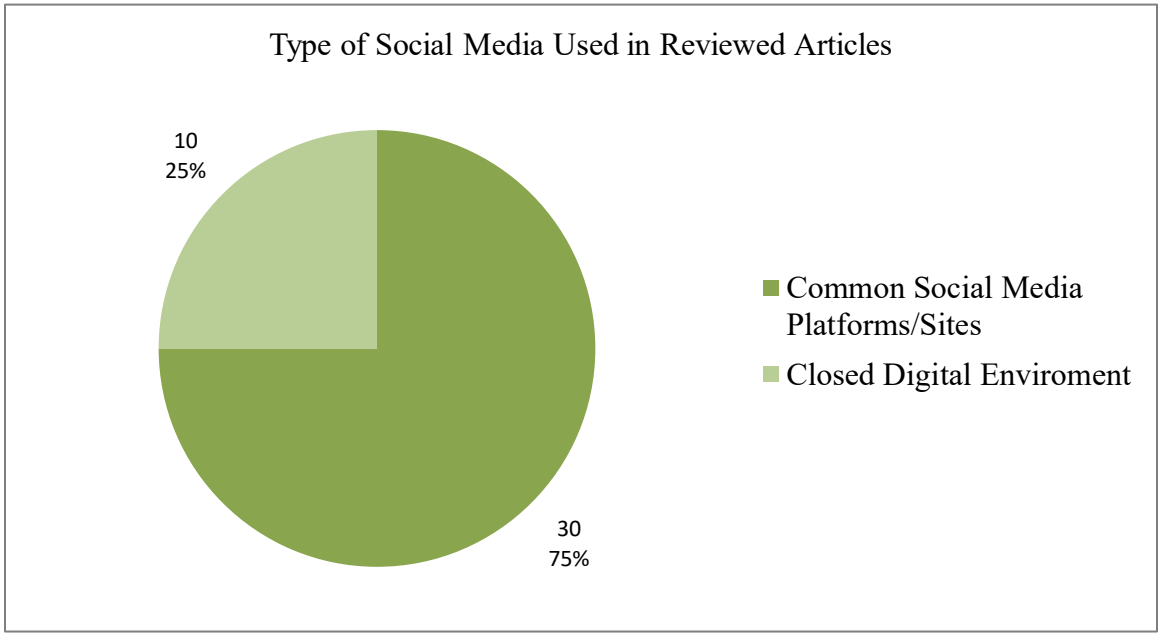


Figure 8: Types of Social Media Used in Reviewed Articles.

3.4 Data Analysis

3.4.1 Methods of Systematic Literature Review

In data analysis, a process of making sense out of data takes place through consolidating, reducing, and interpreting selected literature for review (Merriam & Tisdell, 2016). In order to address research questions regarding the experiences of students and teachers using social media platforms as pedagogical tools within classrooms, as well as possible challenges, I implemented thematic data analysis when reviewing the selected literature. This method was informed by scholars like Boyatzis (1998) and Braun and Clarke (2006). Thematic analysis is defined as a way of seeing and a process for encoding qualitative information (Boyatzis, 1998). Boyatzis states that scholars, observers, or practitioners are enabled to use a wide variety of types of information in a systematic manner through thematic analysis. Moreover, "thematic analysis provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data" (Braun & Clarke, 2006, p. 78). Additionally, Miller and Crabtree (1992) offer domains of study and qualitative research traditions where thematic analysis can be used by researchers. Teaching and learning are one of the domains mentioned and educational research is listed as one of the research traditions. For these reasons, I decided to implement thematic analysis when examining selected articles.

3.4.2 Thematic Analysis

Boyatzis (1998) defines thematic analysis as "a process for encoding qualitative information. The encoding requires an explicit "code." This may be a list of themes; a complex model with themes, indicators, and qualifications that are causally related; or something in between these two forms." (p. 4). Braun and Clarke (2006) refer to thematic analysis as "a method for identifying, analysing, and reporting patterns (themes) within data. It mainly organizes and describes your data set in (rich) detail." (p. 79). After screening and identifying the final number of articles to be analyzed, I thematically analyzed selected articles using NVivo 12 software (QSR International). As informed by Boyatzis (1998) and Braun and Clarke (2006) in this systematic review, I adopted steps

from these scholars that are most relevant to my systematic literature review. Steps I followed to produce my report are mentioned shortly. As mentioned by Braun and Clarke, thematic analysis is a flexible method that can be conducted in various ways. To ensure the validity of my work, I presented in detail all stages of my work, for example, I was clear and specific about what I was doing starting from keywords used, inclusion criteria, numbers of articles included and excluded, and the process of articles analysis.

In my SLR I followed these steps to produce an informative report that responds to my research questions:

1. Identifying relevant articles and deciding on sampling
2. Analyzing articles and developing themes and codes
3. Reviewing themes
4. Reporting findings and producing the report.

3.4.2.1 Identifying relevant articles and deciding on sampling

As mentioned above, after screening the identified potential articles and based on the inclusion criteria, I identified 40 journal articles to be systematically reviewed. Because this paper is a systematic literature review, the samples are the reviewed studies. As a researcher, I did not collect raw data from interviews or questionnaires. Rather, findings, discussions, implications, and conclusions presented in the selected articles became the data of my systematic literature review. For a full list of included articles, see Appendix C.

3.4.2.2 Analyzing articles and developing themes and codes

In this systematic literature review, I developed codes both deductively (using a theory-driven approach) and inductively (using a data-driven approach) as informed by Boyatzis (1998). Because I used existing themes from my selected theoretical lenses (i.e., Jenkins, [2009] & Lin et al, [2013]), a deductive approach for data analysis was implemented as a method of thematic analysis. Since there was a possibility that new themes might emerge

from the analyzed literature, inductive data analysis was implemented as well. According to Boyatzis (1998), theory-driven code development is among the most used approaches in social science research. Through the theory-driven approach, I was able to deductively develop themes that already existed in literature by Lin et al., (2013) and Jenkins (2009). Data-driven analysis or inductive code development means that codes and themes emerge from raw data (Boyatzis, 1998). In this paper, themes emerged from reported findings, discussions, implications, and conclusions in the reviewed articles which are related to my research questions.

Deductive and Inductive Themes

As mentioned previously, I used NVivo 12 to manage the analysis of all selected articles. I exported all articles to be thematically analyzed in the Files section. After that, under the Nodes section I created two main Nodes: *deductive themes and inductive themes.* I started to read each article and simultaneously look for possible deductive themes or discover new inductive themes. The sections below provide more details about deductive and inductive themes.

Deductive Themes. In this systematic review, I deductively derived codes through a theory-driven approach. As explained by Boyatzis (1998), deductive or theory-driven code development means that the researcher uses his or her own theory or someone's else and then proceeds to develop a thematic code that is compatible with his or her theory. In other words, themes can be generated from prior research findings, codes used in previous research, or from a previously established theory. In this systematic literature review, the deductive themes were informed by 1) the ten indicators of new media literacies as suggested by Lin et al. (2013), and 2) core media literacy skills that Jenkins (2009) believes students must acquire when learning through participatory cultures. Here is the list of all indicators and skills informed by Lin et al. (2013) and Jenkins (2009):

1)Ten indicators of new media literacies (Lin et al., 2013): *consuming skill, understanding, analysis, synthesis, evaluation, prosuming skill, distribution, production, participation, and creation.*

2) Core media literacy skills (Jenkins, 2009): *play. performance, simulation, appropriation, multitasking, distributed cognition, collective intelligence, judgment, transmedia navigation, networking, and negotiation*.

Upon reviewing these deductive themes, some of them shared similar meaning or definitions and for that reason, I merged them to avoid redundancy in coding. For instance, **s**ynthesis (Lin et al., 2013) and **a**ppropriation (Jenkins, 2009) were merged as one deductive theme as they have similar definitions. Table 1 shows the list of merged deductive themes and their definitions. Additionally, some of the indicators/skills suggested by Lin et al. (2013) and Jenkins (2009) were not clearly or significantly identified in selected articles and that is elaborated in the findings chapter (please refer to Appendix D for list of all identified deductive themes). In NVivo 12, under the Node (*deductive themes*), I added all possible deductive themes mentioned above as sub-nodes. After that, I started to read each article thoroughly to look for deductive themes and highlight each sentence or paragraph that represents a certain theme. In the findings chapter, I reported identified themes and their frequencies and references in more details.

Table 1: List of Merged Deductive Themes.

Deductive Theme	Definition	Merged
Synthesis (Lin et al., 2013)	Ability to remix media content with integrating their own viewpoints and to reconstruct media messages. For example, individuals are expected to compare news with the same theme from different sources.	✓
Appropriation (Jenkins, 2009)	The ability to meaningfully sample and remix media content	
Networking (Jenkin, 2009)	The ability to search for, synthesize, and disseminate information	
Distribution (Lin et al., 2013)	It refers to individuals' abilities to disseminate information at hand. In other words, distribution of information can be seen as another (or even more effective) means to prosume media	✓
Evaluation (Lin et al., 2013)	The ability to question, criticize, and challenge the credibility of media contents. Compared to analysis and synthesis above, this indicator represents much higher-order criticality though they all acknowledge that media contents are merely human-constructed representation	✓
Judgment (Jenkins, 2009)	The ability to evaluate the reliability and credibility of different information sources	

Inductive Themes. After critically analyzing findings, discussions, implications, and conclusions of selected articles, and when they were not represented by deductive themes, I identified new inductive themes that were frequently reported across multiple articles. These new emerging themes are summarized into the following major categories:

positive impacts on learning, collaborative learning, assessment and feedback, social media as a bulletin board, social media as a supporting channel, possible affordances of social media, identity and relationships building, policy and guidelines, infrastructure and technical support, and identified drawbacks. The theme identity and relationships building included subthemes like social media as a social function and the effect of social media on students' identities. Additionally, affordances included motivation and engagement, individualized learning, and student's autonomy. Drawbacks of social media were distraction from learning, privacy issues, negative behaviors, time management issues, and large or limited number of discussions. Table 2 illustrates identified inductive themes. For reference to numbers and IDs of studies referring to each inductive theme, see Appendix E.

