The role of social media in education: How Twitter can be used in the intermediate classroom as a tool for collaborative learning

By

Ariel Vézina

A research paper submitted in conformity with the requirements For the degree of Master of Teaching
Department of Curriculum, Teaching and Learning
Ontario Institute for Studies in Education of the University of Toronto

Copyright by Ariel Vézina, April 2014
Acknowledgements

I wish to extend my gratitude to Clare Brett, my research supervisor, for guiding me through the process of writing this paper. Thank you for your helpful feedback and for our face-to-face meetings. I greatly enjoyed our discussions about educational technology and the teaching profession, as well as your comfy office couch! I would also like to thank Arlo Kempf, my research course instructor. Your weekly class was instrumental in keeping me on track and the time you devoted to preparing us every step of the way was extremely helpful.

Thank you to my three participants, for your productive contribution to this research. Your openness and honesty made this project possible, and I appreciate the time you put aside to be a part of this research.

To my parents, who have offered me so much support over the years. Without your encouragements and words of wisdom, I wouldn’t be the person I am today. Mom, thank you for always lending an ear, for being my cheerleader, and for motivating me through two degrees. Dad, thank you for your calm demeanor during my times of stress. You push me to be the best student, teacher, and researcher I can be.

Finally, a big thank you goes out to my friends in this program and beyond. You have all offered me comfort, guidance and advice when I needed it. David, thank you for always supporting me and for kindly agreeing to proofread this monstrosity of a paper.
Abstract

With the proliferation of social media applications and student access to technology, teachers are faced with a choice: should they ban these technologies or infuse them into their practice? One social media tool, the microblogging website Twitter, presents a unique way for students to share ideas and communicate. This study explores how Twitter can be used in a classroom setting and whether it can support collaborative learning. A case study approach was used and three teachers were interviewed about their experiences using Twitter in their classrooms. It was discovered that when used as a learning tool, Twitter has many social benefits, including supporting community building, increasing interactions between students and giving students a voice online. Its benefits and uses align well with the tenets of collaborative learning, as students engage in social learning when using Twitter. The significance of Twitter’s authentic uses in a learning context and the role of the teacher were also highlighted in this study. Future research should focus on deeper understandings of Twitter’s use in the classroom and the student experience when using this technology as a learning tool, as well as on how educational policies can match the evolving state of social media technology.

Key Words: Twitter, social media, microblogging, educational technology, technology, collaborative learning, social learning, intermediate
Table of Contents

Chapter 1: INTRODUCTION .................................................................................................................. 6
  1.1. Introduction to the Research Study .............................................................................................. 6
  1.2. Purpose of the Study ................................................................................................................... 8
  1.3. Research Questions .................................................................................................................... 9
  1.4. Background of the Researcher .................................................................................................. 9

Chapter 2: LITERATURE REVIEW ........................................................................................................ 11
  2.1. Twitter: Can It Have a Positive Impact in the Classroom? ....................................................... 11
    2.1a. The Impact of Twitter on Student Engagement ....................................................................... 11
    2.1b. The Role of the Instructor When Integrating Twitter in the Classroom ............................. 14
  2.2. Twitter and Other Social Networking Software in School: A Division in the Literature ......................... 15
    2.2a. Twitter's Academic Impact in the Classroom ....................................................................... 16
    2.2b. Twitter's Psychosocial Impact in the Classroom .................................................................. 18
    2.2c. Twitter's Impacts on Community Building in the Classroom .............................................. 20
  2.3. Can Twitter Be Used in Conjunction with Cooperative Learning? ........................................... 22

Chapter 3: METHODOLOGY .................................................................................................................. 26
  3.1. Procedure .................................................................................................................................... 26
  3.2. Instruments of Data Collection .................................................................................................. 27
  3.3. Participants .................................................................................................................................. 28
  3.4. Data Collection and Analysis ...................................................................................................... 29
  3.5. Ethical Review Procedures ......................................................................................................... 31
  3.6. Limitations ................................................................................................................................... 31

Chapter 4: RESEARCH FINDINGS AND ANALYSIS ............................................................................ 32
  4.1. Introduction to the Research Participants .................................................................................. 33
    4.1a. Participant 1 - Alicia, Secondary School Teacher ................................................................. 33
    4.1b. Participant 2 - Erica, Secondary School Teacher ................................................................. 34
    4.1c. Participant 3 - Lisa, Elementary Supply Teacher, Course Instructor ............................... 35
4.2. Community Building ...................................................................................................................... 36
  4.2a. Bringing an Online Community Into the Classroom ................................................................. 36
  4.2b. Social Benefits .......................................................................................................................... 38

4.3. Authenticity .................................................................................................................................. 41
  4.3a. The Role of an Authentic Audience in Student Engagement .................................................. 41
  4.3b. Authentic Content ...................................................................................................................... 42
  4.3c. Creating an Organic Online Discussion ...................................................................................... 43

4.4. Changing the Way We See Social Media ..................................................................................... 44
  4.4a. Students and Social Media Responsibility .................................................................................. 44
  4.4b. Twitter as a Tool for Content Learning ...................................................................................... 46
  4.4c. Twitter as a Tool for Reflective Learning .................................................................................. 47

4.5. Role of the Teacher ....................................................................................................................... 48
  4.5a. Assessment .................................................................................................................................. 48
  4.5b. Instructor Presence Online ......................................................................................................... 50
  4.5c. Protecting Students and Dealing with Inappropriate Content .................................................. 50

Chapter 5: DISCUSSION ....................................................................................................................... 52
  5.1. Implications and Recommendations ........................................................................................... 52
    5.1a. Implications for Teachers ........................................................................................................... 52
    5.1b. Implications for the Educational Community .............................................................................. 55
  5.2. Limitations .................................................................................................................................... 56
  5.3. Further Study .................................................................................................................................. 57
  5.4. Conclusion .................................................................................................................................... 58

REFERENCES ........................................................................................................................................... 60

APPENDICES ........................................................................................................................................... 64
  Appendix A: Follow-Up Questions for Volunteer Participants Letter of Consent for Interview .......... 64
  Appendix B: Letter of Consent for Interview .......................................................................................... 65
  Appendix C: Interview Questions ......................................................................................................... 67
Chapter 1: INTRODUCTION

1.1. Introduction to the Research Study

The Internet has become a prominent and essential part of today’s society. As such, its reach has extended into the domain of teaching and has been used as an educational tool in a variety of ways (Garrison & Akyol, 2009). The Internet presents teachers with access to new information, to novel ways of presenting this information to their students, and to opportunities for their students to individually build on their knowledge (Kieslinger, 2009). For example, many user-manipulated web applications have made an impact on education, such as wikis, podcasts, and blogs (Kassens-Noor, 2012). These web applications focus on the sharing of knowledge and have allowed for an increased exchange of information and ideas.

Over the past decade, there has also been an increase in social media applications (Junco & Chickering, 2010). Social media is defined as “a collection of Internet websites, services, and practices that support collaboration, community building, participation, and sharing” (Junco et al., 2011, p. 119). This form of communication has allowed for increased participation, connection, and interaction among Internet users. For example, the introduction of the popular social networking website Facebook in 2004 resulted in a leap in how Internet users communicate and socialize, by connecting people all over the word in a novel and informal way (Junco & Chickering, 2010). At this point in time, similar websites such as Linked In and MySpace also rose in popularity (Ibid). The uses of social networking websites in the classroom are varied, but a number of reports in recent years have shown that these applications positively contribute to
teaching and learning (Edmondson, 2012; Kieslinger, 2009; Rinaldo et al., 2011).

In 2006, the world of social networking was revolutionized by the introduction of a new website, Twitter. This website is defined as a “microblogging” service, which allows users to exchange and broadcast pieces of information, known as “tweets”, that are 140 characters or less (Forgie et al., 2013). Twitter is designed to allow users to have conversations and share ideas, and it also allows users to share longer articles and media pieces (Forgie et al., 2013). This type of service differs from blogging because its shortened character limit requires a smaller time investment and allows for more frequent updating (Java et al., 2007). While most Twitter posts are about users’ daily routine, research is emerging on how this popular website can be used in an educational context, and how it can promote learning and student engagement. In fact, a recent study reviewed the research on microblogging from 2008 to 2011, and found many positive contributions to education, including, but not limited to, an impact on student engagement, participation, reflective thinking and collaborative learning (Gao et al., 2012). However, this three-year review only consisted of 21 research articles, of which only one pertained to the kindergarten to grade 12 levels. Clearly, more research into the educational outcomes of Twitter use in the classroom is needed for this age group.

As social media takes on an increasingly important role in today’s society, teachers are faced with a decision: should social networking websites be included in the classroom and in the way students learn, or should they be banned? Students have more and more access to social media through their cellphones, laptops and tablets, and limiting their use of these websites can prove challenging for teachers. In this paper, I
will explore the potential benefits of including such social networking websites in the classroom, and more specifically I will study the microblogging social network, Twitter. I will also consider intermediate teachers’ perspectives on how this website can enhance collaborative learning in the context of the classroom, as well as the experiences of these teachers using Twitter with their students.

