

Exploring Classroom Microblogs to Improve Writing of Middle School Students

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Abstract

Many of today's adolescents are constantly engaging with information through texting, watching videos, listening to music, and even writing papers. Learning to interact properly with information through writing presents a challenge for the students because they are employing all of these applications at once and believe that they are multitasking successfully. This study explored whether participants' writing changed when using a microblogging tool in *Edmodo*. The Inside Writing Frame served as the conceptual framework and was employed in creating the microblogs and grading rubric. This qualitative case study examined six microblog work samples from six eighth grade students to determine how the students' writing changed while using the microblog tool and how the participants viewed their experience. Eight themes were used as codes for the writing sample rubrics: explore, investigating, gathering data, brainstorm, organizing, defining, redefining, connecting, and citing. While using the microblogs, participants showed growth in each of their previously weak areas and experienced a positive change in their writing. During the focus group, participants indicated a positive outlook about using the microblog as a tool for writing and expressed that they would like to see Edmodo expanded to other subjects.

As the field of technology continues to grow, students are immersed with technology each day, thus, digital literacy has become a major component of school curriculums. Through incorporating technology into the classroom, students are not only learning to use these tools correctly but also are learning to become critical thinkers in analyzing these modes of literacy (Merchant, 2007). Many of today's adolescents are constantly engaging with information through texting, watching videos, listening to music, and even writing papers (Adams, 2013). Learning to properly interact with that information through writing presents a challenge for the students because they are employing all of these applications at once and believe that they are multitasking successfully (Adams, 2013).

Stephens and Ballast (2011) point out that with the onset of digital businesses and infiltration of technology into businesses, writing becomes a skill that adults must know how to do well. Stephens and Ballast state that writing, "... opens pathways for success, and it is how opportunities are gained or lost" (p. 3). Kist (2013) argues that knowing how to interact properly with technology plays a large role in the "quality of life" because future students will require those interactions.

Casey (2009) states, students in today's world are expected to be literate in technology in order to learn the task given in the workforce instead of learning to be literate while working. Students will need the prior experience with technology tools to learn the skills necessary to function appropriately within today's working world. In conjunction with the expectations of the digital world in the workforce, employers are also expecting employees to enter the workforce with the ability to think rationally and analytically (Marzano & Arredondo, 1986). Metacognition allows students to analyze, rationalize, and think about content; it is not merely fact but rationalizing the facts. Studies have shown that technology can play a role in assisting with incorporating metacognitive skills through writing within the content and gaining positive results (Sperling, Ramsey, & Klapp 2012).

The National Commission on Writing completed the Pew Internet & American Life Project, in which Lenhart, Arafeh, Smith, and Rankin (2008) conducted a national phone survey and engaged in focus groups to evaluate the current standard of writing for today's adolescents. The authors found that 93% of respondents stated they write for their own pleasure. This indicates that teens are writing regularly, but the writing quality may be degraded because of the informal procedures present in association with technology and writing. Lenhart et al. also found that 60% of teens do not perceive electronic writing as true writing. The researchers discovered that teens thought their writing could improve through greater writing instruction in the classroom and using technology tools. There are several technology tools available for writing, one of which is microblogging.

The current study examines the use of microblogging with middle school students. The intent is to discover whether microblogging will help improve students' formal writing, and to examine students' opinions on using microblogging.

Conceptual Framework

According to Grabe and Kaplan (1996), there was a shift in the view of the writing process even before technology became a major competitor. As society began to experience change and trends in learning began to change, so did the expectations of what makes good writing. With the development of new theories for writing, students were freed from a process that carried so many boundaries, such as the strict paragraph format, grammar rules, and the linear process of outlining, drafting, and revising. Certainly, these elements remain important but what researchers have realized is that "different writers will approach the task employing different processing strategies" (Grabe & Kaplan, 1996, p. 92).