Table 2: List of Identified Inductive Themes.

Inductive Themes
Positive Impacts on Learning
Collaborative Learning
Assessment and Feedback
Social Media as a Bulletin Board
Social Media as a Supporting Channel
Possible Affordances of Social Media
Motivation and Engagement
Individualized Learning
Student's Autonomy
Identity and Relationships Building
Social Function of Social Media
Student's Identity

Policy and Guidelines
Infrastructure and Technical Support
Identified Drawbacks
Distraction from Learning
Privacy Issues
Negative Behaviors
Time Management Issues
Large or Limited Numbers of Discussions

3.4.2.3 Reviewing Themes

As Braun and Clarke (2006) state, when reviewing themes, it will become evident that some themes are not really themes as they do not have enough data to support them, or the data is too diverse. In this step, I went through selected articles for more than one time to ensure that all relevant data is coded and to check if I have missed any findings, discussions, implications, and conclusions without coding them. Additionally, I reviewed themes multiple times to confirm that each one is relevant and presented properly. I was looking at data extracted for each theme and confirm that these data follow a coherent pattern and represent the theme being coded for.

3.4.2.4 Reporting Findings and Producing the Report

This step is where I consolidated all findings, discovered patterns, and became able to respond to my research questions. I analyzed all deductive and inductive themes and connected them to my research questions. I provided sufficient evidence of different themes by providing examples from reviewed articles that capture the essence of the point I am demonstrating. My report is analytical, descriptive, and comprehensive.

3.4.3 Trustworthiness and Validity

To ensure the trustworthiness and validity of my SLR, I reported all my work clearly and explicitly, leaving an audit trail. I included search strategies, keywords and terms, screening criteria, the process of thematic analysis, and a detailed report.

In this chapter, I exhibited the method used for this systematic review. I implemented thematic data analysis as informed by Boyatzis (1998) and Braun and Clarke (2006). In this SLR I did not collect raw data. Instead, my data was the presented findings, discussions, implications, and conclusions in 40 journal articles. I analyzed articles deductively (theory-driven approach) and inductively (data-driven approach). Possible deductive themes were informed by Lin et al., (2013) and Jenkins (2009). I also identified inductive themes that emerged from the process of data analysis.

3.4.4 Limitations

This systematic review has provided a valuable amount of information regarding the use of social media inside classrooms as a pedagogical tool. Having a variety of articles analyzed supports the purpose of this research in terms of providing a wide spectrum of information over multiple geographical regions and educational levels. However, the inconsistency in methods, data collection, and locations could create a limitation.

It is worth noting that each article had different context, theoretical framework, methodology, sample, and education level. Hence variation of social media tools and their application from teacher to another and from class to the other makes it challenging to assess the general effectiveness and value of social media (Anderson, 2019). This SLR had some limitations that can be addressed for future research. For example, since data in this review is not raw data but rather reported findings, discussions, implications, and conclusions, I could not control the population size and level of education being examined, research methodology, data collection and analysis methods and so on. Boyatzis (1998) states that “thematic analysis is sensitive to the quality of the raw data of information” (p. 54). While I made sure that each article is compatible with my inclusion

criteria, I did not have the ability to control different research components like theoretical framework, research questions, methodology, data collection methods and population.

Chapter 4

4 Findings

In this chapter I present findings from systematically analyzing 40 journal articles. I implemented thematic data analysis when reviewing the selected literature. I summarize the findings of this systematic literature review into the following categories: 1) skills acquired when using social media 2) positive impacts on learning, 3) collaborative learning, 4) assessment and feedback, 5) social media as a bulletin board, 6) social media as a supporting channel, 7) possible affordances of social media, 8) identity and relationships building, 9) policy and guidelines, 10) infrastructure and technical support, and 11) identified drawbacks. For list of deductive and inductive themes (including counts of themes frequencies and article IDs), please refer to Appendix D and Appendix E.

4.1 Skills Acquired When Using Social Media

Jenkins (2009) expresses that students need to acquire core media literacy skills to be participants in today's world. In other words, acquiring these skills can prepare young people "to participate fully in public, community, [Creative] and economic life" (New London Group, 2000, p. 9). According to Jenkins (2009), students have the chance to acquire certain social skills and competencies (as elaborated in Chapter 2) when they learn through a participatory culture which is created within informal learning communities found in social media platforms. Similarly, Lin et al. (2013) came up with 10 indicators that represent consuming and prosuming new media literacies. After systematically analyzing selected journal articles (i.e., their findings, discussion, implications, and conclusion sections), I found that many papers reflected the acquisition of some skills and cultural competencies (Jenkins, 2009) and new media literacies indicators (Lin et al., 2013) among students who used social media. When analyzing reviewed articles, I noticed that the frequencies of deductive themes varied. I defined them as the most common (identified in 10 or more articles), less common (identified 5

or more articles), and the least common themes (found in less than 5 articles). I will elaborate on these categories of deductive themes in the following sections.

4.1.1 The Most Common Skills

Based on the reported findings, discussion, implications, and conclusions of the 40 reviewed papers, I found that many articles had sufficient evidence of skills gained from using social media, such as *Participation, Networking/Distribution, Production*, *Creation,* and *Understanding.* Please refer to Appendix D for a list of all identified deductive themes including counts of themes frequencies and IDs of articles.

Through *Participation,* a student can participate interactively and critically in new media environment (Lin et al., 2013). According to Lin et al., *Participation* should be interactive and critical. In the first term, authors "emphasize the bi-lateral interactions among individuals (or participants)" (p. 165). In the latter term of critical participation, Lin et al. focus on "individual's awareness of the socio-cultural values, ideology, and power relation embedded in their media participation" (p. 165). Among 15 of the reviewed articles (i.e., the sections of findings, discussion, implications, or conclusions), I identified similar findings about interactive *Participation* rather than critical *Participation* (Ahn et al., 2016; Becker & Bishop, 2016; Casey, 2013; Cunha Jr. et al., 2016; Eamer et al., 2014; Fewkes & McCabe 2012; Greenhow & Lewin, 2016; Lapp et al., 2014; Lee et al., 2015; Marich, 2016; Molin et al., 2015; Rust, 2015; Sawyer & Sawyer, 2018; Schmier, 2019; Warner et al., 2014). For example, many students were interacting with each other and sharing their ideas through using the social platform Ning (Casey, 2013). Similarly, a study was conducted on grade six students using Ning in their classroom (Eamer et al., 2014). In this paper, students posted their poems on Ning and they were asked to read and comment on each other's work and provide a constructive and/or positive feedback. Another group of elementary students were using Twitter in their classroom (Becker & Bishop, 2016). Becker and Bishop state that students had the opportunity to have mini discussions about science topics when they reply to one another's tweets. Increased opportunities of interactions among secondary students in a Facebook group was noticed in Cunha Jr. et al.'s (2016) paper. Teachers in the latter

study reported that their students started to interact more with them because of using Facebook in classroom.

Students using social media in classroom showed their ability to share and distribute information among different SNS (Ahmed, 2016; Ahn et al., 2016; Becker & Bishop, 2016; Casey, 2013; Cunha Jr. et al., 2016; Eamer et al., 2014; Greenhow & Lewin, 2016; Lapp et al., 2014; Lee et al., 2015; Leppisaari & Lee, 2012; Sawyer & Sawyer, 2018; Scheihing et al., 2018). Jenkins (2009) and Lin et al. (2013) refer to this skill as *Networking* or *Distribution* respectively. In his article, Ahmed (2016) talks about students who became able to share information, communicate and learn which enhanced students' productivity and helped them to learn and work in groups. Students using Ning in Australia were sharing their ideas through this social media tool which made them providers of knowledge for their classmates (Casey, 2013).

Students' abilities to duplicate, mix media contents, and produce any form of media content were reflected in 11 of the reviewed papers (i.e., turning a hard copy document into digital format or producing a video clip by mixing images and audio [Lin et al., 2013]). In other words, students showed the skill of *Production* while using social media (Ahmed, 2016; Ahn et al., 2016; Casey, 2013; Eamer et al., 2014; Hoffman & Ramirez, 2018; Lapp et al., 2014; Leppisaari & Lee, 2012; Li et al., 2015; Rust, 2015; Sawyer & Sawyer, 2018; Shin, 2018). After analyzing an elementary student using Edmodo in classroom, Shin (2018) reports that the student was able to produce a multimedia text which included multiple meaning making resources such as word, image, and sound. Researchers such as Li et al. (2015) notice that 8th graders showed the characteristics of creative producers and digital pioneers who were determinant to learn new technology skills and expressed themselves through creative productions. Another example of *Production* was shown by ninth grade students in Lapp et al.'s paper (2014). These students captured images and voice recorded annotations through an app called ShowMe. Students became able to contribute to their classroom community as the app ShowMe enabled them to create a video and post it in their online class Wiki. In their study, Warner et al. (2014) explore the potential of social media to reinforce environmental learning and action-taking. Researchers observed that students completed follow-up

activities where they wrote stories, created video interviews, and uploaded them in the blog. Elementary students using ScienceKit (a social media application developed for kids) in their science class were able to use the app and introduced themselves through text, drawings, videos, photos, or a combination of some (Ahn et al., 2016).