1.2. Purpose of the Study

The purpose of this research is to explore the use of the popular microblogging website, Twitter, in the context of the classroom learning environment and to analyze whether, and how, it can be used to support the elements of collaborative learning. Given the positive contribution the Internet has made to the field of education and the increasing use of social media in the classroom, it follows to examine how Twitter can be used to engage students in the classroom and to enhance their academic performance and social skills. Social media has quickly become an important part of many teenagers’ daily lives, and as such it is a mode of communication they feel comfortable with and enjoy using. As teachers, we can either choose to ban these technologies from the classroom, creating a distance between teachers and their students, or we can incorporate it in our classroom in an educationally meaningful way. This study is important to the field of education, as it explores how teachers can adapt to the growing access students have to microblogging technology during class time and how they can use it to their educational advantage.
1.3. Research Questions

The purpose of this case study is to explore teachers’ views on using Twitter as an educational tool in intermediate classrooms, and the ways in which they see Twitter supporting aspects of learning.

In this paper, I will address the following questions:

- How do teachers describe their experiences using Twitter as a learning tool in an intermediate classroom?
  - How do intermediate teachers believe Twitter might be integrated into their practice more effectively?
  - How do intermediate teachers believe Twitter might be used in the classroom to improve students’ academic and social skills?
  - Do intermediate teachers see Twitter as a useful instructional tool to promote collaborative learning? Why or why not?
  - What are intermediate teachers’ perceptions of the challenges and/or advantages related to the integration of Twitter in the classroom?

1.4. Background of the Researcher

I gravitated to this topic because, as a future teacher, I want to find new ways to make my teaching style relevant to my students. I know my students will most likely interact with social media on a regular basis and that this form of communication will be important to them. While my experience with social media in the classroom is limited, I have been part of many undergraduate classes that used discussion boards. I found this
constant communication enhanced the classroom atmosphere as it allowed the students to continue discussions and to answer each other’s questions outside of class. I want to explore if and how this collaborative exchange of information can be adapted to an intermediate classroom, in order to not only improve on students’ learning, but to also engage them more in the classroom and to foster essential social skills.
Chapter 2: LITERATURE REVIEW

In this chapter, I will present an overview of the current literature as it relates to Twitter and its use in the classroom.

2.1. Twitter: Can It Have a Positive Impact in the Classroom?

While the use of discussion boards, wikis, and blogs has been widely studied within the context of education, studies on the use of microblogging sites such as Twitter are still in the early stages (Schroeder et al., 2010). Most of the emerging research focuses on how Twitter can be used in a university setting to engage students and improve their learning (Chamberlin & Lehmann, 2011; Lowe & Laffrey, 2011; Junco et al., 2011; Junco et al., 2013; Rinaldo et al., 2011). Some of these studies build on the idea of active learning, by engaging students outside of the classroom and encouraging them to participate in self-directed and independent learning activities (Kassens-Noor, 2012). Slowly, research is accumulating on the role of this informal learning strategy in promoting higher learning in students.

2.1a. The Impact of Twitter on Student Engagement

In a recent study, Junco et al. (2011) set out to explore the link between the use of Twitter in a university classroom and student engagement. Using an experimental design, the authors investigated the link between educationally relevant social media use and student engagement and grades. A sample of 145 first year American university students was divided into either an experimental or a control group; the experimental group used Twitter in the classroom setting whereas the control group did not. Students in the
experimental group took part in an informative session that trained them on the use of Twitter.

Over fourteen weeks, both groups took part in the class, but the experimental group used Twitter for online relevant classroom activities, such as class discussions, organizing study groups, academic and personal support, class and campus reminders, and connecting with their instructors. The control group was provided with the same information as was posted on Twitter for the experimental group, however it was posted on a different social network site called Ning. The online platform Ning allows users to customize their own social network, and includes a blog and discussion forum while also allowing them to connect with other members. The authors of this study did not elaborate on the differences between Twitter and Ning. Through my own research and observations, I have seen that Ning, unlike Twitter, is not as adaptable to large-scale conversations. While Twitter enables the sorting of conversations by categories through the use of hashtags, Ning does not have this functionality. This may have had an impact on the way students in this study used the social networking website. In fact, the authors noted that the students using Ning engaged in the same academic activities as those on Twitter, with the exception of forming study groups. Following this phase of the experiment, the students’ engagement was assessed using the NSSE engagement scale and their grade point averages were collected.

An analysis of the data revealed that the experimental group had a significantly higher engagement level than the control group, as well as higher semester grade point averages. Furthermore, the authors found that those students using Twitter generated richer and more in-depth discussions online and forged new interpersonal relationships.
Indeed, the authors noted that study groups and informal conversations formed easily over Twitter, most likely due to its interactive functionality and quick response time. However, the authors did not compare these conversations to those on Ning, which would have given a better idea of why Twitter engaged students more. Nonetheless, the implications of this study are of great importance, as they show that using an informal microblogging website in a classroom setting has a positive impact on student engagement and grades. What also came to light in this study is that Twitter can effectively connect students to their instructors, can provide them with a safe space to ask questions, and can generate rich and revealing conversations between students. Indeed, the authors hypothesized that the superior grades in the experimental group could have been due to the increased communication between the faculty and students, as the instructors played a more active role with these students than with those in the control group. This study is of great importance, as it shows that, when used in particular ways, Twitter can have a positive academic and social impact on students.

Twitter and other microblogging tools also have the potential to engage students because their reach extends beyond the classroom (Gao et al., 2012). These social media tools provide opportunities for teachers to involve their students in authentic learning activities online, thus creating chances for more sustained learning (Ibid). In a recent study, Waller asked students to share their writing and thoughts on Twitter, which elicited responses from their classmates as well as from individuals outside of the classroom. Waller reported that the students were excited and motivated by their published work being read by others (Waller, 2010). By connecting students to real
audiences outside of the classroom, Twitter can make learning in the classroom more meaningful for students.

2.1b. The Role of the Instructor When Integrating Twitter in the Classroom

In a follow up to their earlier study, Junco et al. (2013) conducted a similar experiment but varied a few major factors. Once again, they used a university course in order to find participants, but this time the students involved in the study were given more autonomy and fewer guidelines. Following an introduction of Twitter in the classroom, students were given the choice as to whether or not they wanted to use Twitter in order to collaborate with their peers. At this point, sixty-six students chose to use Twitter as part of the class whereas sixty-nine did not. Additionally, there were no frameworks imposed on the students who used Twitter during the semester, and no assignments or guidelines were given. Finally, the instructors did not engage with the students on the forum as much as was done in the first study, and while the Twitter feed was posted in class once a week, it was not often explicitly mentioned by the instructors.

Unlike the previous study, there was no difference in either the engagement scores or in the grades of the students who used Twitter during the semester and those who did not. The authors attributed this difference in results to several factors. First, they suggested that the instructor plays a large role in engaging students via Twitter by asking questions and prompting discussion, and that this faculty participation is in part responsible for an increase in student engagement and academic achievement. Second, when integrating Twitter into the classroom, requiring student participation appears to have an important effect on both engagement and on grades. Finally, the authors
proposed that in order to be effective, Twitter must be integrated into the class in an educationally relevant way, by giving students guidelines and assignments that push them to use the social software in a specific manner.

The literature has also shown that the importance of an instructor’s role is not grounded in their ability to use the technology. A recent study in which high school teachers engaged students on Twitter highlighted that teachers are not expected to be experts in the tools they introduce in the classroom (McWilliams et al., 2011). Rather, their ability to connect these tools to content, as well as their role in organizing students and providing support, is what makes these types of activities successful (McWilliams et al., 2011).

Indeed, these points are echoed in other studies, such as a meta-analysis conducted by Schroeder et al. (2010). In this study, the authors highlight the importance of both teacher involvement and guidance when integrating social media into the classroom and the curriculum (Schroeder et al., 2010). The role an instructor plays in the success or failure of a social media initiative in the classroom cannot be overemphasized.

2.2. Twitter and Other Social Networking Software in School:

A Division in the Literature

The use of social networking software in the intermediate classrooms is highly debated in both the context of the literature and in the popular media. Some schools have instituted a cell phone ban in an effort to help students focus, whereas others argue that the technologies students use in their every day lives should be used as a motivator in the classroom (Sternberg et al., 2007). With technology and social networking playing an
ever-growing role in today’s society, I believe this issue should be addressed directly within the domain of education and that these tools should be harnessed in order to engage students. The research findings on the use of Twitter in the classroom can be sorted into three overarching categories: academic, psychosocial, and community building. We will explore the arguments for and against the use of Twitter as they relate to each of these categories.

2.2a. Twitter’s Academic Impact in the Classroom

The increasing use of technology has raised concerns over its potential impact on student performance. Indeed, in an issue of *New Directions for Student Services*, Shelia Cotten (2008) wrote that high rates of technology use are related to poor academic and psychosocial outcomes. However, it has also been argued that technology has done much to improve student learning. For example, in a study in which Tweets related to course content were sent to university students, it was found that the students who were sent relevant Tweets were more likely to recall key information when subsequently tested on it than those who received non-relevant Tweets (Blessing et al., 2012). In a more student-centered study, Dunlap and Lowenthal found that students participated actively in the class Twitter community when they were pushed to contribute resources and information to the discussion (2009). This type of active learning is carried out in real time and is relevant to students, as the sharing carried out on microblogging allows classes to stay current on new events and resources as they emerge (Lowe & Laffey, 2011). Therefore, evidence is growing to support the idea that Twitter can have positive effects on academic outcomes.
It is also important to evaluate what academic skills are built upon when teachers expose their students to assignments requiring the use of Twitter and other social networking sites. In a meta-analysis of studies focusing on educational social software initiatives, it was found that through these initiatives, students were able to integrate new perspectives and be more reflective in their learning (Schroeder et al., 2010). Indeed, in her study, Wright used Twitter as a way for her graduate students to reflect on their practicum experiences (2010). Her students posted questions and points related to their practicum experiences, thus providing them with the opportunity to share and reflect on their work (Wright, 2010). Wright proposed that this activity encouraged deeper reflection, as the nature of Twitter’s 140-character limit pushed students to be more concise in their reflections (2010). Similarly, Ebner and Mauer found that when participating in a microblogging group, students engaged in deeper and more critical reflection, as the social networking tool allowed them to discuss and write about a topic for a long period of time (2009). This type of self-reflective learning is also beneficial as it encourages students to widen their horizons and to integrate novel information and viewpoints (Hughes et al., 2011). I believe this element of self-reflection is critical to student achievement.