With these processes, Stephens and Ballast (2011) recognized the need for a framework for writing that accommodates the needs of today's multitasking learners. The researchers developed four frames for writing: inside writing, responsive writing, purposeful writing, and social action writing. Inside writing represents the first level of the writing process which involves writing and research to support opinions and encourage a personal connection to the content. Inside writing serves as a starting point to get the ideas written down. For the purpose of the current study, the Inside Writing Frame served as the framework for formal writing, because it encourages the use of a technology tool, such as microblogging, to develop and enhance writing.

Literature Review

Constructivism seeps into the classroom environment in different ways. In fact, Hawks (2014) states, “constructivism supports shorter more frequent assessments to assess progressive increases in knowledge retention and critical thinking ability rather than fewer, more comprehensive exams” (p. 265). With the use of microblogs, the students completed numerous short, open-ended writing assignments where they researched outside information to enrich their formal writing and critical thinking ability. According to Arnold-Garza (2014), this method of inverting the assignments also helps to accommodate students who may need more time to complete, read content, and process the writing assignments.

Microblogging

Microblogging ties hand-in-hand with social networking because of the nature of writing and communication modalities with these web-based tools. Messages or microblogging serve as a major component of social networks such as *Edmodo*, an educational, social media site that employs microblogging. Microblogging consists of short, concise works of writing whether for social or academic purposes and differs from blogs. For this study, participants were expected to write one paragraph as opposed to an entire essay response. Therefore, the term microblog is appropriate for this study. Blogs are longer and more narrative in nature and are published for all to read. Unless the user changes the settings of these digital notifications, the users may continually be aware of the information as it is distributed to the community (Marques, Krejci, Siqueira, Pimentel, & Braz, 2013).

A study by Marques et al. (2013) involving microblogging, showed participants preferred microblogging to regular blogging when associated with learning and content. Microblogs serve as a tool to increase the incorporation of digital literacies into the learning environment. Mills and Chandra (2011) also found that microblogging found a more positive outcome than conventional journaling with the pen and paper method, “observing that students wrote about a topic more frequently over a more extended period of time when using microblogging, leading to a deeper cognitive engagement . . .” (p. 37).

Mills and Chandra (2011) conducted a study that incorporated microblogging into the course content. The subjects of the study consisted of college-aged students who were given open-ended writing assignments of microblogging on *Edmodo*. The researchers found positive results while incorporating *Edmodo* for microblogging. Mills and Chandra state that “the microblogging activity required its multiple authors to draw on metacognitive reading comprehension strategies, such as previewing a text to activate background knowledge, clarifying their understanding of the text as they read, and making inferences to draw conclusions” (p. 39).

For microblogging, Mills and Chandra (2011) highlight that the students are able to achieve this feat because the “microbloggers are simultaneously readers and authors. Microblogging allows students . . . to occupy the same reading and writing in rapidly interactive writing” (p. 39). The researchers observed that the students were reading the responses of their classmates before writing their responses and then also reading the responses after they had written. The students continuously reflected on the responses on the content through reading the responses of their classmates. Participants in the study helped rationalize the constant interaction through stating that microblogging “actively engages students with reading and writing through the ‘hook’ of technology. Students are encouraged to read through all posts before submitting

their own: requiring them to interpret and infer meaning from the information and continue the blog” (Mills & Chandra, 2011, p. 39).

Purpose

The purpose of this study was to explore how adolescent students use microblogging in their formal writing practices in an English class. More specifically, the goal of the study sought to explore students’ use of an interactive technology tool to develop their self-assurance in formal writing. The tool serves as a means to reveal their growth as writers and improve the writing process when incorporating formal writing.

Methods

This study was conducted as a qualitative exploratory case study (Creswell, 2007). The researcher, who was also the teacher, employed the use of microblogs through *Edmodo* to obtain work samples for all of the students. Work samples of the study participants were then collected and analyzed. In addition, a focus group was held by an outside facilitator with participants of the study.