There were 10 papers that reflected the skill of *Creation* (Becker & Bishop, 2016; Casey, 2013; Cunha Jr. et al., 2016; Eamer et al., 2014; Greenhow & Lewin, 2016; Lapp et al., 2014; Leppisaari & Lee, 2012; Marich, 2016; Rust, 2015; Warner et al., 2014). Lin et al. (2013) refer to *Creation* as a set of abilities to create media contents and it requires a person's own initiative rather than bi-lateral interaction with other individuals. In her article, Marich (2016) focuses on an 8-week journey of a primary teacher who used Twitter in her classroom. This article shows an example of a students who showed her ability to create her own tweet that is concise and complete, by week 7. Lapp et al. (2014) assert that students become creators of information rather than just consumers as they use different SNS such as Facebook, Twitter, and Instagram.

Lin et al. (2013) define *Understanding* as the ability to grasp the meaning of different media contents or understand others' ideas published on various platforms such as blogs, Facebook, or Twitter. There are 10 studies which reported that students exhibited *Understanding* (Affeldt & Eilks, 2018; Ahmed, 2016; Ahn et al., 2016; Becker & Bishop, 2016; Eamer et al., 2014; Lapp et al., 2014; Lee et al., 2015; Leppisaari & Lee, 2012; Marich, 2016; Rosenberg & Asterhan, 2018). In other words, students exhibited *Understanding* through using social media in classrooms. In their research to understand student's perception of lab instructions based on internet and social media designs, Affeldt and Eilks (2018) conclude that many students noted that instructions were appealing. Having scientific information presented in such appealing way, made it easier for students to understand concepts as they reported. Lapp et al. (2014) assert that students experienced different skills like communication, collaboration, deeper inquiry and thinking, reflection and *Understanding* through using social media. For instance, students used *Weebly* (an online website creating service) and they demonstrated their *Understanding* of the literature by producing a website and sharing their short stories in English class.

4.1.2 Less Common Themes

I found the skills*, Consuming Skill, Distributed Cognition, Negotiation, Simulation, and Play* in fewer articles (i.e., found in 5 or more articles). These skills are significant for students to have when learning through a participatory culture, nevertheless, were not reflected by many students. Yet, I find it relevant to mention some examples of these skills to understand how they were reflected among reviewed papers.

With evidence found in 9 articles, many students exhibited *Consuming Skill* (i.e., set of technical skills that individual needs when consuming media content [Lin et al., 2013]) (Ahmed, 2016; Ahn et al., 2016; Becker & Bishop, 2016; Hoffman & Ramirez, 2018; Lapp et al., 2014; Laronde et al., 2017; Molin et al., 2015; Saban, 2020; Schmier, 2019). In his paper, Ahmed (2016) states that using social media helped students to be very oritented with uing computers and understand internet technology. Students had to learn skills like how to search/locate information, how to use ICT, and so on. Hoffman and Ramirez (2018) state that students had a sense on how to search through technology to find answers. Findings from Laronde et al.'s study (2017) revealed that students could use the internet to search for information while in school.

Based on my review, I found some students used multiple resources through Web 2.0 and social media to build their knowledges (i.e., *Distributed Cognition)* (Ahn et al., 2016; Casey, 2013; Cunha Jr. et al., 2016; Greenhow & Lewin, 2016; Saban, 2020; Schmier, 2019; Shin, 2018). For instance, Cunha Jr. et al. (2016), found that secondary students who used Facebook were able to bring information and knowledge through links to blogs, external websites, videos, texts, and images. Connecting learned concepts to real-life is an essential core new media literacy skill that students expected to have when learning through a participatory culture. In Greenhow and Lewin's study (2016), students were able to use different media tools such as games making, 3D printing/design and media recording. A Student in Shin's (2018) study was able to access various meaning making resources/modes (e.g., word, image, color, and sound) through composing with Glogster.

Negotiation (i.e., being able to negotiate across different perspectives and respect diverse point of views [Jenkins, 2009]) was partially present in 7 reviewed papers (Becker &

Bishop, 2016; Casey, 2013; Eamer et al., 2014; Lee et al., 2015; Saban, 2020; Sawyer & Sawyer, 2018; Schmier, 2019). I say partially because students might have the skill to understand and respect different perspectives but not necessarily "embracing" differences (Jenkins, 2009, p. 99). For instance, a student in Lee et al.'s study (2015) said that using SNS made him accept and understand various ways of thinking and not be judgmental or narrow-minded. Additionally, Saban (2020) reported implications of watching YouTube and 68 of the 134 students stated that YouTube helped them to "recognize different cultures" (p. 123). Eamer et al. (2014) refer to main insights gained from the integration of SNS in classroom. One of these insights is that social media tools enabled students to cross cultural borders and to easily share information about their cultural heritage while being aware of diversity in class.

Jenkins (2009) defines *Simulation* as "the ability to interpret and construct dynamic models for real-world process" (p. 41). Seven of the reviewed articles referred to this skill (Affeldt & Eilks, 2018; Ahmed, 2016; Ahn et al., 2016; Becker & Bishop, 2016; Casey, 2013; Leppisaari & Lee, 2012; Subramaniam et al., 2012). Students stated that Twitter allowed them to connect with real scientists through following them on Twitter (Becker & Bishop, 2016). In Becker and Bishop's study (2016), Twitter has helped students to think bigger about science. 90% of surveyed students agreed or strongly agreed that using Twitter aided them to connect between science and their own lives and interests (Becker & Bishop, 2016). Students were able to make such connections because of the use of Twitter for learning within academic settings. Another example is that students were able to connect environmental learning to real world through using Edu 2.0 (Leppisaari & Lee, 2012). Teachers in that study designed tasks for students, through which they found out how recycling happened in their city. Student interacted and searched for information and shared images that supported the concept of knowledge visualization. In his discussion, Ahmed (2016) mentions that using social media would support learners to make connections and build up professional relationships within the field where they would like to purse their careers, and consequently, survive in the professional world.

Reported findings reflected the acquired skill of *Play* after using social media (Greenhow & Lewin, 2016; Leppisaari & Lee, 2012; Marich, 2016; Sawyer & Sawyer, 2018; Subramaniam et al., 2012). As stated by Jenkins (2009), the skill of *Play* enables a student to "experiment with one's surroundings as a form of problem solving" when learning in a participatory culture (p. 35). Students in Greenhow and Lewin (2016) shared knowledge about volcanos, with their classmates, through a game format (e.g., crossword puzzle, quiz, or a videogame). Other elementary student tweeted responses to math shape riddles in Twitter (Marich, 2016).

4.1.3 Least Common Themes

Here, I provide few examples of the least identified deductive themes such as *Synthesis/Appropriation, Evaluation/Judgment, Performance* and *Analysis.* These skills were found in less than five articles, but it is important to view some examples and understand how they were reflected among reported findings.

There are four articles that reflected the theme *Synthesis/Appropriation* (Ahn et al., 2016; Becker & Bishop, 2016; Lee et al., 2015; Subramaniam et al., 2012). Lin et al. (2013) refer to Synthesis as a consuming skill where individuals have the ability to "remix media content with integrating their own viewpoints and to reconstruct media messages" (p. 164). Similarly, Appropriation is defined as "the ability to meaningfully sample and remix media content" (Jenkins, 2009, p. 55). An example of synthesis or appropriation is found in Subramaniam et al.'s study (2012) who mention that students had the chance to practice information appropriation skills when using the social network Sci-Dentity. For instance, this online community allowed them to remix each other's stories. Elementary students using Twitter demonstrated an example of synthesis as they could "favorite" an interesting tweet and/or add it to their electronic portfolio named "Science I like!" (Becker & Bishop, 2016, p. 7). Student added a favorite tweet to their e-portfolio by taking a screenshot of that tweet, posting it in the portfolio, including a link to the original one and reflecting on the content.

Based on my review, I found one article (e.g., [Laronde et al., 2017]) that exhibited a clear example of acquiring the skill of *Evaluation/ Judgment.* Evaluation means "the

ability to question, criticize and challenge the credibility of media contents" (Lin et al., 2013, p. 164). Similarly, Jenkins (2009) defines judgment as individual's "ability to evaluate the reliability and credibility of different information sources" (p. 79). According to the Laronde et al.'s study (2017), more than 50% of participant students felt confident in their ability to judge the accuracy of information found on the Internet. The other article exhibited the judgment skill but on a superficial or enclosed (i.e., within the social site) level (Casey, 2013). Through Ning, students had the ability to categorize and judge the content posted by classmates and might mark it as a 'favorite' (Casey, 2013).

Only two articles identified *Performance* (Leppisaari & Lee, 2012; Subramaniam et al., 2012). Through the social skill *Performance,* student can play different people's roles and think and act from another's views (Jenkins, 2009). In my review, I did not notice many students acquiring this skill as reported in the reviewed articles. Subramaniam et al. (2012) mention that students reflected *Performance* when sharing stories on Sci-Dentity where they represented themselves as different characters inspired by friends, families, or other people in their lives. Digital native students' role may alternate as they receive and share knowledge with peers (Leppisaari & Lee, 2012). In other words, learners might find themselves as teachers because of their ability to share knowledge with classmates.

The skill of *Analysis* refers to "the ability to deconstruct media messages" (Lin et al., 2013, p. 164). Students in one reviewed article (e.g., Cunha Jr. et al., 2016) exhibited *Analysis*. In Cunha Jr. et al.'s study (2016), a science teacher used online group to complement what was studied in class by posting videos and links to external websites. She also invited students from different classes (grades 8 & 9), where younger students had the chance to see how grade 9 students discussed science topics. In the questionnaire, the teacher stated that these students were able to act critically to what was discussed in the classroom through videos and references posted in Facebook.