However, Twitter’s potential benefits for self-reflective learning are a point of contention. A study comparing students who completed an assignment using a diary to those who used Twitter for the project found that those who completed the diary were more self-reflective whereas those on Twitter were simply more critical towards their classmates (Kassens-Noor, 2012). This demonstrates a divide in whether Twitter positively affects students’ reflective learning process.
Another classroom skill that Twitter can promote is critical thinking among students. One study in particular observed an assignment where high school students were assigned characters from a play and told to tweet responses from the point of view of their characters (McWilliams et al., 2011). In these tweets, students were encouraged to adopt the tone, style and language of their characters when reacting to key events in the play. Aside from pushing students to see the play from a new perspective, this activity was also very collaborative, as all students’ participation was valuable to the end result. The authors found that the students’ abilities to tweet from the perspective of their character increased over the course of the assignment (McWilliams et al., 2011). They linked their observations to studies showing that informal learning environments motivate participants, in part because they perceive themselves as being an integral part of a community of learners (Ito et al., 2009; Jenkins et al., 2009).

Finally, Schroeder et al. (2010) have shown that when Twitter is used in the classroom, students gain relevant skills related to the social software the teachers have them use. This is important, as these skills will prove to be useful in a society that highly values technology and social media. By integrating Twitter in classroom practice, teachers can potentially ready students for the changing face of technology and innovation.

2.2b. Twitter’s Psychosocial Impact in the Classroom

Although Twitter and other social networking websites are designed to increase communication, there is a division in the literature regarding whether their psychosocial effects are positive or negative. It has been pointed out that these sites can create social
difficulties when interpreting communications, as the tone of a message and the expectations of a user can be misinterpreted (Junco & Chickering, 2010). Indeed, Schroeder et al. (2010) found that students using social software often perceived online interactions as difficult to decipher at times. However, the authors also added that these difficulties were less common when students had a higher level of face-to-face interactions in class (Schroeder et al., 2010). In an intermediate setting, students would be interacting daily in the context of the classroom, and would most likely gain a good understanding of the intentions of their classmates’ online remarks. I believe integrating this online component can only help teenagers better showcase their perspectives and personality in a comfortable forum and increase students’ understanding of each other.

In fact, it has also been shown that despite these tools’ lack of verbal cues, social networking sites such as Twitter are very effective in terms of communication and building social relationships (Schroeder et al., 2010; Garrison & Akyol, 2009). This may be due to the websites’ collective nature, as collaborative learning has been shown to positively benefit social skills (Slavin, 1991). Indeed, Garrison & Akyol (2009) posited that using social networking websites provide students with a space to disclose their perspectives and emotions, thus creating a trusting learning environment. If operated in a safe and mutually respective manner, using Twitter in education could help students build relationships outside of the classroom and generate a more positive learning environment overall.

A final point on Twitter’s impact on a student’s psychosocial development is the fear of students being exposed to cyberbullying while doing assignments online (Junco & Chickering, 2010). Cyberbullying is a rising problem in Canada; a 2010 research project
studying 33 Toronto junior high and high schools reported that 49.5% of students surveyed had been cyberbullied (Mishna et al., 2010). Indeed, an initiative in a middle school involving students using a wiki in order to generate class discussions had to be temporarily taken down due to derogatory comments made by students (Taranto & Abbondanza, 2009). This goes to show that initiatives requiring students to use social networking sites require the teacher to set up a mutually respectful and safe learning environment. In order to prepare for an online assignment, the teacher should teach a lesson on online social responsibility, and have their students discuss as a group and sign social contracts to prevent such issues from arising.

2.2c. Twitter’s Impacts on Community Building in the Classroom

Proponents of the use of Twitter and other social networking sites in the classroom have cited positive community building and good social relationships as motivation for using these tools. In their meta-analysis, Schroeder et al. (2010) found that using blogs and microblogs helped students overcome relational barriers and helped to create a community environment, as these tools allowed students to learn interactively and collaboratively. In a recent study, Twitter was introduced to a weekly graduate class to investigate if this tool could enhance content learning and foster community in an environment where students had little face-to-face contact (Domizi, 2013). The authors studied the content of the class tweets, as well as the outcomes of students’ reflections and questionnaires, and found that following the introduction of Twitter, sixty seven percent of students reported the tool made them feel more connected to the content and to their classmates (Ibid). In fact, almost half of the tweets in this study were social in
nature, where students shared their passions and interests. However, some students raised the point that the structure of the class was social in nature, and that they felt a sense of community would have developed regardless (Ibid). Nevertheless, these findings also lined up with a previous study that demonstrated that Twitter helped build a sense of community within a class of students (Wright, 2010). Based on the literature, it appears the social nature of Twitter and its ability to build connections lends itself well to building community in the classroom.

Researchers point to many factors in building online communities, one of which is the presence of dynamic discussions (Swan et al., 2000). In their research, Swan et al. highlight the importance of discussion when building knowledge communities (2000). They credit this active discussion for its ability to help students negotiate ideas and construct knowledge, but also bring to light the fact that this practice is time-consuming. They argue that in order for students to become invested, they must see these discussions as valuable and authentic (Swan et al., 2000). They suggest that making the online discussions count for a grade and having students be accountable for frequent discussions makes for a more successful online community.

Another benefit of the use of these tools is an enhanced level of communication between students and teachers (Swan et al., 2000). The interactive element of microblogs such as Twitter allowed for teachers to provide feedback and direction to the discussions taking place, but more importantly it helped teachers gain a better understanding of their students’ needs (Ibid). For example, when Twitter was used for a class project in an undergraduate class, students often communicated challenges they faced and had more informal communications with their teachers, which resulted in higher quality projects
This communication between students and educators has been found to enhance learning (Garrison & Akyol, 2009).

The findings presented in this section are of great importance to me, as I wish to focus on how Twitter can be used in the classroom to build a positive community environment, increase communication and encourage students to share their knowledge in the hopes of increasing student achievement. While the element of student-teacher communication is outlined in the research presented above, the experiences of the teachers and their views on social networking initiatives are under represented. Using these technologies in the classroom requires teachers to monitor the discussion on a regular basis and to hold students accountable for their online contribution. The role of the teachers as a facilitator seems essential to the success of Twitter initiatives, and should be further explored. As part of my research, I am interested in exploring the views of these facilitators and what barriers intermediate teachers face when attempting to include Twitter in the classroom.

2.3. Can Twitter Be Used in Conjunction with Collaborative Learning?

Despite the divide in the literature, it is clear that Twitter and other related social networking sites have a lot to offer the field of education. However, Schroeder et al. correctly point out that the “inherent strengths of social software do not emerge by themselves” (Schroeder et al, 2010, p. 165). When exploring social software technology and how it can benefit student learning, it is essential to consider the pedagogical strengths of the software as it relates to the needs of the learners (Schroeder et al., 2010).
It is important for teachers to realize that they cannot simply set up an assignment on Twitter and expect their students to complete it on their own; these types of activities require teachers to be proactive in engaging the students, fostering social skills, and creating a “dynamic collaborative environment” (Schroeder et al., 2010, p. 165). When researching Twitter and its impact in the classroom, I noticed a lot of similarities between this strategy and collaborative learning. The goals and benefits of these two strategies appear to line up and support each other. I will now address how Twitter can meet the pedagogical needs of collaborative learning activities.

Collaborative learning is a complex and nuanced concept. While it is difficult to generate a concise definition that encapsulates everything this term means to the field of education, Kirschner illustrated which tenants are important to it. He highlights that in collaborative learning, the teacher is the facilitator and the students take part in active learning (Kirschner, 2001). The teacher designs lessons where students must work together to solve a problem or create a finished product (Laal & Laal, 2011). This means that students take responsibility for their learning, reflect on their assumptions and thought processes, all while developing important social and team skills (Kirschner, 2001). In their research, Laal and Laal highlight that when presented with collaborative learning tasks, students “are challenged both socially and emotionally as they listen to different perspectives, and are required to articulate and defend their ideas” (Laal & Laal, 2011, p. 491). Therefore, using these types of learning strategies engages the student actively and pushes them to reflect on what they are learning.

One point Kirschner (2001) presents as an element of collaborative learning is the fact that students engage in small group activities. I believe that the skills students learn
from in-class collaborative work can be easily extended to a large group or community setting. Indeed, when Dillenbourg defines collaborative learning as “two or more people learn or attempt to learn something”, he emphasizes how broad and open this concept truly is (Dillenbourg, 1999). Adopting this definition, he argues that learning can occur in pairs, small groups, classes, communities and beyond (Ibid). In his book on cognitive and computational approaches to collaborative learning, Dillenbourg argues that learning occurs through triggers that activate specific learning mechanisms (Ibid). When engaging in peer interactions and activities, triggers such as explanations, discussions and disagreements spark cognitive mechanisms that allow information to be internalized and understood (Ibid). While these mechanisms do not happen uniquely when collaborating, he argues that they occur more frequently in collaborative learning than individual learning (Ibid).