Setting of the Study

This study was conducted in a junior high school in Alabama with eighth grade students. The students took the ACT *Aspire* (<https://www.actaspire.org/>), a national standardized test, in the 2013-2014 school year. The current eighth grade students, who were seventh grade students at the time of taking the test, scored 49.5% proficient in writing and 45.8% proficient in reading informational texts. The test required students to answer constructed response questions that included written responses. The national average for writing was 65.8% and for reading 61.1%; therefore, the current eighth grade students scored significantly below the national average in both areas. Within the school, all students had access to a computer lab for student use. In addition, many teachers employed the use of *Edmodo*, a free, online classroom portal that appears much like *Facebook* and works in conjunction with computers and mobile devices.

Participants

The combined number of students in the researchers’ classes was approximately 150 students. From these students, eight males were randomly selected from a list of male students and eight females were randomly selected from a list of female students to participate in the study focus group. From those 16 participants, six (three females and three males) were randomly selected to participate in the writing sample portion of the case study. The researcher conducted the study within her own classroom.

Procedures

For the assignment dates, the participants had direct access to a computer and Internet while at school, during instructional time, in the event that they did not have access to *Edmodo* outside of school. Every student had the opportunity to complete the assignments because the assignments were part of routine coursework or homework assignments. In the nature of *Edmodo* microblogging assignments, the assignments were timed, but participants had 24 hours to complete each assignment. Most students had previous experience using *Edmodo* as part of a class but not for a writing tool; conversely, most students also had prior experience with formal

writing but not writing using a technology tool. The common medium occurred through pencil and paper. The teacher commented on and graded each assignment before the next assignment was completed, giving the participants the feedback they needed in order to change their writing. Comments included critiques about the writing based on the coding areas and the wording from the rubric. In addition, comments mentioned strengths about the writing. For example, one comment read that the use of Internet was evident but the facts remained too vague to discern general facts from research.

Research Questions

The primary research question was: How does an adolescent writing procedure and experience expand or change when writing using microblogging? Sub-questions were: (a) How does adolescent students' formal writing change when writing using an interactive technology format, and (b) how do students view their experience while writing employing the interactive technology format?

Instruments

Three sources of data were analyzed and triangulated: work samples of microblogs from *Edmodo* coded by the researcher, microblog grades given by the teacher, and one focus group. For the microblogs, the teacher/researcher assigned six open-ended prompts to which the participants responded. Each prompt was based on a literature short story read in class. The writing component followed the guidelines of the Inside Writing Framework to include reading of informational texts as researched by the participants using the Internet. An example of one of the assignments is presented in Table 1.

Table 1

Microblogging Assignments and Timeline of Study

Date	Literary Selection	Prompt	Inside Frame
September 1, 2015	“Too Soon a Woman” by Dorothy M. Johnson	Read the literary selection. Using the external and internal conflict chart, identify external and internal conflicts. Using the Internet, research others in history you know of who have faced internal and external conflicts for a noble cause. Synthesize a well-developed paragraph explaining the conflicts from the selection. Provide a comparative example from your Internet search.	Explore: Access prior knowledge and conduct further research Personal Connection: Access prior knowledge Brainstorming and Organizing: Internal and external chart Synthesize: Write a well-developed comparative paragraph.

The teacher/researcher assigned the students a microblogging space for the microblogging using *Edmodo* so students would be able to access the interactive technology tool from a school lab, their mobile device, tablet, or personal computer. Since the process was a performance-based activity, a rubric was employed for measurement. The researcher created the rubric in order to align the grading and coding processes with the Inside Writing Frame. The rubric followed the Inside Writing Frame design by evaluating based on the categories: brainstorming graphic organizer, exploring and investigating Internet use, synthesis paragraph organization, paragraph construction, and mechanics. Each category was worth 20 points and each microblogging assignment was worth a total of 100 points. Since the brainstorming graphic organizer, one of the categories, was worth 20 points, the actual writing portion of the microblog was worth 80 points of the assignment. The rubric was available to participants during each microblogging activity, allowing the participants to engage properly with the instrument. Thus, the validity of the work samples collected remained consistent throughout the study. In addition, the participants were able to view their microblogging scores at the time the microblogs were graded, along with the particular areas that needed improvement. This afforded the participants the opportunity to employ the use of metacognition to think about their writing.