In this SLR, I noticed that skills like *Participation* was the most identified deductive theme among reviewed articles. *Networking/Distribution* was the second most identified deductive theme. Reported findings show that using social media in class enhanced the acquisition of such some new media literacy skills. On the other hand, skills like

Evaluation/Judgement, and *Performance* only appeared in two articles and *Analysis* was identified in one article. Hence, it is important to understand why some skills were not acquired as much as others.

4.2 Positive Impacts on Learning

Using social media in classrooms had positive impacts on learning and assisted students in knowledge construction and meaning making (Affeldt & Eilks, 2018; Ahn et al., 2016; Becker & Bishop, 2016; Casey, 2013; Cunha Jr. et al., 2016; Eamer et al., 2014; Hoffmann & Ramirez, 2018; Kio, 2015; Lee et al., 2015; Leppisaari & Lee, 2012; Li et al., 2015; Marich, 2016; Mourlam, 2014; Peck et al., 2015; Saban, 2020; Shin, 2018; Warner et al., 2014; Yunus et al., 2019). Teachers noticed increased interest from students to learn extra information through online groups (Cunha Jr. et al., 2016). Teachers found that SNS had a positive effect on the improvement of learning competence. For instance, after analyzing students' reactions, teachers noticed that students' interest, concentration, understanding, and practical ability have enhanced (Lee et al., 2015). Similarly, many students in the study by Lee et al. believed that SNS could be used as instructional method in classrooms. They agreed that social media helped them to understand learning contents and memorize them. A sixth-grade teacher used social media (Glogster and Edmodo) in her English and Language Arts (ELA) lessons, and she expressed that learning through Glogster motivated students' learning, reading, and writing. Visualization of knowledge through Web2.0 tools have significantly facilitated knowledge construction especially when there was a language barrier between students (Leppisaari & Lee, 2012). Some teachers showed films from YouTube to facilitate literacy instruction (Li et al., 2015). Majority of students (n=93) stated that watching videos on YouTube had a positive impact on learning their lessons (Saban, 2020). They utilized YouTube to learn about the subjects they did not understand, get information, and watched related lesson videos. Using social media in classrooms was viewed by some teachers as an asset for learning (Warner et al., 2014). For instance, one of the teachers stated that students were able to meaningfully understand and discuss the comments on the blog at a given point in time.

4.3 Collaborative Learning

Among the 40 journal articles, 16 articles showed the benefits of collaborative learning when using social media (Ahmed, 2016; Ahn et al., 2016; Becker & Bishop, 2016; Cunha Jr. et al., 2016; Eamer et al., 2014; Fewkes & McCabe, 2012; Greenhow & Lewin, 2016; Hoffmann & Ramirez, 2018; Kio, 2015; Lee et al., 2015; Leppisaari & Lee, 2012; Li et al., 2015; Rosenberg & Asterhan, 2018; Sawyer & Sawyer, 2018; Schmier, 2019; Shin, 2018). In his study about integrating social media in secondary schools, Ahmed (2016) states that quality of collaborative learning for students has increased through social networking. Students became able to learn and work in teams. Additionally, Facebook groups created a collaborative environment among students which led to increased interactions (Cunha Jr. et al., 2016). 73% of surveyed students in Fewkes and McCabe's study (2020) believed that Facebook could be used as an education tool due to many benefits that it could offer, and group collaboration was one of them. Creating a collaborative online learning environment can be accomplished through social media platforms as students have a strong interest in such platforms (Li et al., 2015).

4.4 Assessment and Feedback

Implementing social media in classroom has facilitated assessment and feedback either by teachers or peer-to-peer feedback (Ahmed, 2016; Ahn et al., 2016; Becker & Bishop, 2016; Casey, 2013; Eamer et al., 2014; Greenhow & Lewin, 2016; Hoffman & Ramirez, 2018; Kio, 2015; Lapp et al., 2014; Laronde et al., 2017; Lee et al., 2015; Rust, 2015; Scheihing et al., 2018; Shin, 2018; Warner et al., 2014). For example, a teacher used Twitter to assess students by asking them to tweet examples of specific science concepts (Becker & Bishop, 2016). By monitoring students' tweets, the teacher was able to understand the performance of each student. Additionally, Becker and Bishop found that formative and multi-sourced feedback can be accomplished when students' tweets are displayed on the smart board. Learners had positive attitudes towards using SNS as an effective feedback tool (Kio, 2015). In this paper, the teacher encouraged students to provide their own feedback to each other and then the teacher incorporated the peer feedback into the teaching. According to Casey (2013), students were able to get

personalized feedback from their peers and teachers. Each student had their own ‘My Page’ which was easily accessible. Teacher asked students to provide constructive peer-to-peer feedback to each other’s’ work posted on the blog.

4.5 Social Media as a Bulletin Board

Many students and teachers utilized social media in class as an organizational tool. Findings from 10 papers highlighted the use of SNS as a bulletin board (Cunha Jr. et al., 2016; Eamer et al., 2014; Fewkes & McCabe 2012; Kio, 2015; Lee et al., 2015; Li et al., 2015; Marich, 2016; Mourlam, 2014; Rosenberg & Asterhan, 2018; Warner et al., 2014). For instance, findings by Rosenberg and Asterhan (2018) indicate how WhatsApp teacher-student groups could be useful for organizational purposes (e.g., sending and receiving updates, and managing learning activities). Teachers use social media as a communication tool with their students mainly for announcements or class management (Lee et al., 2015). In Mourlam’s study (2014) about teachers and students perceptions of using Facebook for learning, one teacher reflected on the potential of using Facebook group as a venue to inform students of assignments and deadlines. In Brazil, Cunha Jr. et al. (2016) conducted a study on how teachers used groups on Facebook and how communication between teachers and students was affected. It was found that all analyzed participating groups (Biology, Sciences, History, English, and Portuguese) have used Facebook groups as the class routine/agenda. For instance, 75% of the History teachers’ posts were mainly for class routine/agenda. Students surveyed by Fewkes and McCabe (2012) also mentioned that their teacher used to send them reminder messages of upcoming tests or quizzes.

4.6 Social Media as a Supporting Channel

Communicating through social media helped students to receive timely support from their peers or teachers with learning as shown in 11 reviewed studies (Eamer et al., 2014; Fewkes & McCabe 2012; Helleve & Almås, 2017; Hershkovitz & Forkosh-Baruch, 2017; Hershkovitz & Forkosh-Baruch, 2019; Kio, 2015; Lee et al., 2015; Li et al., 2015; Rosenberg & Asterhan, 2018; Saban, 2020; Yunus et al., 2019). Fewkes and McCabe

(2012) conducted research to understand how secondary school students have been using Facebook in school. 73% of students who completed the questionnaire had used Facebook for educational purposes and stated some examples. One of them, was asking teachers or friends about homework. Similarly, students in Yunus et al. (2019) mentioned that they like to use social media to ask about homework whenever they feel stuck. Hershkovitz and Forkosh-Baruch (2019) found that many students referred to the benefits of friending their teachers on Facebook. They mentioned teacher's direct support and assistance as one of the advantages when connecting through social media sites. One of the applications of SNS in classrooms was providing counseling to students through these tools as Lee et al. (2015) state.

In sum, using social media had positive impacts on learning and assisted students in knowledge construction and meaning making. Collaborative learning was promoted among learners using social media. Additionally, social media facilitated the process of feedback from teachers to students or among students themselves. Getting information related to classroom quizzes, homework, and any other related information (e.g., extra-curricular courses, information about admission exams for universities, and posting reminders of homework deadlines or exams) was enabled by applications like WhatsApp for instance. Finally, students can get school-related or personal support from their classmates and teachers through SNS.

4.7 Possible Affordances of Social Media

In addition to acquiring core media literacy skills, assisting knowledge building, enhancing collaborative learning and timely support, and facilitating feedback and assessment, social media sites were reported to provide other affordances. 22 articles reflected affordances such as motivation and engagement, individualized learning, and student autonomy (Affeldt & Eilks, 2018; Ahmed, 2016; Ahn et al., 2016; Becker & Bishop, 2016; Casey, 2013; Cunha Jr. et al., 2016; Eamer et al., 2014; Greenhow & Lewin, 2016; Hoffman & Ramirez, 2018; Kio, 2015; Lapp et al., 2014; Laronde et al., 2017; Lee et al., 2015; Leppisaari & Lee, 2012; Marich, 2016; Rust, 2015; Sawyer &

Sawyer, 2018; Scheihing et al., 2018; Schmier, 2019; Shin, 2018; Warner et al., 2014; Yunus et al., 2019).

Using social media for learning made many students feel motivated, engaged, encouraged, and more confident to share knowledge with classmates (Affeldt & Eilks, 2018; Ahmed, 2016; Ahn et al., 2016; Casey, 2013; Cunha Jr. et al., 2016; Eamer et al., 2014; Hoffmann & Ramirez, 2018; Kio, 2015 ; Lapp et al., 2014; Laronde et al., 2017; Lee et al., 2015; Leppisaari & Lee, 2012; Rust, 2015; Sawyer & Sawyer, 2018; Scheihing et al., 2018; Schmier, 2019; Shin, 2018; Warner et al, 2014; Yunus et al., 2019). In a study conducted by Affeldt and Eilks (2018), a questionnaire with ten Likert scale items and two open-ended questions was distributed on 116 students. Most of the students (84%) agreed or mostly agreed that lab instructions based on social media designs were appealing. 71% saw them as interesting, and 66% believed they are realistic. Elementary students using ScienceKit showed engagement and excitements when watching an experiment and rush to record what happened in ScienceKit and engaged with each other (Ahn et al., 2016). In a survey by Hoffman and Ramirez (2018), 76% of the students stated that they were more engaged when their teacher communicated with them through social media. One of the teachers in Cunha Jr. et al.'s study (2016) noticed students' increased interest when he shared links to videos and texts in a Facebook group for a biology class. Additionally, many students felt enthusiastic about the blog and liked having others commenting on their posts (Warner et al., 2014). Students felt engaged and were motivated to learn writing and improve their skills through communicating with classmates on social media (Yunus et al., 2019).