However, collaborative learning should not be confused with group work, as it requires much more than simple interactions between students. When engaging in collaborative learning, students share responsibility in order to build a consensus within the group and learn from one another (Panitz, 1996). It requires much more than simple foundational knowledge; this type of learning requires students to question critically and to actively participate in the learning process (Bruffee, 1995). This is attained by the teacher shifting the responsibility of learning on to the students and taking a step away from their “expert” role in the classroom (Panitz, 1996). This creates a student-centered learning environment where students actively construct knowledge together. Finally, collaborative learning is built upon the principle that students will generate a greater understanding working together than they would apart (Orr, 1997). Through this learning
strategy, students become conscious of the fact that social interactions are linked to increased understandings (Ibid).

There are many instances when face-to-face interaction is not necessary for collaborative learning to occur. One example of this is computer-supported collaborative learning (CSCL). This type of learning examines how technology can facilitate students sharing and creating knowledge through peer interaction and group learning (Resta & Laferrière, 2007). It is inspired by Piaget’s work on constructivist knowledge and draws on the idea that cognition is a social process (Piaget, 1964). Computer-supported collaborative learning focuses on interaction, discourse and participation to engage students in active learning (Resta & Laferrière, 2007).

Using technology to support collaborative learning is useful for many reasons, some of which are unique to computer-mediated learning and others than intersect with traditional teaching methods. For one, it readies students for a society that highly values collaboration and knowledge creation (Resta & Laferrière, 2007). When UNESCO published their world report “Towards Knowledge Societies”, they found that teachers thought that given the changes in the workplace, there exists a need for students to learn not only technological skills, but also interdependent and teamwork skills (UNESCO, 2005). Secondly, research has linked collaborative tasks to student engagement, an important determinant of student success (Brett, 2004; Stahl, 2004). CSCL also promotes higher order thinking skills, student satisfaction, and productivity (Resta & Laferrière, 2007). Finally, it allows for flexibility in learning in terms of time and space and creates opportunities for students to learn independently (Collis & Moonen, 2001; Palmieri, 1997).
As we can see, the benefits of using Twitter and collaborative learning in the classroom align very closely. The question remains, can Twitter be used in the classroom as a collaborative learning tool that supports deeper learning?

Chapter 3: METHODOLOGY

3.1. Procedure

The purpose of this study is to examine if and how Twitter is being used as a learning tool in the intermediate classroom. Its aim is to investigate whether Twitter has positive effects on student academic engagement and if it aligns with the tenets of collaborative learning. My goal is to identify useful strategies and areas of concern, as well as to make recommendations for Twitter’s future use in the classroom.

The literature review revealed that Twitter does have value in the classroom, particularly in terms of student motivation and community building. However, most of these studies focus on higher education classrooms and on the experiences of university students and staff. Twitter’s use in the intermediate classrooms remains relatively under researched. Gaining insight on how these teachers use Twitter in their class will help us better understand how this relatively new form of technology fits into the context of an intermediate classroom.

Finding the answer to this question required an in depth understanding of how individual teachers use Twitter in the classroom. Therefore, I used a case study approach to answer this question. This approach required me to gather a large amount of detailed information from a select few specific cases (Yin, 2009). I focused on three teachers who have used Twitter in their classroom. In order to acquire multiple sources of information
for this case study (Yin, 2009), I interviewed these teachers and ask them to elaborate on their experiences in the classroom, their classroom management techniques when using this technology, their lessons involving Twitter and the success of these lessons. This allowed me to gather a large amount of data from a few key teachers who use this technology in the classroom and to accurately understand their perceptions, experiences, and opinions.

3.2. Instruments of Data Collection

Data collection took place through face-to-face semi-structured interviews. When determining what type of interview to use, I had to consider what would be the most practical and effective strategy for gathering information. Although a phone interview would have certainly been a practical means for acquiring data, it would also have meant I would have had to forfeit informal communication channels, such as body language and facial expressions (Creswell, 2013). Losing this information would have limited my ability to ask effective follow-up questions and could have made communicating with my participants feel impersonal. While a focus group is also recommended for the case study approach (Creswell, 2013) and would have given my participants the chance to openly discuss the topic at hand in a cooperative way, I considered this approach to be logistically difficult, as my teachers worked at different schools. Therefore, finding a time to meet as a group might have proven to be difficult. Given the fact that I wished to deeply explore my participants’ experiences with Twitter in the classroom, a face-to-face interview represented the most logical approach. Its structure is such that it could, if
performed correctly, allow me to glean more relevant information from my participants by building a personal connection.

The questions were designed ahead of time and given to the teachers to review prior to their respective interviews (see Appendix B for a schedule of interview questions). However, throughout the interviews, I reserved the right to elaborate or expand on certain questions if a participant had a lot to add, or if new questions arose during the interview. All three participating teachers were given the same interview questions, but given the fluidity of the semi-structured interview process, the final set of questions differed. Additionally, once the participants were selected, the interview questions were reviewed, and subsequently tailored, to their background. One of my participants lived two hours south of Toronto, so I used email correspondence when conducting her interview. However, when possible, interviews were conducted face-to-face.

3.3. Participants

Participants were selected specifically based on their previous experience with or knowledge of the use of Twitter in the classroom. When recruiting participants, I used both my education connections and online networking. One participant was recruited through a network of teachers taking a course on holistic technology use in schools. Another was chosen based on their featured work in a professional blog. I knew the final participant due to her involvement in my school. Because my area of research was so specific and under researched, I was selective about who to interview. Once a participant was located, I asked them follow up questions regarding their use of Twitter in the
classroom. (See Appendix A for a letter of consent for participants and for follow-up questions). The results of this initial survey were also used as an additional source of primary data for this study.

When setting the boundaries for the cases, I outlined a set of qualities the teachers interviewed should have. I decided the participants should be intermediate teachers with at least two years of teaching experience. They were required to have experience working with technology and to have used Twitter in their classroom teaching at least once. Three teachers were chosen in order to add breadth to the data while also ensuring that the data collected was focused and detailed.

3.4. Data Collection and Analysis

All face-to-face interviews were taped, with the permission of the participants. The interviews were then transcribed, coded and analyzed. The coding process played out through several rounds of coding. The first round was an overall review of the data, which led to the emergence of initial overall themes. In the second round of coding, notes were made in the margins of the data, elucidating codes or categories. These codes described what the information represented, framed in an educational format. Many codes repeated themselves throughout the data, and some parts of the data were assigned to more than one code. In the third round of coding, more categories were drawn out of the data, thereby allowing me to draw more specific information from the transcripts.

From there, I grouped codes into sub-themes, based on the relatedness of the information they represented. I then organized these sub-themes into corresponding overarching themes. For example, sub-themes relating to communication and
connectivity were grouped into the “community building” theme. It is important to note that some sub-themes were repeated across different themes. For example, the code “students teaching each other” fit into both the “student learning” and “community-building”.

When coding the second and third interview, I used these overarching themes and sub-themes as a guide. Although new sub-themes emerged, the overall themes remained the same. A diagram depicting the organization of themes, sub-themes and codes is depicted below:

Figure 1: Organizational chart depicting the themes, sub-themes, and codes that emerged from analyses of the participant interviews.
The organized data was then studied and compared to the existing research on the use of Twitter in the classroom. From there, I will discuss these findings and formulate a conclusion. Additionally, I will formulate a section on recommendations for teachers who wish to use Twitter in the classroom, which will include pedagogical insights on how to use Twitter as a learning tool. These recommendations and suggestions will be based on the data collected on the participants and on my personal insights.

3.5. Ethical Review Procedures

I followed the ethical review process outlined by the Master of Teaching Program at the University of Toronto. Participants were required to sign a consent form detailing the goals of my study as well as the terms of their participation. All consent forms were duplicated and a copy remained in my records for the duration of the project. Additionally, all participants were asked for their consent prior to any audio recordings. In order to maintain the confidentiality of the participants, pseudonyms were used in the final draft and none of their personal information was revealed. The participants maintain the right to withdraw from the study if they wish to do so.

3.6. Limitations

The time allocated for this project poses several limitations on my study. First, the constraints of the program only allowed a small sample of teachers to be used. Given the additional requirements of the program, I was only able to interview three participants. This reduced the scope of the study, as it limited the variety of perspectives I was able to gather. While having fewer participants allowed me to gain an in-depth understanding of
their experiences, it limited the breadth of understanding that might have improved through a larger sample. Given a longer time, I would have been interested in administering a board-wide survey asking teachers about their use of social media in the classroom which would have offered some interesting quantitative data to support my interview data, while also giving me a broader representation of current trends among teachers in educational technology use.

Another major limitation to this project was that there are not many teachers who actively use Twitter in their respective classrooms. As it is a relatively new technology and is more popular with youth than adults, many teachers may not have had the chance to explore it properly in a learning context, rather than only in a social context. This caused me difficulties when finding research participants. Another way to find participants would be to find teachers through my Twitter network. While I did use Twitter when searching, my reach was not extensive enough to find new participants. As my network builds, I would be more able to find participants meeting my criteria.

Chapter 4: RESEARCH FINDINGS AND ANALYSIS

In this chapter, I will examine the patterns that emerged from my analysis of the participants’ interviews. I will begin by introducing each teacher, elaborating on their experiences, their relationship with educational technology, and how they use Twitter in the classroom. I will then describe the main themes and subthemes that emerged from the participant interviews. Each theme will reflect the contributions from each participant.