Data Collection

Data were collected in the form of researcher coding of the Edmodo microblog posts, grades from Edmodo microblog posts, and a focus group, which lasted approximately one hour. Data were collected for six assignments during the school term for each participant. The microblogs were graded using the codes as defined in Table 2.

Table 2
Degree of Codes

Degree of Usage	Explanation
None	No evidence of this code in the sample
Some	There is little evidence of this code and any evidence had to be inferred by the researcher
Moderate	There is evidence of this code in the sample but not a clear pattern of intention
Evident	This code appears multiple times throughout the sample and clearly a pattern of intentional use.

To avoid bias, the moderator of the focus group was the school librarian, who held a mediator stance and made the participants comfortable because they all recognized her. The focus group was held after all writing submissions had been completed for the study. The librarian did not know the participants' names, as she did not interact with the participants on a day-to-day basis. She also was instructed not to ask the participants' names but to refer to them as the boy in the black shirt, etc.

Results

The researcher employed "analysis of documents" and "content analysis" (Marshall & Rossman, 2009) through the collection and coding of student work samples. For coding, the researcher applied a constant comparative method. Research sub-question one allows a broad number of results, but specific codes were developed based on the Inside Writing Frame model (i.e., brainstorming graphic organizer, exploring and investigating Internet use, synthesis paragraph organization, paragraph construction, and mechanics) and two additional codes resulted from *in vivo* coding, codes developed when trends emerge during the coding process, (i.e., connecting and citing). These codes helped describe how the formal writing changed throughout the six writing prompts using an interactive technology format: microblogging through *Edmodo*. Research sub-question two focused on the participants' opinions of their experiences, for which data were collected from a focus group.

Research Sub-Question 1

1. How does adolescent students' formal writing change when writing using an interactive technology format?

This research was conducted to determine how the participants' formal writing changed through the microblogging process. Many of the participants began with little knowledge of how to incorporate citing and outside data within their writing. Every area of participants' writing showed improvement.

The participants completed six writing prompts using informational texts through the Internet and then microblogging in response to a prompt through *Edmodo*. The microblogging samples indicated that the participants showed positive change in every area of coding: citing, connecting, defining, redefining, exploring, investigating, organizing, brainstorming, and gathering data. As an example of one participant, Table 3 shows Alice's scores for the first writing assignment, Sample One, and how those scores were determined. Figure 1 shows Alice's actual microblog for Sample One.

Table 3
Coding for Alice's Sample One

Code	Score	Explanation
Connecting	Evident	Clear connections between the short story and the real life event were made and clearly stated.
Citing	None	Evidence of exploration and investigating information is evident but cannot be proven because no citations of outside sources have been included.
Exploring	Some	Some exploring identified but not evident because there is no way to discern if the information was common knowledge or source of research.
Investigating	Some	There clearly was some outside investigation and exploration because there is a specific date.
Gathering Data	Some	Information about Mr. King included. Some data were gathered.
Brainstorming	Evident	Brainstorming chart completed.
Organizing	Evident	Writing is well organized into separate paragraphs of ideas.
Defining	Evident	Clearly defines the conflict of the short story.
Redefining	Evident	Redefines the conflict by connecting it to a real conflict in history.

The codes are defined in writing terms. First, explore means that there has been evidence from the short story or an Internet article of exploration of information. Exploring would represent the lowest levels of Revised Bloom's Taxonomy (Lightle, 2011) with remembering and understanding because this step involves a simple search for information.

Moving up on the taxonomy to applying is investigating, which involves a more detailed description of details such as specific quotations or details from the short story or the Internet.

Gathering data involves proof that outside data have been gathered by summarizing or quoting data.

Brainstorming refers to the graphic organizer completed as the participants read the short story. Organizing involves the order in which the microblog is written; it should show that the paragraph has been written in a logical order with topic, supporting, and concluding sentences.

Defining identifies the main topic of the paragraph in terms of the short story. For example, this microblog would define external and internal conflicts. Gathering data, brainstorming, organizing, and defining all work closely in the area of applying on the Revised Bloom's taxonomy because they all require some level of application of the information gained.