Using social media in learning facilitated individualized learning experience. In other words, education became more student-centered than teacher-centered, and this was evident in 8 articles (Ahn et al., 2016; Becker & Bishop, 2016; Casey, 2013; Greenhow & Lewin, 2016; Hoffman & Ramirez, 2018; Laronde et al., 2017; Lee et al., 2015; Marich, 2016). For instance, Casey (2013) asserts that blogs and student-directed groups provided students with a more individualized learning space than the face-to-face classroom. For instance, learners were able to get personalized feedback (from peers and teachers) and could share and build knowledge based on their interests through creating

their own groups and discussion forums. While social media were primarily used for teacher-initiated learning, Greenhow and Lewin (2016) state there were some shifts towards “user-generated” learning through using social media, such as Facebook. Students were able to contribute to social construction of knowledge in ways unplanned and unseen by the teacher (p. 17). In a study conducted by Lee et al. (2015) about perceptions of teachers and students towards educational applications of SNS, a teacher stated that using SNS was very helpful for planning student’s activities and schedule, which was achieved based on students’ feedback and not on his own preferences.

Promoting student autonomy is another benefit of using social media platforms. Findings from five studies (Ahmed, 2016; Ahn et al., 2016; Eamer et al., 2014; Greenhow & Lewin, 2016; Yunus et al., 2019) show that self-paced, independent, and responsible learning was promoted when teachers implemented social media in learning. Greenhow and Lewin (2016) state that social media successfully allowed students to become more autonomous. Additionally, findings by Ahmed (2016) show that teachers used different social media tools to promote self-paced learning. Students who used Ning had a sense of agency and control and these elements were significant in the process of becoming autonomous individual (Eamer et al., 2014). According to Yunus et al. (2019), the integration of social media encouraged students to be independent and responsible for their own learning through searching for educational related materials online.

To sum up, findings above show that social media are useful in the education field in various ways. For instance, it made learners feel encouraged, and motivated to learn. Social media promoted a more individualized learning experience where learning activities can be customized based on students’ preferences. Additionally, student autonomy in learning was fostered due to using of SNS in classrooms.

4.8 Identity and Relationships Building

Using social media influenced how some students identified themselves (Eamer et al., 2014; Molin et al., 2015; Rosenberg & Asterhan, 2018; Rust, 2015). Additionally, findings of reviewed studies revealed that students did not only use social media for

learning, but they also used it for its original purpose which is socializing with other classmates or even teachers (Ahmed, 2016; Ahn et al., 2016; Cunha Jr. et al., 2016; Eamer et al., 2014; Forkosh-Baruch & Hershkovitz, 2018; Hershkovitz et al., 2019; Hershkovitz & Forkosh-Baruch, 2017; Hershkovitz & Forkosh-Baruch, 2019; Kio, 2015; Lee et al., 2015; Li et al., 2015; Molin et al., 2015; Rosenberg & Asterhan, 2018; Rust, 2015; Sawyer & Sawyer, 2018; Schmier, 2019; Shin, 2018; Yunus et al., 2019).

To some degree, using social media among students had influenced their realization of their identities as well (Eamer et al., 2014; Molin et al., 2015; Rosenberg & Asterhan, 2018; Rust, 2015). According to Molin et al. (2015), teachers of students with intellectual disabilities believe that the internet, in general, and social media can provide great opportunities for students to access a wider society. Additionally, participating parents in Molin et al.'s study felt that their differently abled children were able to gain more awareness of one's own disability through the internet. In their paper, Rosenberg and Asterhan (2018) wanted to understand students' perception of WhatsApp classroom group communication. One of findings pointed to how students reacted in 'official' (with teacher) and 'unofficial' (sans-teacher) WhatsApp classroom groups. Students' communication in the official WhatsApp group was more formal as they were more thoughtful of their behavior and their language. Findings reported by Rust (2015) shows that students were making statements about themselves and expressing their identities through their profile pictures or other uploads in Ning. Participating through the Ning network enabled students to create a virtual self that is different from their traditional "English class selves" (p. 500).

Some students and teachers used social media platforms to socially connect after school which had an effect on their relationship building (Ahmed, 2016; Ahn et al., 2016; Cunha Jr. et al., 2016; Eamer et al., 2014; Forkosh-Baruch & Hershkovitz, 2018; Hershkovitz et al., 2019; Hershkovitz & Forkosh-Baruch, 2017; Hershkovitz & Forkosh-Baruch, 2019; Kio, 2015; Lee et al., 2015; Li et al., 2015; Molin et al., 2015; Rosenberg & Asterhan, 2018; Rust, 2015; Sawyer & Sawyer, 2018; Schmier, 2019; Shin, 2018; Yunus et al., 2019). For example, some teachers used social media to playfully interact with learners (Ahn et al., 2016) where students felt more connected to their teachers. Teachers who left

school in Brazil were able to maintain connection with their students through Facebook groups (Cunha Jr. et al., 2016). Eamer et al. (2014) conducted a study to examine the construction of adolescents' bi-cultural identities through an exploration of their social practices on the social networking site, Ning. As a result, students felt that having a social network (i.e., Ning) in their classroom has created a bond between students as they talked to others that they did not think they would usually communicate with. This was facilitated due to the informal chat sessions the students had at home and many students stated that it felt convenient for them to be able to connect with their classmates on a Facebook group. One student expressed how it made her feel good when her teacher responded to posts (not related to school) uploaded in the WhatsApp group by other classmates (Rosenberg & Asterhan, 2018). Hershkovitz et al. (2019) conducted a study to understand student-teacher relationships based on Teacher Student Relationship Inventory (TSRI) (adopted from Ang [2005]), which are Satisfaction, Instrumental Help, and Conflict. The axis Conflict refers to the negative and unpleasant experiences between teachers and students. Findings from their study revealed that there is a negative relationship between in-class Conflicts and WhatsApp-based out-of-class communication between students and their teacher. In other words, the higher the student's positive perceptions of out-of-class WhatsApp communication, the lower the values of Conflict. Using SNS in classroom established a communicative atmosphere and promoted friendship building among students and teachers (Lee et al., 2015). This was achieved through sharing photos and interesting information on SNS.

In conclusion, it is worth noting that social media paltforms play a role in forming students' self-identity and the way they represent themselves. Additionally, using social media facilitated relationship building among students themselves or with their teachers.

4.9 Policy and Guidelines

In the following paragraphs, I exhibit how the issue of policy and guidelines had influenced teaching and learning processes. Some studies reflected the fact of not having clear policy and practice guidelines regarding ICT and social media. Other ones pointed out to policies that banned the access of Web 2.0 sites including social media and

prohibited SNS mediated student-teacher communication. Finally, I present findings where some schools had clear policy and guidelines regarding the use of ICT in general or social media which had positive impacts on teachers' and students' experiences.

Policy and practice guidelines regarding the use of ICT or social media that were absent, unclear, underdeveloped, or users were unaware of them, have been observed in some reviewed articles (Ahmed, 2016; Andersson et al., 2014; Becker & Bishop, 2016; Fewkes & McCabe, 2012; Helleve & Almås, 2017; Owen et al., 2016; Peck et al., 2015;). Not having clear guidelines might lead students to misuse tools or behave unethically (Ahmed, 2016). Because of that, some teachers created ground rules for online communication and discussed online 'netiquette' which resulted in respectful and peer collaboration. Surveyed teachers in Andersson et al.'s (2014) study expressed their frustration due to lack of uniform school practice guidelines and restrictive measures about using social media. As a result, teachers did not have clear strategies on how to deal with students who kept using social media for private reasons in class and became distracted. While school boards and individual schools had policies regarding the use of Facebook in school, 72% of surveyed students in Fewkes and McCabe's study (2012) were unaware of their school board's policies about using Facebook in class. Additionally, 47% of the students were unaware of their school's policies. As reported by authors, students' lack of awareness of such policies might be a result of the lack of communication about the policies between teachers and students. Students who were aware of policies reported that teachers and peers posted reminders about the use of Facebook which contributed to their increased awareness.

While some schools had unclear or underdeveloped policy and guidelines, others had to comply with a policy that prohibits the use of Web 2.0 tools including some social media websites (Forkosh-Baruch & Hershkovitz, 2018; Forkosh-Baruch et al., 2015; Greenhow & Lewin, 2016; Hershkovitz & Forkosh-Baruch 2017; Pan & Franklin, 2011). Many teachers felt discouraged to utilize social media in classrooms when their schools filtered or blocked access to some Web2.0 tools and sites (Pan & Franklin, 2011). Greenhow and Lewin (2016) state that appropriation of some social media tools to support teacher-initiated learning was challenging for teachers as school policies blocked access to social

media, despite the many affordances offered by using social media (i.e., students becoming more autonomous, facilitating new approaches to support assessment and reflection).

On the contrary, some articles reflected the presence of clear policy and guidelines either by the school administration or teachers themselves (Eamer et al., 2014; Lapp et al., 2014; Rosenberg & Asterhan, 2018). Teachers in Eamer et al.'s study (2014) established ground rules for online communication through Ning, which led to effective and respectful collaboration among students. A tenth grade English class teacher asked her students to promote awareness of any cause through creating informational brochures and publish them on Facebook (Lapp et al., 2014). Students had clear guidelines for creating content and using Facebook. After creating content, the teacher evaluated and revised along with students prior to posting it to the public. Another example of clear guidelines was seen in Rosenberg and Asterhan's paper (2018). Students understood the rules of communicating with their teacher through WhatsApp group and when to expect a response by their teacher.