Several key themes emerged from the interviews. While they were echoed throughout the three interviews, each participant varied in how they manifested these
themes in their own teaching practice. I will relate these common themes and differences back to the relevant literature.

4.1. Introduction to the Case Studies

4.1a. Participant 1- Alicia, Secondary School Teacher

My first participant, Alicia, has fifteen years of experience teaching in private school settings. She currently works at a co-educational private school where she teaches a Grade 11 cooperative education course and physical education. Her school has integrated technology into everyday practice. It is a one-to-one laptop school where every classroom has a SMART Board. This emphasis on technology use has been a part of the school since its inception and plays a large part in the school community. For example, the school uses Twitter and the learning platform Moodle to communicate information to students and parents. Alicia has embraced technology use in the classroom and has pursued her professional development through educational technology courses offered by OISE. In fact, I met and recruited Alicia through a network of students taking an online course on holistic approaches to technology use in the classroom.

Alicia introduced Twitter into her classroom for the first time last year, where she integrated it into her cooperative education course. In this class, students completed an internship, working for two-week blocks separated by classroom time. As a result, students would only see each other in person every two weeks. Alicia wanted to find a way to help her students stay connected while away from school, so she created a classroom Twitter account. She asked each student to use this account to post about their internship, in order to share their experiences with their classmates. Her primary goal in
using Twitter was to help her students stay connected while away on their placements. As she explains, Twitter provided her class with “a place to share and a place to bring everyone together […] and get a sense of what they were doing at their placements”. Alicia felt that the course’s practicum structure caused a lack of connection within her class, as her students were missing out on the experiences of their classmates and were unable to relate to and learn from them. She used Twitter in her classroom to bridge this gap.

4.1b. Participant 2 - Erica, Secondary School Teacher

Erica is a secondary school teacher who has taught English, media studies and history for the past nine years. She teaches at a small public high school in an industrial town of approximately 40,000 people. Erica has a deep interest in technology integration. Aside from using technology widely in her classroom, she also teaches an online course for high school students, does presentations on social and digital media in the classroom, and writes a professional blog about her classroom experiences. It was through this blog that I recruited Erica.

Erica used Twitter to help her students think critically about the Shakespeare texts explored in her classroom. She had students choose roles within the play, then facilitated small-group meetings where students met and discussed their characters and their actions. These discussions led to students creating tweets that expressed “behind the scenes” portrayals of their characters, such as their thoughts, actions and feelings. These tweets served to show how students thought their characters would respond to a certain scene, thereby pushing them to experiment and interpret beyond the text. The students tweeted
their responses using their character’s name, creating a class Twitter feed filled with Shakespeare characters and their behind-the-scenes thoughts.

### 4.1c. Participant 3 - Lisa, Elementary Supply Teacher, Course Instructor

Lisa, a primary-junior teacher, currently balances being a substitute teacher in the Toronto District School Board and instructing a Masters course on educational technology. In this course, she leads teacher candidates in discovering teaching techniques and strategies related to educational technology. When substitute teaching, she works in classrooms ranging from kindergarten to grade eight, and often returns to a school where she has developed a relationship with a group of students in a special education class. Prior to her career in education, Lisa worked at a computer software corporation for many years. Armed with her knowledge of technology, she has transitioned to the field of education and educational technology. She employs many teaching strategies that use technology in her Master’s level class.

Lisa is an avid Twitter user; she uses it as both a professional development tool and as a classroom teaching strategy. She has set up her Masters class with a group Twitter feed, where students can share main ideas from class and new resources with their peers. She is currently completing her PhD in the field of educational technology, and as such, is extremely knowledgeable on the topic. She provides an “expert” opinion to the interviews I have conducted.

In her interview, Lisa focused on the way Twitter allows classrooms to connect and share across the world. She spoke at length about a ten-week project she follows online called #WalkMyWorld, in which classes sign up to take part in a collaborative social
media project. Each classroom, ranging from kindergarten to university, takes part in sharing pieces of their “world”, such as their experiences and perspectives. The classes are connected through a common hashtag, allowing users to see what others are posting. These posts take many forms, ranging from images, links to blogs, or links to recently completed classroom activities.

In addition to general posts, classrooms can also take part in weekly learning events designed by the project’s creators. Lisa offered the example of the “Opening New Doors” activity, in which students can share either literal or abstract interpretations of the activity prompts. She explains, “last year, some people ended up just using it as an inspiration for poetry and they had their classes create poetry for every activity. So it might be a poem, ‘let’s develop a poem this week about a door, going through a door’, something along that theme”. Students can then go online and follow the project to see how other classes interpreted the learning events.

As we can see, the teachers interviewed come from diverse backgrounds and each offer a unique perspective to Twitter integration in the classroom. I will now explore the main themes that emerged from the participant interviews. Their insights and observations will be interwoven with my connections to the literature and analyses.

4.2. Community Building

4.2a. Bringing an Online Community Into the Classroom

The topic of community building was a strong recurring theme in Alicia’s interview and has been a part of her teaching practice for a long time. When discussing her classroom structure, Alicia described how she built community in her cooperative
classes prior to using Twitter. A common practice in her cooperative education course was to begin each class with a small community building activity. For the first five years of her course, she would prepare questions aimed at moderating a class discussion where students shared the highs and lows of their placement experiences. However, Alicia found that once students started connecting online throughout their placements, the classroom discussions happened more organically. She said, “the [discussion] questions developed on their own because the kids knew what each other were doing”. She also noted that when the students returned to the classroom, they asked each other more questions about their placements and she perceived an increased connection between the students. Erica’s experiences align with the current literature, which points to Twitter as a useful tool for building community among students (Domizi, 2013; Schroeder et al., 2010; Wright, 2010). There is also a strong link between her observations and key elements of collaborative learning, as her students experienced a high level of interaction and sharing when doing this Twitter assignment (Panitz, 1996).

Alicia found the social media tool to be an asset in her classroom. She noted that although she and her students already felt like a class, it was “never the same feeling you got when you’re teaching the kids every other day”. Using Twitter helped to bridge the gap between the weeks her students spent in placement and their classroom time. She noted that “bringing Twitter in helped to create that more regular community” and that it helped her students feel more connected when they came back to the classroom. She attributed this change in climate to the fact that her students knew more about their classmates’ practicum experiences and thus had meaningful and contextualized questions for each other based on what they read online. It is likely that Twitter’s design played a
role in this increased connection, as it allows users to reply to tweets in real time. Furthermore, the content posted on Twitter is often relevant and immediate, as students can post from a variety of mobile devices. Alicia commented,

> Twitter is so out there, it’s so disconnected. To use it as a community building tool almost sounds counter intuitive but it works because when we don’t see each other in person, that’s a way to build that community and to make it a group that’s moving through the course together instead of individuals moving through the course just doing their own thing.

Alicia’s classroom observations counter the view that online communication prevents the formation of personal connections. In fact, her experience supports research showing that these communications allow students to share meaningful experiences and create a comfortable and trusting learning environment (Garrison & Akyol, 2009; Schroeder et al., 2010).

### 4.2b. Social Benefits

Another aspect that emerged from the data was that of student collaboration. Although generating tweets is usually a solitary act, both Alicia and Erica emphasized the teamwork component that arose from their Twitter activities. Both teachers partnered students up or allowed them to work in groups when producing their tweets. For Erica, this grouping happened naturally within the classroom, with students adopting the personas of related characters meeting to discuss scenes in the play. She observed students teaching each other in these conversations, as they discussed the scenes and how their characters would react. In this case, the assignment created a need for students to
share responsibilities and actively construct knowledge together, as each student provided their group with expert knowledge on their character, thereby integrating elements of collaborative learning (Brufee, 1995; Panitz, 1996). Erica also noted that this type of learning was useful because, “[students] are not as embarrassed to ask their peers questions as they might be to ask me”. The social learning Erica observed in the classroom echoes Kirschner’s ideas on the benefits of collaborative learning strategies (Kirschner, 2001).

Alicia partnered students based on their comfort with the social media tool, allowing students post together. She put students who were less comfortable tweeting with those who had prior experience, thereby letting them teach each other. Erica also noticed a trend whereby students who were less experienced with technology learning from those who were. Alicia found that those who were partnered in this way gained confidence from working together and soon became confident enough to post individually. In fact, Alicia noted that her student with the greatest learning needs took a large leadership role in setting up the Twitter account and helping other students navigate the account.

Alicia also noticed that a lot her students’ personalities shone through when tweeting, stating, “I think that some of the students that wouldn’t necessarily speak up in the classroom definitely [get] their voice gets heard online, and [while] some of them that are even a little bit more serious in the classroom, their Twitter posts might be a little more charismatic”. Although not all students underwent this social change online, she definitely seemed impressed by the fact that the web tool brought some of her students out of their shell. Erica also noticed that the Twitter activity brought out the playful side
of her students saying some students “would tweet on their own time, developing a
distinct identity for their character, trying to outdo each other with clever hashtags”.