Redefining takes those external and internal conflicts and translates them into a different context, such as information from an article online. In order to redefine a participant must provide another example of conflict that did not originate in the class reading. They must research to "redefine" the skill. Because the participants were expected to translate information from one context to another, redefining moves up on the taxonomy to analyzing. Participants must analyze and compare two pieces of information. Figure 2 shows Alice's progress throughout the microblogging on all of the codes.

In the story "To Soon A Woman," all the characters go through both internal and external conflicts. This story is fiction, but people go through these types of conflict in the real world as well. In this story, Mary is conflicted internally because of her past; her life before this story takes place was bad enough she ran away from it. Looking back in history, similar events have happened to real people. In the 1930s, when races were segregated, Martin Luther King, Jr. was a subject for racism because of the color of his skin. Mr. King didn't run away, but he was hurt by people's comments and actions; we can assume Mary was hurt by something someone said or did to her, which caused her to flee that place.

In the story "To Soon A Woman," Pa is worried about his family because they didn't have enough food to last them their entire journey. He is worried that his children will starve to death. Martin Luther King didn't worry about lack food, but he did worry about his children. He worried about what kind of world they would grow up in; he didn't want them to grow up being told they were less important than a white man because their skin was black. So both men worried about the effect the world would have on their children.

Even though the characters in the story are fictional, they had conflicts just like people in the real world. Both fictional and real people had to deal with their internal and external problems.

Figure 1. Alice's microblog for sample one.

By simply glancing at Alice's first sample, it is clear that there have been no citations made and no direct quotes from either the short story or the informational text from the Internet as there are no quotation marks that can be identified in the writing. When looking and reading closely, one of Alice's strengths can be identified because her writing has been well organized into separate paragraphs of ideas. Although citing and gathering data appear to be weaknesses, Alice did some research because she used specific dates for the event. In this sample, there clearly was some outside investigation and exploration because there is a specific date, but Alice

received zero points for citing the information because she did not include where she obtained this information.

In the sample, one can see that Alice did show her strengths by connecting and defining. She connects the short story to the informational writing by stating, “This story is fiction, but people go through these types of conflict in the real world as well.” This sentence clearly states her topic and purpose for this paragraph is to connect the conflicts from the fictional story to conflicts that have occurred in reality. Alice also connects the two events by doing an excellent job of comparing and contrasting not only Mary from the short story but other characters to Martin Luther King, Jr.

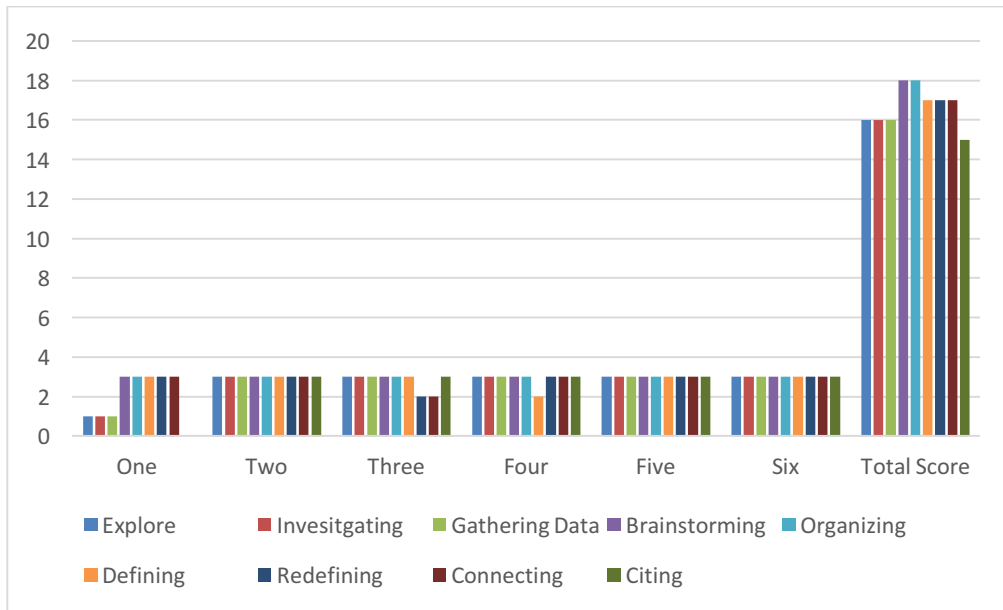


Figure 2. Alice’s degrees of success.