Policy and guidelines about using social media can facilitate or complicate the processes of teaching and learning. Absence of practice guidelines can put teachers into challenging situations where they would not know how to use social media properly in classrooms. Additionally, some teachers expressed their frustration towards implementing SNS due to banning policy.

4.10 Infrastructure and Technical Support

While many schools and teachers believed in the significance of using social media within classrooms, they were challenged with infrastructure or technical support problems (Ahmed, 2016; Becker & Bishop, 2016; Laronde et al., 2017; Leppisaari & Lee, 2012; Pan & Franklin, 2011). Ahmed (2016) interviewed teachers to understand their perceptions about using social media in classrooms. One of the major themes extracted was inadequate resources and infrastructure. Not having appropriate technology tools would hinder the implementation of new technology-based pedagogy leading to

poor classroom management and less interactive lessons. Because Twitter does not have live support, and schools did not have a technology specialist, it was difficult to get immediate help when setting up accounts for students (Becker & Bishop, 2016). As a result, students would have to set up their accounts outside of class and then, the teacher collected students' accounts setup sheets (containing usernames and passwords). Additionally, Leppisaari and Lee (2012) reported that learning through the Edu2.0 platform was new to all participants including teachers and students and there was an essential need to technical support when students wanted to resize images and post them.

4.11 Identified Drawbacks

Despite the significant affordances of social media as perceived by teachers and students, using social media had some drawback as reported by reviewed articles. These drawbacks included distraction from learning, privacy issues, negative behaviors, time management issues, and large or limited number of discussions.

Distraction or not focusing on lessons because of using social media is one of the common challenges as reported by some articles (Ahmed, 2016; Ahn et al., 2016; Anderson et al., 2014; Fewkes & McCabe, 2012; Helleve & Almås, 2017; Hershkovitz & Forkosh-Baruch, 2019; Laronde et al., 2017; Lee et al., 2015; Li et al., 2015; Owen et al., 2016; Peck et al., 2015; Rust, 2015). Ahn et al. (2016) report that some students posed a minor distraction when they started to play their videos in ScienceKit, in response to their teacher's explanation about a scientific experiment. Then, the teacher was able to overcome this minor distraction and students were involved again as they asked to record their teacher while pouring vinegar into baking soda. Anderson et al. (2014) investigated students' and teachers' experiences in Swedish 1:1 schools (to encourage the use of ICT in Swedish schools, the 2011 national school curriculum initiated a trend to provide all Swedish K-12 students with free laptops and close down all computer-labs) and how using social media distracted students from learning. According to surveyed teachers, 74% of them stated distractions such as Facebook as one of the major risks in 1:1 schools. Many surveyed teachers expressed their concerns regarding social networking sites within classrooms where students might use social media and lose concentration in

class (Helleve & Almås, 2017). About 30% of students didn't agree that Facebook can be used as an educational tool (Fewkes & McCabe, 2012). They viewed such social media tools as a distraction, "unable to teach" and not educational (p. 95). Some teachers believed that students might get distracted and start using the internet and SNS for other non-educational purposes ((Ahmed, 2016). Distraction from studying was also pointed out by participating students in Lee et al.'s study (2015).

Privacy was another concern reported by some reviewed articles (Ahmed, 2016; Forkosh-Baruch & Hershkovitz 2018; Greenhow & Lewin, 2016; Helleve & Almås, 2017; Hershkovitz et al., 2019; Hershkovitz & Forkosh-Baruch, 2019; Marich, 2016; Owen et al., 2016; Rosenberg & Asterhan, 2018; Schmier, 2019). Findings by Hershkovits and Forkosh-Baruch (2019) revealed that student were mostly concerned with privacy issues when connected with their teachers through Facebook. Responses by students referred to the potential of invading privacy of users (whether students' or teachers') due to excessive exposure to information. 75.4 % of participant teachers did not use social networking sites for educational purposes and one of them argued for his privacy as a teacher by stating that all of communications between him and his students should be on established websites to preserve his role as a teacher and not as a friend (Helleve & Almås, 2017). Regardless of their attitudes towards social media, teachers in Owen et al.'s study (2016) expressed high levels of concerns regarding their personal privacy online when using social media.

Violation of norms or conducting inappropriate behaviors when using social media have been reported in various articles (Ahmed, 2016; Helleve & Almås, 2017; Hershkovitz & Forkosh-Baruch, 2019; Lee et al., 2015; Leppisaari & Lee, 2012; Molin et al., 2015; Rosenberg & Asterhan, 2018; Rust, 2015; Saban, 2020; Warner et al., 2014). One teacher talked about her experience when she uploaded assignments on the Facebook group (Ahmed, 2016). Instead of working on the assignment, students started abusing each other by saying inappropriate words to one another which created a chaos in class. That teacher felt embarrassed when reporting the situation to the principal as it went out of her control. Some students expressed several negative effects of using social media (Lee et al., 2015). They felt that SNS in class harmed friendship (bullying and spreading bad

rumors if the teachers did not monitor the space) and distracted them from studying. Many students mentioned the possibility of using Facebook not for learning where inappropriate behavior takes place. For example, these students expressed their concern of using bad language, cursing, and harassing (Hershkovitz & Forkosh-Baruch, 2019). Additionally, some students identified negative behaviors like ignoring others' postings on Facebook group by students or teachers as well. Findings from Rosenberg and Asterhan (2018) pointed to many examples of negative behaviors such as fighting among students and coarse language within WhatsApp groups. To deal with such situations, teachers interfered either in the WhatsApp group or offline. Some teacher banned students from the group or left the group themselves.

Difficulty in managing time to use social media along with in-class activities was identified in some articles (Leppisaari & Lee, 2012; Mourlam, 2014; Warner et al., 2014). An elementary teacher in Becker and Bishop's study (2016) expressed his struggle with time to teach students how to use Twitter in addition to setting practice norms and expectations related to personal conduct. Teachers expressed their concerns about polices that required them to post on the school district's lesson plan website which made it challenging for them to use Facebook group in class along with other assignments (Mourlam, 2014). They believed that the Facebook group was more useful to students and barriers like these cause problems as new innovations emerged in schools. Leppisaari and Lee (2012) conducted a study to examine an international collaboration between primary students in Korea and Finland through the Edu. 2.0 platform. One of the challenges reported is that students did not have sufficient time to write, read, discuss, and respond to peers' posting due to the limited time assigned for using computers.

Some of the challenges faced by students and teachers when using social media tools are the large number of messages received upon discussion within groups or blogs which in some cases led to ignoring messages or missing them (Hershkovits & Forkosh-Baruch, 2019; Leppisaari & Lee, 2012; Warner et al., 2014). For instance, communication overload within a WhatsApp group was reported and teachers being challenged to monitor and affect student interaction (Rosenberg & Asterhan, 2018). A teacher and a researcher believed that some learning projects were not successful when the number of

interactions or replies was so significant and that some content is hard to locate (Casey, 2013). On the other hand, limited interaction among students could lead to shallow discussion and consequently, a non-successful use of forums and blogs. Limited participation was experienced by a secondary level teacher in China (Kio, 2015). She stated that only few students participated in a Facebook group to give feedback to each other or with their teacher, while most students were only observing. To address this challenge, teacher posted questions related to lessons and offered rewards to those who answered first.

In conclusion, using social media allowed students to acquire many skills as informed by Jenkins (2009) and Lin et al. (2013). For instance, many articles reflected that students had Participation skill when using social media. In other words, students were able to participate interactively among peers through SNS. Collaborative learning among students was also reported in findings as a result of implementing social media. Teachers and peers had the chance to assess and provide feedback to students and that was facilitated through different social media tools. In addition to the social function of SNS, social media were found beneficial in creating individualized learning and promoting student autonomy besides encouraging and motivating students to learn. Social media served as a channel to access timely support from classmates or teachers and as a bulletin board where students can find posts related to assignments deadlines and quizzes reminders.

In addition to the affordances and positive impacts of social media, using SNS in learning revealed some challenges, issues, and negative or concerning impacts. Distraction from learning and negative behaviour by students are among the reported findings of using social media. Additionally, privacy was an issue to some teachers and/or students as they did not want their privacy to be invaded through SNS. Teachers felt overwhelmed about implementing social media tools along with other in-class activities due to the limited time, or insufficient time management. Finally, policies and guidelines being absent or unclear, and limited infrastructure created some challenges toward the use of social networking sites or platforms.

Chapter 5

5 Conclusion, Discussion, and Suggestions

In this chapter, I present the conclusion of this systematic review and discuss the findings. I also address pedagogical and policy implications and provide suggestions for future research.

5.1 Conclusion

Findings of this systematic literature review show that using social media in classrooms was positively perceived by teachers as being an important and useful tool for teaching and learning that facilitated assessment and feedback. Using social media in classrooms allowed students to acquire some of the core media literacy social skills and cultural competencies suggested by Jenkins (2009) and Lin et al. (2013). Furthermore, students had positive experiences when social media were used in the classroom such as increased motivation and engagement with the learning process. It also promoted collaborative learning, interactive participation, and helped in building relationships among students and teachers. The drawbacks identified in this systematic literature review include the possible distractions while using social media, unclear policies and guidelines, limited infrastructure, negative behaviors of students such as inappropriate words or coarse language, and issues related to time management.

5.1.1 Reported Teachers' Views

Findings show that teachers' perceptions about using social media were positive and negative. However, positive perceptions outweighed negative ones.