Additionally, Erica found that her students “more readily engaged with students
they wouldn’t normally engage with”. Alicia also noticed her students working well
together during her Twitter activity, better than they had in the past. She said, “Even
though I was doing community building activities two years ago, without Twitter – and
it could be my classes too – but the class never gelled the same way”. It is possible that
the collaborative nature of Twitter and the increased interaction the students
experienced helped Alicia and Erica’s students build on their social skills. Collaborative
learning requires students to develop leadership and communication skills, which
Twitter activities can target (Orr, 1997). However, Erica noted that this increase in
student interaction could be attributed to the amount of role-playing and discussion that
took place in class prior to sending the tweets. This finding is similar to that of Denise
Domizi’s study, where students suggested that their classroom’s social structure may
have played a role in their increased online connection (2013). Whatever the reason for
this heightened engagement, it is clear that the structure of this Twitter activity gave
students the chance to interact with each other more.

Given the observations Alicia and Erica shared, it appears that many social
benefits, such as community building, students teaching each other and increasing student
interactions, arise from using Twitter in the classroom. Moreover, through these benefits,
we can also see elements of collaborative learning shining through.
4.3. Authenticity

Authenticity was another prevalent theme that emerged from the data. Both Lisa and Alicia emphasized the importance of this concept when using Twitter in the classroom, but the way in which they illustrated this idea differed.

4.3a. The Role of an Authentic Audience in Student Engagement

As we saw in the literature, the availability of a real audience plays a role in student learning and motivation (Gao et al., 2012; Waller, 2010). Lisa illustrated the importance of an authentic audience using the common example of “parents’ week”, in which students present classwork to their parents. She explained that not only does the use of an audience help the students be invested in their product, but also that the act of explaining their work to a third party reinforces their learning. She extended this example to creating authentic audiences online, such as having parents look at students’ work on Twitter or on class blogs.

Lisa explained how authentic audiences can be extended beyond the students’ immediate community and how online connections can create an organic experience for the class. Indeed, Gao et al. made a similar argument in their meta-analysis of microblogging in education, where they used recent studies to illustrate the role of authentic audiences in student engagement (2012). In her interview, Lisa discussed the #WalkMyWorld project at length, in which many classes complete the same learning event and share their work online. She gave the example of a class who, last year, created poems for a learning event and posted them to the project’s website. She said that this type of activity is engaging for students because “it’s an authentic audience where there
may be more motivation for your students to actually want to create those poems or want to find a connection to other students who may also be creating poems”. The idea of student motivation through publishing and connecting with real audiences was similarly emphasized in Waller’s study (2010). In short, the desire to share and have an authentic audience engage directly with their work is a motivator for students, as it extends learning outside of the classroom.

4.3b. Authentic Content

Aside from the audience, Lisa also emphasized Twitter’s ability to connect students to real-time and authentic learning. She spoke to the fact that students often find it hard to relate classroom learning to their lives, saying “oftentimes, we give students projects to do and activities to do, and we make the situation so hypothetical that they can’t actually imagine where they would have to do this”. She pointed out that when the class content does not connect to students’ experiences and daily lives, they lose the opportunity to be engaged. As the objective of Twitter is to update users in real-time, it can be used to connect course content to events currently taking place around the world. Lisa gave the example of a teacher leading a unit on space. She explained that they could introduce real time learning and engage students by exploring tweets sent out by astronauts currently living on the International Space Station. She described how engaging such an activity could be, stating, “that is so far in advance of what you find in the textbook, because there is nothing in the textbook about what is happening on the International Space Station right now”. By relating class content to real life events, Twitter can help to create an authentic and engaging context for learning.
4.3c. Creating an Organic Online Discussion

Alicia also spoke a lot about the importance of authenticity, but in a different way. She found her Twitter activity to be quite engaging because she was able to facilitate an environment where an authentic discussion and student sharing occurred. First, she encouraged students to post their experiences soon after their placement day had finished, in the hopes that their tweets would better reflect their experiences. She also offered them flexibility on how and what they wanted to post. This led to some students posting pictures, others using clever hashtags, and many simply sharing their daily routines and experiences. She wanted her students to engage as much as possible, so she tried to keep their Twitter feed as “social media-like” as possible, saying “you don’t necessarily want it to be relaxed, but you want it to be relaxed enough that they’re engaging in it because it’s real”. Alicia suggested teachers work to create a genuine online conversation, and that they should “encourage it to be as natural as possible […] in our class I felt like the more natural they were, the more they got out of it”. Her advice echoes that of Swan et al., who advocate for authentic dynamic discussions when facilitating students learning online (Swan et al., 2000).

The predominance of the theme of authenticity throughout the interviews demonstrates its importance when integrating Twitter into student learning. By creating opportunities for students to showcase their learning outside of the classroom, engaging them with real-life content, and facilitating an organic discussion online, teachers can use Twitter to create meaningful learning.
4.4 Changing the Way We See Social Media

Given the rapidity at which social media evolves, teachers are faced with the challenge of integrating it into the classroom in ways that are current, engaging and useful. As more platforms and uses of this technology evolve, so must the way in which we view these tools and how they can be used.

4.4a. Students and Social Media Responsibility

The importance of social media responsibility has become a topic of interest in both the media and the literature. As more methods of communicating emerge, our society must deal with the accompanying missteps and potential harmful uses that they generate. The teachers I interviewed were concerned with this topic, as they were aware of the ways students can misuse social media technology.

Prior to introducing her Twitter activity, Alicia taught a unit on social presence and responsibility online. She suggested teachers instruct students on “cloud presence and digital citizenship” and “go through a full unit so that everybody really understands [its] importance”. Once the unit was taught, Alicia simply had to remind students of appropriateness when interacting online. She felt more comfortable knowing her students had been thoroughly introduced to this topic. Despite the preparation she gave her students, Alicia still felt uneasy about the fact that negative interactions may still occur during her online activities. Similarly, Erica expressed her initial concerns about the private messaging component of Twitter and how her students might behave online. In a preventative effort, she created the students’ accounts so she could monitor their online interactions and remove any inappropriate content. She also informed her students that
private messaging was not allowed from these accounts. Alicia also recommended teachers do this, saying she would adopt this strategy in the future. Luckily, neither teacher reported inappropriate online activity from their students.

Why would teachers risk these inappropriate interactions occurring? Why not leave social media out of the classroom entirely? Alicia expressed a sense of responsibility to prepare her students for, and educate them about, the potential impacts and proper uses of social media. She said, “I feel like they should be doing it in the classroom if they’re going to be doing it in their outside life anyways. So, why not bring it in and develop a way to do it properly and to be responsible with it instead of just learning from your friends’ mistakes?”. From her perspective, students will be engaging with this technology outside of the classroom, so as a teacher, she wishes to provide them with a meaningful understanding of its impact before they make a mistake on their own.

Erica introduced this element of social media responsibility through the context of the practica her students were completing. She said her class discussed strategies to uphold a professional online presence and brainstormed appropriate venues for negative communications as a class. Lisa also emphasized the importance of social media responsibility, suggesting that teachers talk to their students about how to be safe online and post respectfully. She described the advantage of using Twitter to teach both content and responsibility at the same time, stating, “if you can teach your students through a simple Twitter activity to be respectful of each other online, that’s really great”. Therefore, integrating Twitter in the classroom is an effective way to open up a classroom dialogue around social media responsibility and safety.
4.4b. Twitter as a Tool for Content Learning

Recent studies have focused on Twitter’s academic potential in an educational setting (Blessing et al., 2010; Junco et al., 2011). Throughout the interviews, I did find evidence of collaborative learning in the form of communication, student engagement and teamwork. However, as a teacher I am left wondering about the impact Twitter’s collaborative function has on content learning and student reflection, both of which were highlighted in the literature review.

There was a marked absence of content learning in Alicia’s interview, and when asked about academic impacts, she stated, “it was just used as a community building” tool. However, in Erica’s case, I was able to detect an academic benefit to using Twitter in the classroom. She used Twitter to engage students in critical thinking around the play they were studying, by pushing them to think about it in a novel context. By adopting roles in the play and giving their characters a unique voice, students were able to demonstrate their ability to think critically about the piece. This perspective-taking use of Twitter echoes the benefits McWilliams et al. outlined in their study (2011). Erica also used the tweets students created as a formative assessment tool, verifying student understanding of the play’s intricacies. She stated,

I wanted to see if their discussions demonstrated an understanding of
the text and if they were making connections to prior knowledge,
knowledge of context, characters, and the text to make their tweets.

These tweets were then discussed and debriefed the next day, providing a potential consolidation piece to the learning activity. Therefore, Erica provided a concrete example of how Twitter can enhance student understanding of class content.
Lisa also spoke to Twitter’s merits in terms of content learning, proposing teachers use Twitter as a tool for student consolidation. She suggested that asking students to tweet about their learning can help them because “sometimes revisiting that learning that took place earlier helps to solidify what we learned. And even just coming up with the 140 characters of “something that I learned in science this week” can help them build on their learning”. This type of approach fits in with a study by Blessing et al., where students were sent relevant class information in order to help them with content recall (2012). Indeed, if a classroom of students were actively engaged in consolidating knowledge on Twitter, they could also see their classmates’ responses, thereby reinforcing the learning. As an aside, this type of activity could serve as a formative assessment tool, as Erica pointed out, because it would allow the teacher to pick up on students’ misconceptions or misunderstandings in an effective way.