The scores for all of the participants on the first writing assignment, Sample One, are shown in Table 4.

Table 4
Sample One Coding

	Explore	Investigating	Gather data	Brainstorm	Organizing	Defining	Redefining
Alice	Some	Some	Some	Evident	Evident	Evident	Evident
Madison	Some	Some	Some	Some	Moderate	Moderate	Moderate
Carol	Some	Some	Moderate	Moderate	Evident	Evident	Evident
John	Some	Some	Some	Evident	Evident	Moderate	Moderate
Clint	Some	Some	Some	Evident	Evident	Evident	Evident
Brad	None	None	Some	Evident	Evident	Evident	Evident

The scores show a clear pattern that the participants scored weakest in the areas of exploring, investigating, and gathering data. These three categories relate to finding information on the

Internet. The scores for all of the participants on the last writing assignment, Sample Six, are shown in Table 5. Improvement is evident.

Table 5
Sample Six Coding

	Explore	Investigating	Gather data	Brainstorm	Organizing	Defining	Redefining
Alice	Evident	Evident	Evident	Evident	Evident	Evident	Evident
Madison	Evident	Evident	Evident	Evident	Evident	Evident	Evident
Carol	Evident	Evident	Evident	Evident	Evident	Evident	Moderate
John	Evident	Evident	Evident	Evident	Evident	Evident	Evident
Clint	Moderate	Evident	Evident	Evident	Evident	Evident	Some
Brad	Moderate	Evident	Evident	Moderate	Evident	Evident	Evident

The most consistent strengths for all participants occurred in the areas of brainstorming and organizing. Although the participants were consistently successful with completing the brainstorming charts, they had some difficulty transferring the brainstorming information into their writing. The other most consistent strength the participants displayed occurred in the area of organizing the information. Participants had the freedom to organize the information using their own design, but the microblog must reveal some sort of organization process. The participants were consistent with designing their own form of organization. The overall trend with organization shows that by sample four, most of the participants had developed a way to organize their information in an effective way so that the reader could understand their purposes for writing.

Areas that were of the greatest weaknesses to the participants were all interconnected because they all involved finding new information and writing about that information. Those areas were investigating, exploring, gathering data, and citing. Citing may have proven to be the greatest weakness overall, but this area also proved to be the area of most growth. Stephens and Ballast (2011) do not refer to citing as a major part of inside writing, therefore, this was a code that resulted from *in vivo* coding. Although not a major part of inside writing, the authors do stress the importance of teaching students to cite their resources: “copyright law and fair use guidelines for the classroom... teachers understand the importance of properly citing sources and giving credit to the originators/creators of text...” (p. 44). Citing remains an important part of the writing process when using outside sources, therefore, it was used as a part of the assignment. All participants showed citations of some kind in samples five and six. This area of citing proved to be one of the weakest areas for the participants, but it also had the greatest growth. Another area directly related to citing was in exploring information. Exploring was an area that was strong at first, became weak in the middle assignments, and then gained momentum at the end. Stephens and Ballast (2011) hold that exploring information associated with the topics for learning remains key to participants learning the information. They wrote, “exploring the Web for information triggers prior knowledge based on the experience of connecting to the world in meaningful ways” (p. 41). With triggering that prior knowledge, participants are able to remember the information and make important connections.

First, the participants must have shown evidence of some exploration and then the participants should have moved to investigating by writing about their exploration and

explaining how the new information directly related to the topic. Stephens and Ballast (2011) describe this process as moving beyond “random clicking” and into a world of information where “the work takes on a whole new meaning” (p. 43). Investigating is not simply having an idea and then briefly describing that idea. It involves obtaining specific facts directly related to the curriculum.