Most of the reviewed articles that included teachers' perceptions about using social media as learning or teaching tool reflected teachers' positive perceptions. For instance, many teachers supported the notion of using social media inside classrooms as tools for teaching and learning, asserted the importance and usefulness of using social media, and noticed improvement in students' ability to meaningfully understand and discuss

comments. Teachers noticed increased interest from students to learn new information due to the use of social media. Using social media groups to inform students about assignments, deadlines, reminders of upcoming tests or quizzes was reported by many teachers. Finally, social media assisted teachers in providing formative assessment and feedback for their students.

On the contrary, some teachers expressed concerns about using social media in classrooms. For instance, students' distraction from learning when using social media, was one of the challenges faced by teachers. Participant teachers expressed concerns about their privacy as educators when using social media in classrooms. Additionally, teachers felt discouraged to use social media or any Web 2.0 tools because of banning or unclear policies about social media implementation, practice norms, and how to tackle problems related to misuse of social media. Limited infrastructure prevented teachers from adopting social media in classrooms. Some interviewed teachers expressed their struggle with time management between using social media and doing other in-class activities. Teachers felt challenged to monitor all students' participation and discussion in social media.

5.1.2 Students' Experiences

Students' experiences were reflected in many reviewed articles. Reported findings showed that students felt engaged, motivated, and empowered when learning through social media tools and believed that information presented within social media were appealing. Many reviewed articles reflected acquired core media literacy skills and competencies as indicated by Jenkins (2009) and Lin et al. (2013). The most acquired skills (i.e., identified in 10 or more articles) were interactive participation, networking/distribution, production, creation, and understanding. Additionally, students acquired other skills such as consuming skill, distributed cognition, negotiation, simulation, and play. Students using social media were able to get feedback from their peers or teachers. The least common skills identified in this systematic literature review include synthesis/appropriation, evaluation/judgment, performance, and analysis. Many

students benefited from the use of social media as a bulletin board where they could get important updates and information related to course materials, exams, and quizzes.

In addition to acquired skills and competencies, using social media had positive impacts on students' learning and assisted students in meaning making. Social media helped to create learning environments that enhanced collaborative learning among students, helped relationship building, promoted individualized learning, and enhanced student autonomy. Moreover, students could get timely support (school-related or personal) from their teachers and peers through social media tools. Social media in classrooms influenced how students (including ones with disabilities) identified themselves. For instance, students with disabilities using social media platforms became more aware of their own disabilities (Molin et al., 2015). Furthermore, social media promoted relationship building among students or with their teachers.

However, students expressed their concerns regarding the use of social media (e.g., Andersson et al., 2014; Fewkes & McCabe 2012; Hershkovitz & Forkosh-Baruch, 2019; Kio, 2015; Laronde et al., 2017; Lee et al., 2015; Li et al., 2015; Mourlam, 2014; Rosenberg & Asterhan, 2018; Saban, 2020; Schmier, 2019). They pointed to the negative impacts of using social media such as being distracted from learning and did not view social media as an education tool. Learners were concerned with their privacy when using social media and preferred not to reveal personal information when connecting with teachers through popular SNS. Some students showed negative behaviours like using inappropriate or coarse language, bullying, and fighting.

5.2 Discussion

Scott (2015) suggests pedagogies that could help students to acquire competencies and skills necessary for individuals to face 21st century challenges. Pedagogies suggested by Scott include but not limited to fostering participation, personalizing and customizing learning, emphasizing project- and problem-based learning, encouraging collaboration and communication, engaging and motivating learners, designing relevant and real-world learning activities, and building the right relationships for learning. Findings of my study

reflected some of these pedagogies which in turn could help students to be active participants in todays' world as suggested by Jenkins (2009). Jenkins asserts that though participatory cultures, students are acquiring skills that will support them in the future. Here I discuss the most significant skills identified through this systematic review. Based on my systematic review, I identified Participation as the most acquired skill among reviewed articles (i.e., identified in 15 articles). However, I only noticed "interactive" participation among students when using social media (Lin et al., 2013). According to Jenkins (2009), youth develop their core media literacy skills through participation and collaboration as they are actively involved in participatory cultures. However, I could not identify findings about "critical" participation as suggested by Lin et al. (2013). Critical participation focuses on "individual's awareness of the socio-cultural values, ideology, and power relation embedded in their media participation" (p. 165).

I identified collaborative learning as one of the frequently reported themes about social media use. Social media facilitated collaborative learning which speaks to Vygotsky's (1978) notion of social construction of knowledge (Churcher et al., 2014). Lev Vygotsky viewed learning as a profoundly social process. Social media created the "social context" where learners were able to mediate knowledge (Hirtle, 1996, p. 91). Korucu and Atun (2017) state that social media have many benefits like encouraging collaborative learning. Findings from my MA study are consistent with previous studies about how knowledge is constructed through sharing, communication, discussion, and interaction with others via the use of social media.

Assessment and Feedback is another significant theme that emerged in this study. Based on my review, social media facilitated approaches to assessment which in turn had a positive impact on learning experiences. This finding is in line with previous scholarly articles that report on the effectiveness of feedback and assessment on the learning experiences. Knobel and Lankshear (2014) talk about learning within new literacies and state that formative assessment that takes place "just-in-time and just-in-place" leads to deep learning (p. 100). Learning through participatory culture (e.g., use of new technologies and social media platforms) was perceived as effective learning tool due to instant feedback and response that such new technologies offer (Zhang et al., 2016). In

their paper about using of social media in online learning, Korucu and Atun (2017) assert that feedback is necessary in a learning environment and that learning emerges from feedback reflections as stressed by constructive theory. Korucu and Atun mention another benefit of feedback that it promotes student-teacher interaction which facilitates student's development and understanding knowledge. Surveyed students in Neier and Zayer's (2015) study reported that blogging facilitated receiving feedback from classmates and their instructor.

Reported findings indicated that using social media in classroom enhanced student-teacher communication and served as a supporting channel for learners. These findings are in line with previous literature that supports that student-teacher communication (e.g., extracurricular, inside, or outside classrooms) via social media has positive impacts on learning. For instance, Korucu and Atun (2017) state that social media support student-teacher communication and interaction. Thus, when students interacted with each other and with their teacher, their academic achievement was enhanced significantly. Scott (2015) states that employing appropriate learning tools (e.g., making the most of social media) is one of the pedagogies that help students to acquire necessary skills for the 21st century. Furthermore, she notes that relationships in learning with teachers or peers are important for learning in the 21st century. Scott asserts that when students are supported by the right set of relationships, their learning experiences become great.

Distraction from learning because of using social media is one of the most identified drawbacks of this Web 2.0 tool as reported by teachers and students. In his paper, Jenkins (2009) identifies *Multitasking* as one of the skills that students should acquire. However, I was not able to identify significant examples that illustrate students' ability to multitask. I found that reviewed articles show that some students got distracted when using social media instead of multitasking. Jenkins (2009) points that there is a confusion between the two concepts of multitasking and distraction and students need support to differentiate being off task and multitasking. The reviewed articles reported that some students did not realize that they would get off task while using social media in classroom and in many cases, they could not handle multiple tasks simultaneously. However, according to Jenkins, in multitasking, individuals can respond to rich media environment without

losing attention. Additionally, Jenkins states that multitasking and attention should be viewed as complementary skills and not oppositional ones.

Privacy concerns was one of the themes emerged from reviewed articles. Many students and teachers felt uncomfortable using social media in classroom as their privacy and personal information might be exposed. Chromey, Duchsherer, Pruett and Vareberg (2016) developed a model to help instructors decide whether using social media in class is appropriate or not. One of the questions in this model was "can student participate without giving access to personal information?" (p. 5). If the answer is yes, then it is most likely that this social media platform might not be appropriate to incorporate pedagogically. Findings from this systematic review also indicated some negative behaviors shown by students using social media like cyber bullying and using inappropriate words. To tackle such challenges, I suggest including a new media literacies component that educates students on how to ethically use different social media tools and how to deal with negative issues like cyber bullying.

5.3 Pedagogical Implications

Although many students already use social media sites in their everyday lives (e.g., Facebook and Twitter), using such sites for formal learning would be different and new (Churcher et al., 2014). Many scholars refer to today's students as "digital natives" as different forms of technology are in their hands since their childhood (Berk, 2009; Capello et al., 2011; Churcher et al., 2014; Chromey et al., 2016). The term "digital natives" was originated by Prensky (2001). Twenty first century learners are technology literate where they can connect in unprecedented ways than generations ago (Gunn, 2015). Social media were not originally created for educational purposes but rather to increase "social connectivity, sharing and collaborative interest" (Anderson, 2019, p. 10). Students' conceptual transformation of social media sites from a day-to-day use, as being digital natives, to a pedagogical purpose might be challenging (Churcher et al., 2014). For learners to tackle new challenges, they need learning that is assessed by teachers and shared with peers through well-designed collaborative meetings (Scott, 2015).

As teachers are being asked to expand their role to include “compilers” of learning tools (Scott, 2015, p. 16), it is essential to provide professional learning for teachers on how to use social media as a pedagogical tool and actualize teacher’s application of social media for learning purposes. For a better learning experience, social media as a pedagogical tool needs to have a clear purpose (e.g., to enhance collaborative learning, to promote critical thinking, to facilitate feedback and assessment) (Chromey et al., 2016).

Reimagining assessment and evaluation of learning via social media and from the lens of new media literacies is important today. Relying on classic, print-based, assessment practices does not reflect the social aspects of new media literacies. Jenkins (2009) states that the core media literacy skills are necessary for students to participate within the new media landscape. Forzani, Corrigan and Slomp (2020) assert that the traditional literacy (i.e., print-based literacy) we measure today in schools are too often isolated from those of everyday life. Hence, it is significant to use new media literacies to inform assessment practices of students’ performances in classrooms. Educators need to be flexible and adaptable to assess students through multiple modes and media, which reflects their everyday meaning-making. It is also important to engage students in assessment processes by giving them agency to collectively set evaluation criteria. Using the lens of new media literacies and reshaping assessment as a learning opportunity will align with the social value of new media literacies (Forzani et al., 2020).