4.4c. Twitter as a Tool for Reflective Learning

Another benefit that arose in the literature was Twitter’s potential to engage students in reflective learning (Ebner & Mauer, 2009; Schroeder et al., 2010; Wright, 2010). In Alicia’s activity, the goal was to build connections and increase communication among her students, but not specifically to impart content knowledge. However, she did discuss the low level of reflection her students engaged in when online. Alicia commented that in the future, she wishes to encourage more reflection from her students “just to get them questioning what they might, where they might take that thought, so to get a bit of the metacognition reflective piece going”. She talked about potentially including a peer assessment in next year’s course in order to promote more reflection.
Alicia wants students to use it as a reflection tool “instead of just using it as a conversation starter, getting them to analyze it a little bit more deeply and then in that, potentially their abilities on Twitter would be increased”. In this way, Twitter could be used as a tool for reflection, as well as peer and self-assessment.

A potential challenge to getting students to learn from Twitter is that it has to date been viewed as a purely social tool. However, Lisa pointed out that there is value in encouraging students to learn to use Twitter as an educational tool. As the technology is extremely connected, she said it could be used as a resource to find and critically examine current information. Lisa noted that getting students to transition from using Twitter as an educational tool rather than a social one can be challenging but worth the effort. Given its potential to share information and resources, she said “it is really valuable for intermediate teachers to think about [teaching that transition] because it would be fabulous if their students went into high school knowing that Twitter wasn’t just a social tool but was also a tool for learning”. Therefore, given the correct set up, Twitter could be used as a tool for reflective learning.

4.5. Role of the Teacher

4.5a. Assessment

As we have seen through the literature and the testimonials of these three teachers, the original design of the learning activities and the ongoing contribution of the instructor is very important to the success of Twitter in the classroom. However, when considering a classroom assignment, teachers must always be thinking about how they will assess their students’ progress. In Alicia’s case, she introduced an assessment
halfway through the assignment in the hopes of motivating her students to be more active. She noticed a difference once the assessment piece was put in place, saying, “as soon as the rubric came into play, [the students] definitely became more engaged in the assignment”. While she reported that some of her students were already engaged on Twitter, she found the assessment brought in the students that were more reluctant to post. She seemed ambivalent about this effect, as she was happy students were posting more but said, “there were some students that you could tell were only doing it because I asked them to”. As teachers, we want our students to be authentically engaged in the assignment. However, research has shown that in order for students to use Twitter in an academically successful way, teachers must create assignments that guide them and that give value to the work students are doing (Junco et al., 2013; Swan et al., 2011). Indeed, Erica introduced assessment into her assignment, but did not directly assess the tweets students produced. She stated,

I originally planned on assessing the actual tweets, but I had some students who were very anxious about being assessed in a medium they were unfamiliar with. And that didn’t seem fair to me either since the curriculum expectations had nothing to do with Twitter. That’s why I ended up assessing the [in class] discussions.

In Erica’s case, she used the class discussions her students produced in order to assign them grades, but used the tweets they created to catch any misconceptions of the play. Alicia also used the tweets to push students to think more reflectively online. By revisiting the Twitter feed in class, she was able to encourage good posts, thus leading to
higher quality tweets. Erica used a similar tactic, displaying tweets on the board to discuss their meaning and implications in class.

4.5b. Instructor Presence Online

In an attempt to keep the online conversation as authentic as possible, Alicia did not directly post or add comments to the students’ Twitter feed. Her hesitation to establish an online presence was based on her past experiences as a student, saying “[Having taken] a couple of online courses myself, I felt like having the instructor presence did motivate me a little bit to participate more, but it [did] change the dynamic of the conversation”. Alicia wanted to keep her students’ experience intact and feared that involving herself might take away from the project’s authenticity. However, having reflected on her students’ online contributions, she suggested teachers post discussion questions or prompts online. She thought this might motivate the students posting less frequently to get involved in the conversation while also taking the pressure off them to produce something original. Indeed, research has shown the importance of teacher involvement in online discussions and assignments, as their prompts increase student engagement and improve their academic outcomes (Junco et al., 2013; Schroeder et al., 2010).

4.5c. Protecting Students and Dealing with Inappropriate Content

When discussing Twitter’s role in the classroom, Lisa brought up the risk of potentially exposing students to inappropriate content. While teachers can actively block strangers from following the class Twitter account, the social application’s openness
means students can easily search and stumble upon questionable content. Moreover, anyone can connect to the class through their hashtag. However, Lisa did not see this as a deterrent to using Twitter in the classroom. She suggested teachers connect with their principal and review their school board’s policies and protection plans before adopting Twitter. This element of communication is key, as it helps teachers understand their responsibilities and set up expectations with students and parents.

Lisa also advised teachers use these instances as a “teachable moment”, in order to educate students on what to do when they find content that makes them feel uncomfortable. Rather than brush these instances aside, she encouraged teachers to create an open dialogue with students where they can discuss what to do in these situations and how to avoid them in the future. I believe these types of lessons are important for students, especially since they are able to access more and more content as technologies grow and change. Students must understand the different sources of online information and how to interpret their presentation in order to make good choices when navigating social media applications and the Internet.

The findings of this study show that Twitter can be used in the classroom in order to promote collaborative learning. We have seen how its authentic tone and content can enhance a sense of community and lead students to build on valuable critical thinking skills. Additionally, its structure is such that students are pushed to collaborate and develop important communication skills. My conversations with the three teachers interviewed also revealed many issues to consider when integrating Twitter in the classroom, such as social media safety and assessment implementation. The research
presented in this chapter leads to some important implications for the educational community at large, while also raising many new questions.

Chapter 5: DISCUSSION

From the data collected and its ties to the current literature, we have reviewed three different ways of using Twitter in the classroom. My discussions with practicing teachers have confirmed the research that supports Twitter as a valuable classroom tool. Moreover, my research has shown that given its ability to connect students and generate genuine sharing and discussions, Twitter shows promise as a collaborative learning tool in the classroom. It can be used to create a sense of community within the classroom, encourage rich discussions leading to critical thinking, and connect students to learners outside the classroom. The insights and advice these three teachers offer gives us a much better idea of how Twitter is currently being used in the classroom, as well as how its reach can be expanded. I will now discuss how my research impacts teacher practice and the educational community, as well as its implications for research. I will also outline the limitations of this study, and will address future avenues for research on this topic.

5.1. Implications and Recommendations

5.1a. Implications for Teachers

Given that there are so few studies on Twitter’s impact outside of the realm of post-secondary education, this research has many implications for practicing teachers.
First, through my research, it has become abundantly clear that Twitter on its own is not an engaging educational tool. Rather, it is the way teachers shape it and use it in the classroom that makes it powerful. Like any educational technology, Twitter’s strengths do not lay solely in its design, but also in the functionality teachers give it. Without thoughtful and deliberate planning and execution on the teacher’s behalf, Twitter would be unlikely to promote collaborative learning in the classroom. Teachers must reflect on what they want their students to accomplish and how they can use the technology to support their learning goals. They need to consider how students will be assessed, how to monitor online discussions, and whether they want to have an online presence. This type of technology creates new opportunities for increased interaction and sharing, but this channel of communication must be harnessed properly in order to produce meaningful learning.

Teachers should not let their shortage of expertise with social media act as a deterrent to integrating it in their classroom. Alicia shared that she lacked in Twitter experience prior to beginning her class assignment. She relied on her students to share their knowledge and was able to learn alongside her class. There are many ways teachers can learn about new technologies. For example, they can work collaboratively with their students or colleagues to teach each other. As well, there are many online blogs and websites available to help teachers get started using a new application or technology. No matter their initial comfort level, teachers will learn more about the technology the more they use it. It is also important to reflect on the success of using Twitter in the classroom, as Alicia did throughout our interview, and to identify strengths and weaknesses of the
teaching approach used. Through reflection, observation and feedback, technology teaching practices can continue to improve.

Furthermore, my findings show that there is no single prescribed way to use Twitter in the classroom. Indeed, Twitter could easily be integrated across grade levels and topics. This represents one of the main strengths of the technology; its openness and flexibility allows teachers to use it in a variety of ways. However, when deciding to integrate social media in the classroom, teachers must consider the composition of their class. Will the activity be authentic and engaging for their particular group of students? Will it serve in their learning? Will it help build a strong community? Twitter and other social media applications are not all encompassing when it comes to student engagement and learning. The use of these websites must be suited to the particular group of students.

I have shown how Twitter can create a space for collaborative learning to occur. All three teachers described their integration of the social media tool in a way that reflected various elements of collaborative learning. However, as with all teaching strategies, teachers must consider which types of learners benefit from social media assignments. In their study, Beck and Dwyer (1998) found that visual learners preferred group online collaborations, whereas verbal learners were more engaged with face-to-face communications. It is important for teachers to vary the types of teaching strategies they bring into the classroom in order to address multiple intelligences, and the same goes for educational technology. Both Erica and Alicia noted varying levels of engagement when using Twitter in the classroom, noting that a few students were not invested in the activity. This could be due to a variety of factors, including their interest in technology, their learning style, and their willingness to participate in collaborative
activities. Nevertheless, it is important to recognize that no one activity will engage all students, so variety in the classroom is needed throughout the school year in order to engage all types of learners.

As a result of this research, I have started to build my network online as a teacher. My discussion with Lisa made me see the value of connecting with teachers online. She has an extensive Twitter network that she uses to stay current on the latest trends and conversations about education. Since starting this research, I have created a teacher account on Twitter, where I follow key teachers and organizations online. I hope to build this network in order to continue my professional learning. I also want to work to develop lessons on teaching social media responsibility to students. I think it is important to develop techniques to introduce these topics in the classroom in an authentic and meaningful way.