Other closely related codes were defining and redefining. Both codes showed improvement overall. Defining involves identifying the basic concepts that were associated with the short story. After the participants defined the content area, such as personification, they were asked to use the Internet to identify a real-world example of personification. The real-life example would be redefining. Stephens and Ballast (2011) state that in order to redefine the information, students were required to “sift through enormous reserves of good and bad information to find what is most meaningful and true to them” (p. 44). The participants used the knowledge they knew from brainstorming to redefine the information. The skills of defining and redefining are related because without a proper understanding of the defining, the participants may have had difficulty with the redefining process.

The final area of coding lies in connecting. Connecting was not an original code as part of inside writing, but resulted from *In vivo* coding. Though connecting does not appear in Stephens and Ballast’s (2011) major part of inside writing, it does play a major part in the writing process. The inside writing process provides participants a way of “connecting to the world in meaningful ways. One of these meaningful ways may be viewing and capturing photos and reading text from websites that can help students understand...” (p. 41). Based on Stephens and Ballast’s research, the students use their personal research to connect to the new information. Then the information becomes transformed, it’s not just a word or concept written on the board. The new information brings the opportunity for the information to become more than just data but something of personal importance to the participants.

This study showed similar results to those found in other studies using technology and writing. In the areas of connecting, citing, gathering data, and organizing that data, Mills and Chandra (2011) found that by incorporating “weaving intertextual references to popular iconic figures from movies, songs, and the media, the participants made connections to their existing knowledge and experiences” (p. 40). Through microblogging, the participants added new knowledge and weaved that information together with current knowledge, thus making connections. The use of the informational texts from the Internet provided new knowledge allowing participants to add more depth to their writing. Along with these categories for writing, exploring and investigating directly relate.

Research Sub-Question 2

2. How do students view their experience while writing employing the interactive technology format?

The participants’ views of their experiences with using *Edmodo* resulted solely from a focus group session. During the focus group, the participants were asked to give their general thoughts about *Edmodo*. Most of the participants expressed positive experiences with *Edmodo*. They particularly highlighted the feedback they received from their teacher through using *Edmodo*. The feedback helped them to improve their writing because they were able to correct mistakes from the previous writing assignment. The participants commented on how using *Edmodo* or having the ability to type their assignments made it easier for them to edit and re-edit their work as opposed to using pencil and paper methods:

Also, on *Edmodo*. I like that I can go back and check my essay to retype it and read it again and again to make sure it is right. On paper essays, that is harder to do. Which is helpful. (Focus group participant)

This statement complies with Mills and Chandra's (2011) findings as the researchers "observed that microblogging threads are not static, discrete units, but are dynamic and malleable, open to reauthoring multiple times" (p. 39).

The participants also discussed that *Edmodo* gave them a sense of change of setting and environment from the normal classroom activity. In addition, the participants commented that the tool helped them to connect with their teacher and other participants. In addition, the participants recognized the importance of learning to write using an electronic mode:

I prefer *Edmodo* because it's easier on my hands and environmentally better. If you think about your future, in a lot of jobs, people are going to be doing office jobs and typing a lot. You are going to need to know how to properly type and this allows us to learn those skills. (Focus group participant)

Although typing was not taught, emphasized, or measured in this study, this participant seemed to think that just having the opportunity to use technology would allow students to improve their typing skills. Other research studies showed that technology was a force that was steadily shifting the needs of society (Marzano & Arredondo, 1986). Schools and teachers could no longer focus on just teaching students facts and knowledge. Students must be equipped with skills of reasoning. In order to maintain a place in the workforce, students must be able to access, organize, and use the information around them to be effective (Marzano & Arredondo, 1986).