5.4 Policy Implications

Social media are viewed as a double-edged sword (Chromey et al., 2016) and for that reason it is vital to utilize social media in learning in the most thoughtful way. Incorporating technologies in teaching does not necessarily mean educational innovations. It is about how to use such tools purposefully and meaningfully. I found 16 studies that addressed the issue of policy in different ways (positively and negatively). However, there is a general agreement shown in the reviewed studies that schools, teachers, and students need clear policies and practice guidelines about using social media in learning. Churcher et al. (2014) assert that developing best practices for using new technologies in classroom was one of the challenges faced by instructors when

implementing such technologies. They found that some students using social media in learning were not sure about what to produce or discuss as they were used to traditional evaluation methods like writing exams and papers. Students did not know what was expected of them. The same situation was found among instructors who were uncertain of providing guidelines for online activities. Churcher et al. found that the more specific the instructions, the more productive and richer the students' responses. Churcher et al. suggest that instructors demonstrate examples of acceptable and non-acceptable responses in online discussions to help students create an appropriate academic response. Having such clear guidelines will reduce the uncertainty that students face when using social media in classrooms.

Based on my review, there must be clear policies and guidelines to protect privacy and ethical conduct for the educational use of social media. To have a baseline that assists teachers and students for academic utilization of social media and to prevent possible drawbacks such as distraction and inappropriate behaviors, I propose educational policy makers create clear guidelines related to the following: recommended social media application or website; amount of time suggested to such SNS being used (i.e., for full class time or partial); establishing ground rules for online communication and discussion. Additionally, schools, administrators, and teachers are encouraged to make sure that any policies and guidelines are communicated to or even made together with young users of social media.

5.5 Suggestions for Future Research

This study was designed to understand elementary and secondary teachers' and students' perceptions of social media use and pertaining challenges. In the methodology chapter, I included a summary of population category of my reviewed articles (please refer to Appendix A). From that summary, I found few articles discussed younger elementary learners' use of social media. Scholarly attention is needed for primary grades (i.e., grades 1-4) with regards to reasons for limited use of social media in their classrooms, potential concerns of parents or teachers to incorporate social media at such beginner grades, or infrastructure needed to incorporate social media use in early learning.

In terms of type of social media used, I noticed that most elementary levels used (enclosed) social media platforms that were designed for educational purposes. For example, some reviewed articles analyzed the use of social media tools that are specifically designed for educational purposes (e.g., Ning, Edmodo, Edu 2.0, Sci-Dentity, and Kelluwen). On the other hand, other reviewed articles looked at popular social media sites or platforms such as Facebook, Twitter, YouTube, and WhatsApp. While enclosed sites could provide a safer learning environment where only learners within a specific class or school can use them, limiting or not using popular social media sites might hinder the possibility of exposing students to the outside world and probably missing some potential learning opportunities. Future research should look at the different impacts of both groups of social media sites (i.e., popular SNS and enclosed social sites) to understand the possibilities for optimal learning via social media use.

I also propose implementing a netnography (i.e., online ethnography) methodology for future research (Kozinets, 2010). This approach is specifically designed to understand social media settings (Zhang et al., 2016). The "multi-method" and "adaptable" (Kozinets, 2010, p. 4) nature of netnography enables researcher to complement netnography with surveys or other sources of data and not necessarily be present physically at the location of the study.

5.6 Significance of the Study

Findings of this systematic review will contribute to the literature in the field of social media and education and help in understanding the relationship between using social media in class and other educational outcomes mentioned in the findings chapter. Additionally, understanding teachers and students' perceptions of using social media would support creating better learning environments that are effective and progressive. Readers can know what the possible challenges or drawbacks of using social media are and can try to avoid such unwanted issues. This systematic literature review can act as a starting point for future researchers who are interested in social media implementation in classrooms. Additionally, reported findings can provide practical insights to all stakeholders within the field of education for using social media. This will help them to

set policies and regulations related to ethical use of social media and improve the overall teaching and learning experience.

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Appendices

Appendix A: Full List of Studies IDs and Education Levels.

Study ID	Education Level	Study ID	Education Level
1	Grades 7-12	21	Upper Secondary
2	Grades 6-10	22	Lower Secondary
3	Grades 4-5	23	Grades 4-6
4	Grades 6 -12	24	Grades 6-8
5	Grades 7-8	25	Grade 2
6	Grades 7-12	26	Grades10-12
7	Grades 10-12	27	Upper Secondary
8	Grade 6	28	Primary to Upper Secondary
9	Grades 7-12	29	Primary to Upper Secondary
10	Grades 9-12	30	Grades 9-12
11	Grades 10-12	31	Grade 8-12
12	Grades 7-12	32	Upper Secondary
13	Grades 2-8	33	Upper Secondary
14	Upper Secondary	34	Grade 5
15	Grade 5-12	35	Grades 7-10

16	Grade 7-12	36	Grade 8
17	Grade 7-12	37	Grade 6
18	Upper Secondary	38	Grades 6-9
19	Upper Secondary	39	Grades 2-3
20	Grades 9-12	40	Grades 4-5

Appendix B: Full List of Studies IDs and Type of Social Media.

Study ID	Type of Social Media	Study ID	Type of Social Media
1	Instagram/ WhatsApp/Facebook	21	Multiple Forms of SNS
2	Facebook, Twitter, WhatsApp, Instagram, Google doc, YouTube.	22	Edu2.0
3	ScienceKit	23	Facebook
4	Facebook	24	Twitter
5	Twitter	25	SNS in general
6	Ning	26	Facebook
7	Facebook	27	SNS in general
8	Ning	28	Web 2.0 tools (e.g., blogs, wikis, social networking sites, image/photo sharing sites)
9	WhatsApp	29	SNS in general
10	Facebook	30	WhatsApp
11	Facebook	31	Ning
12	Facebook	32	YouTube
13	Facebook, Twitter, blogs, wikis	33	Facebook, YouTube

14	SNS in general	34	Kelluwen Worklog
15	WhatsApp	35	SNS in general
16	Facebook	36	Glogster and Edmodo
17	Facebook	37	Sci-Dentity
18	SNS in general	38	Class Blog
19	Facebook	39	Multiple Forms of SNS
20	Multiple Forms of SNS	40	Multiple Forms of SNS

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Appendix D: List of Identified Deductive Themes, Number of Studies, and IDs.

Deductive Themes	No. of Studies Addressing Themes	Studies IDs
Participation	15	3, 5, 6, 7, 8, 10, 13, 20, 22, 25, 26, 32, 34, 36, 39.
Networking/Distribution	12	2, 3, 5, 6, 7, 8, 13, 20, 22, 23, 34, 35.
Production	11	2, 3, 6, 8, 18, 20, 23, 24, 32, 34, 37.
Creation	10	5, 6, 7, 8, 13, 20, 23, 25, 32, 39.
Understanding	10	1, 2, 3, 5, 8, 20, 22, 23, 25, 31.
Consuming Skill	9	2, 3, 5, 18, 20, 21, 26, 33, 36.
Distributed Cognition	7	3, 6, 7, 13, 33, 36, 37.
Negotiation	7	5, 6, 8, 22, 33, 34, 36.
Simulation	7	1, 2, 3, 5, 6, 23, 38.
Play	5	13, 23, 25, 34, 38.
Synthesis/Appropriation	4	3, 5, 22, 38.
Analysis	2	5, 7.
Evaluation/Judgment	2	6, 21.
Multitasking	2	1, 32
Performance	2	23, 38.

Appendix E: List of Identified Inductive Themes, Number of Studies, and IDs.

Inductive Themes	No. of Studies Addressing Themes	Studies IDs
Positive Impacts on Learning	18	1, 3, 5, 6, 7, 8, 18, 19, 22, 23, 24, 25, 27, 30, 33, 37, 39, 40.
Collaborative Learning	16	2, 3, 5, 7, 8, 10, 13, 18, 19, 22, 23, 24, 31, 24, 36, 37.
Assessment and Feedback	16	2, 3, 5, 6, 8, 13, 18, 19, 20, 21, 22, 32, 35, 37, 39, 40.
Social Media as a Bulletin Board	10	7, 8, 10, 19, 22, 24, 25, 27, 31, 39.
Social Media as a Supporting Channel	11	8, 10, 14, 16, 17, 19, 22, 24, 31, 33, 40.
Possible Affordances of Social Media		
Motivation and Engagement	19	1, 2, 3, 6, 7, 8, 18, 19, 20, 21, 22, 23, 32, 34, 35, 36, 37, 39, 40.
Individualized Learning	8	3, 5, 6, 13, 18, 21, 22, 25.
Student's Autonomy	5	2, 3, 8, 13, 40.
Identity & Relationships Building		
Social Function of Social Media	18	2, 3, 7, 8, 11, 15, 16, 17, 19, 22, 24, 26, 31, 32, 34, 36, 37, 40.
Student's Identity	4	8, 26, 31, 32.

Policy and Guidelines	16	2, 4, 5, 8, 10, 11, 12, 13, 14, 16, 20, 28, 29, 30, 31, 39.
Infrastructure and Technical Support	5	2, 5, 21, 23, 29.
Identified Drawbacks		
Distraction from Learning	13	2, 3, 4, 10, 13, 14, 17, 21, 22, 24, 28, 30, 32.
Privacy Issues	10	2, 11, 13, 14, 15, 17, 25, 28, 31, 36.
Negative Behaviors	10	2, 14, 17, 22, 23, 26, 31, 32, 33, 39.
Time Management Issues	3	5, 23, 27
Large or Limited Numbers of Discussions	3	17, 23, 39.

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