5.1b. Implications for the Educational Community

Research has already begun on creating clear policies about how and when social media can be used in the classroom. For example, the Peel District School Board has guidelines aimed at protecting both the teachers and students when interacting on social media. As these technologies become more and more popular in the classroom, there exists a growing need to find ways to integrate them into school policy. Such policies should accurately reflect parent, teacher and administrative expectations in order to create an open dialogue about how students are using these technologies in school.

I also believe there is a need for educational technology to be taught more broadly in pre-service education. At OISE, a course exists on this topic, but educational
technology is not thoroughly integrated across other courses. I believe there is a need for topics such as technology, special education and anti-discrimination to be deeply integrated into other subjects. When these topics are taught solely as a stand-alone class, they are often left out of other courses. It is important for conversations on these topics to be woven through pre-service education, as they relate to so many aspects of the classroom. If technology were integrated into multiple pre-service courses, future teachers would be more educated on the resources and tools available online across various school subjects.

5.2. Limitations

There exist several limitations to my study. As I mentioned in the methodology section, the limited time frame and sample size had an impact on the depth and breadth of my analysis of this topic. Conducting more interviews would have broadened the lens of my research and allowed for a wider integration of perspectives. As well, given more time and participants, more and different educational strategies for using Twitter may have emerged from the data.

I also found the use of email when interviewing one of my participants to be a severe limitation. I had sent her a list of questions to fill out and send back to me. When I received her response, I immediately had a dozen questions for her concerning the activity she ran and her pedagogy. I did email her back with some of these questions, but given her busy schedule, she did not find time to respond. The use of email hindered the dialogue that forms during a face-to-face interview, and therefore limited the amount of information I was able to collect from this participant. If I were to repeat this online data
collection, I would arrange for an online chat which would allow for further questioning and clarification, thereby allowing me to gather richer information.

Finally, another important limitation is that the rarity of Twitter as a classroom tool forced me to be highly selective when choosing participants. As my goal was to gain information about Twitter’s use in the classroom, I only interviewed teachers who had personally used it. This may have created a bias, as the teachers who used Twitter were more likely to be positive advocates for technology use in the classroom. In this way, I may have collected a lot of data on the positive effects of Twitter in learning environments but may not have had gained a thorough exploration of its negative effects. Acknowledging this limitation pushed me to explore both sides of the issue in my questioning, but the resulting research project was nevertheless affected by the views of my participants.

5.3. Further study

From this research project, there are many avenues for future study. For example, given the preliminary findings of this research, there is potential to broaden the scope of my research project. A more comprehensive study in which more teachers are interviewed would offer a deeper understanding of how Twitter is currently being used in the classroom and how its collaborative nature affects student learning. Furthermore, the literature review revealed a deep need for research on Twitter’s impact on students ranging from kindergarten to grade 12. Most of the current literature examines how Twitter can be used in a post-secondary education setting. While this provides an
understanding of its educational benefits, studies relating directly to the school-age context would be beneficial for practicing teachers.

Due to the ethical restrictions of the research project, I focused entirely on the teachers’ perspective. However, the students’ voices are equally important in research on education. There exists a need for studies that examine students’ experiences and views when using Twitter in the classroom. Examining the student experience would broaden the range of this study, while also giving valuable information to practicing teachers. I would also be interested in studying how Twitter impacts student achievement and engagement in the classroom from a quantitative perspective. Using surveys and test scores to track student progress would give a better idea of whether or not this collaborative social media tool can truly help students consolidate knowledge and hone critical thinking.

Finally, social media applications will continue to expand and grow in their popularity, creating a demand for research on school policies. While work is already being carried out, this research must continue to evolve with the ongoing changes to the Internet and new applications in order to protect students and teachers online.

5.4. Conclusion

This study investigated Twitter’s impact in an educational context and how it can be utilized to support collaborative learning. It examined the perspectives and experiences of teachers who incorporated Twitter in their practice with the aim of understanding how this social media tool can support learning in the intermediate grades. The analysis of these teachers’ interviews revealed that Twitter’s collaborative design
promotes many academic and social benefits, while also highlighting novel teaching strategies and areas of concern.

It was found that when implemented in an educational setting, Twitter has the capacity to support collaborative learning. The microblogging platform’s sharing capacity can lead to increased community building and communication among students, thereby helping to create a close-knit class. Twitter also demands a high level of interaction between students, which can prompt social learning and students teaching one another. Among its academic advantages is Twitter’s ability to elicit critical thinking, guide student reflections, and aid in the consolidation of class content.

Twitter’s ability to generate organic discussions, connect students and teachers to authentic audiences, and provide students with real-life connections to learning were highlighted as valuable contributions in the classroom. The role of the teacher when introducing Twitter to students and guiding learning through this tool was greatly emphasized. Using Twitter as a learning tool requires teachers and students to change the way they see social media. These online platforms can be taken out of their purely social context and be used to promote deep learning and connections within the classroom and abroad.
REFERENCES


Appendix A: Follow-up Questions for Volunteer Participants

The teachers who respond to the letter of consent and who are willing to participate in the interview portion of my research project will be asked the following questions in an informal manner. These questions can be asked and answered either in person, over the phone, or via email. The goal of asking these additional questions is to ensure that the teachers I will be interviewing have used Twitter actively in their classroom and have a good understanding of the technology.

1. How long have you been a teacher?
2. Do you understand how Twitter works?
3. Have you used Twitter in your classroom in the past?
4. Can you describe how you used Twitter in your classroom?
Appendix B: Letter of Consent for Interview

Date: ___________________

Dear ___________________,

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching candidate. I am studying the educational and social benefits of using Twitter as a learning tool for the purposes of investigating an educational topic as a major assignment for our program. If you have experience working with this technology in the classroom and would be willing to participate in my research project, I would be very appreciative.

I am writing a report on this study as a requirement of the Master of Teaching Program. My course instructor who is providing support for the process this year is Dr. ___________________. My research supervisor is ___________________. The purpose of this requirement is to allow us to become familiar with a variety of ways to do research. My data collection consists of a 40-60 minute interview that will be tape-recorded and fully transcribed. I would be grateful if you would allow me to interview you at a place and time convenient to you. I can conduct the interview at your workplace, in a public place, or anywhere else that you might prefer.

The contents of this interview will be used for my assignment, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a conference or publication. I will not use your name or anything else that might identify you, your school or your school board in my written work, oral presentations, or publications. Nor will your name be included on the interview transcript. This information remains confidential. The data will be kept in a secure location at my home. The only other people who will have access to my data will be my research supervisor and my course instructor. You are free to change your mind at any time, and to withdraw even after you have consented to participate. You may decline to answer any specific questions. I will destroy the tape recording and transcription after the paper has been presented and/or published which may take up to five years after the data have been collected. There are no known risks or benefits to you for assisting in the project. If you wish, I will share with you a copy of your interview. An electronic copy of the final research paper will also be available upon request.
Please sign the attached form, if you agree to be interviewed. The second copy is for your records. Thank you very much for your help.

Yours sincerely,

Ariel Vezina

ariel.vezina@gmail.com

Instructor’s Name: ___________________________ Email: ___________________________

Phone number: ___________________________ Email: ___________________________

Research Supervisor’s Name: ___________________________ Email: ___________________________

Phone #: ___________________________ Email: ___________________________

Consent Form

I acknowledge that the topic of this interview has been explained to me and that any questions that I have asked have been answered to my satisfaction. I understand that I can withdraw at any time without penalty.

I have read the letter provided to me by Ariel Vezina and agree to participate in an interview for the purposes described.

Signature: ___________________________

Name (printed): ___________________________

Date: ___________________________
Appendix C: Interview Questions

Background Information:
• How long have you been a teacher?
• What subjects do you currently teach?

Technology Use in the Classroom:
• What kinds of technology do you use in your classroom?
• How do you use technology in your classroom?

Twitter Use in the Classroom:
• Why did you start using Twitter in your classroom?
  • What were your main concerns when you first considered using Twitter in your classroom?
  • Did you encounter any challenges when first implementing Twitter in your classroom? What were they?
• Can you give a specific example of how and when you used Twitter in a classroom activity?
  • What was the goal of this activity?
  • How did you set up your students for this activity?
  • What was the social structure of this activity? (Ie: did your students work together or independently?)
  • Were you able to accommodate for students with different learning needs with this activity?
  • How did you monitor the online portion of this activity? (ie: participation, students respecting each other, students completing work)
  • Did you assess the students on their online work? If so, how?
  • How did your students feel about using Twitter in a classroom activity?
• How else have you used Twitter in the classroom?
  o Do you use it often? (Ie: on a regular basis or only for summative assessments?)
  o What subjects do you use Twitter for?
• Do your students work well together when they are using Twitter in the classroom?
  Do they benefit socially from using Twitter in your classroom? (Examples? Experiences?)
• How do your students learn from each other when they are using Twitter in the classroom? (Examples?)
• What are the limitations/barriers to using Twitter in the classroom?
• Did you encounter any academic challenges when using Twitter in your classroom?
• Did you encounter any social challenges when using Twitter in your classroom?
• If you plan to do this again, what would you do differently in the future?

Collaborative Learning:
• Do you use any collaborative learning strategies in your classroom? (ex: group work, learning communities, etc). Why, what kind? Examples?
• Do you see any similarities or relationship between using social media in the classroom and using collaborative learning strategies? Any differences?

Conclusions:
• Do you know any other teachers who use Twitter in their classroom?
  o If yes, how do they use it? Examples of other teachers’ practices.
• Do you have any tips or advice for teachers who are looking to incorporate Twitter in their classroom teaching?