The coding did not show that the areas of writing involving gathering data, exploring, and investigating were among the overall strengths for this study, but the participants did say they enjoyed the effect the new information gave to their writing. The participants utilized metacognition to analyze and evaluate their writing, writing tool, and writing process. This showed that participants understood that microblogging had a positive impact on their writing. One participant even expressed that he would like to use the process in another class. Another participant declared that adding the informational component "transformed" writing. The transformation occurred because the components of the writing were being enhanced. The coding results show that the writing moved from basic levels of thinking involving only remembering and applying to higher levels of thinking in analysis and evaluation. Analysis and evaluation occurred in the application of investigating, redefining, and connecting. Many of the participants did not start the study with these components within their writing but, by the end, showed evidence of them in their microblogs.

Since the focus group took place after all writing samples were collected, the participants recognized that they experienced growth in their writing and use of information through accessing the Internet. The participants expressed that the use of the Internet for their writing not only helped them to expand their ideas and thinking but also helped them to use new vocabulary. These responses also reveal some evidence of personal connection to the writing. One participant stated, "It's not just restating what the teacher has told us. It's more than that." This student clearly made a connection to the information by realizing that it made his learning more personal. The participant grasped that his writing was no longer just remembering but had moved up on the taxonomy to applying, analysis, and evaluation through the application of new information.

The participants explained how the content of the Internet helped them to make their writing more personal and how the Internet searches helped them to relate personally to the

characters. Their answers revealed evidence of personal connection. The idea of adding the microblog component was not to replace the content but to enhance it. Mills and Chandra (2011) confirm that incorporation of digital texts serves the purpose of adding to the content: “Literacy educators are increasingly aware of the need to harness authentic digital communication tools in educational settings, to extend but not replace literacy practices” (p. 36). The participants recognized this aspect of the tool.

Not only did the participants recognize that they enjoyed using *Edmodo*, they also commented on how the use of microblogs helped to enhance their writing. The participants were asked how the microblogging format affected their writing. Overall, the participants verbalized that their experience with the microblogging tool was positive and helped them to enhance and improve their writing. They recognized that their writing moved upward from simple remembering and understanding to analysis and evaluation. The findings showed the same type of positive change in their writing. This aspect of the study can add to the current research in that it contributes to the fact that participants do recognize and verbalize the influence and importance of technology as part of their learning and future.

Implications for Practice

As students evolve and change, so education must move with those changes. In these changes, literacy becomes more than simple reading and writing; literacy involves technology. For educators, this study carries implications for practice that currently and will continue to mold teaching standards and practices. Students are expected to graduate with a certain skill set to be successful in the workplace (Rycik & Irvin, 2001). Casey (2009) stresses that today’s graduates are expected to be literate in technology and be equipped to appropriately use technology before arriving at the workplace and not have to be trained to become literate while in the workplace. In business, the employees are expected to use multiple web tools to communicate and do it effectively (Buechler, 2010). Therefore, the practice of microblogging gives students the ability to become literate with writing that goes beyond the scope of text messaging and social media posts.

Conclusions

This study examined eighth grade participants’ use of microblogs through *Edmodo* while employing the Inside Writing Frame process. Emphasis was placed on developing their formal writing as the participants interacted with *Edmodo* and the process. Additionally, participants’ opinions were obtained concerning *Edmodo* and the Inside Writing Frame process. Research questions allowed focusing on using an interactive technology tool for writing to discern the influence of that technology on formal writing.

The results of this study show how the participants’ writing changed for all coding areas throughout the research period. The participants began with strengths in brainstorming, organizing, defining, redefining and gathering data. Although the participants showed prior knowledge in these areas of writing, they also showed growth and change in their writing in each of these areas. Areas of weakness from the beginning of the research were exploring, investigating, citing, and connecting. The areas of weakness were not the highest by the end of the study, but the participants showed growth. Overall, the participants showed successful improvement in every area of the coding for formal writing.

Further research could be conducted using methods of helping participants learn to complete multiple steps in one microblogging assignment. From the research and this study, there appears to be a consistent pattern that the participants may complete part of the necessary components for each prompt but not all. For example, one participant might have summarized the details of the content without gathering any additional data or another may have included data but no source for citing data. These are clearly missteps. A method of helping participants to rectify this margin of error may improve their formal writing with more consistency and clarity.

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