Social Butterflies: Using Edmodo for Online Peer Revision Among Middle School Students

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Abstract

Writing skills are in demand in the American work force and in American schools, and they are a requisite for a successful life in a communication-driven society. Often students, especially those in the middle grades neglect the steps of the writing process that they see as unnecessary or find difficult. The step that is most often neglected is that of revision. While many middle school students dislike revising their writing, most enjoy interacting with their peers. For that reason, revising writing with a peer can be a way for teachers to encourage their students to undertake the step. Adding a technological component to the revision by moving it online via a social network can add another dimension of motivation to a group of students that are often driven by their use of technology or their social interaction.

**Historical Perspective**

Research by Troia and Olinghouse (2013) makes the point very clear that the ability to write, while often overlooked or taken for granted, is becoming increasingly important in schools and in society. An increased focus on technology, information, and communications in the American workplace requires proficient writing skills for business professionals. Colleges and post-secondary institutions require students to be proficient writers as a prerequisite for graduation. Even before they reach those weighty venues, students in the United States, and across the world, are expected to be proficient as writers. According to the Common Core State Standards for Writing, “Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas,” (Common Core State Standards Initiative). Additionally, students in Georgia are expected to display their proficiency in writing through assessments in the third, fifth, eighth and eleventh grades in order to move on (Writing Assessments). With such importance placed on writing, quality writing instruction is necessary.

**Importance of the Study**

While the importance of writing is not at question, the skills that are required of students to master the Common Core State Standards and to excel in the working world, one of the foci of the Common Core Standards, include writing collaboratively. In many cases, the opportunity for collaboration during the writing process occurs during the revision step in the process. Unfortunately, students at all levels often skip the revision stage. However, students rarely skip the opportunity to interact with their peers either in person or via online social networking sites.

In addition to working with peers, students should be afforded the opportunity to organize, compose and revise their writing using technology through the use of classroom computers. Peterson and McCLay (2012) found a contradiction among many teacher that were interviewed concerning the efficacy of using computers for organization and composition. In their interviews with writing teachers, Peterson and McClay found that the teachers believed the use of computers for composition and organization to be effective for their students with disabilities or other troubles with writing. However, they found that teachers felt that the use of technology for average students was not worth the time. On the other hand, several other studies, including those performed by Pifarre and Fisher (2011), found that the use of technology, including Wikis, can help students better understand and use the writing process and can help teachers better understand the learning process of the students.

With those thoughts in mind, Tsai and Chuang (2013) found that students who participated in structured peer review via the “Calibrated Peer Review System” were more inclined to participate in the process of revision, completed more revisions, and created lengthier final drafts than students who did not participate in structured peer review. Rahimi (2013) found that foreign language students who were trained in peer revision and allowed to use the peer revision process produced more total revisions and more revisions that focused on the global aspect of the text rather than the conventional form. Peer revision can also encourage students with second needs who are traditionally hesitant to follow any directions from their teachers, especially the direction to revise a piece of writing. Kindzierski (2009) found that the use of peer revision in a classroom of students with emotional and behavioral disorders encouraged those students to conduct more revisions and to improve their drafts. In fact, the Kindzierski study found that, when revising with a peer, students decreased the number of words that were repeated and improved the organization of their texts. This latter skill of organization is particularly important since it is one of the four domains that are evaluated on the Georgia Writing Assessments.

**Review of Literature**

Many previous studies have examined the impact of peer collaboration on the prevalence of revision in the writing of students at the secondary and post-secondary levels. While writers seem to understand the writing process and the process of revision, many do not follow through on revision independently. Even with teacher prompting and input, many writers do not revise their work as effectively as they could. Yang (2011) found that the use of peer interactions increased the amount of revision that was completed, influenced an improvement in students’ text, and produced a positive impact on students’ attitudes towards working with peers. Additionally, Yang found that offering a variety of peer review steps in a structured process could produce a further positive impact on revision.

Students at all levels of readiness and at all ages can be positively influenced by peer revision and peer interaction. Kindzierski (2009) found that in a population of students with emotional and behavioral disorders, peer interaction and revision lead to an increase in the positive revision behaviors that were targeted. In Kindzierski’s study, student writing was examined over time, and their independent revision efforts were compared to their efforts to revise with peers. When revising with peers, the student writers in the study increased their amount of organization revisions, included a larger amount of supporting details, and included significantly more personal references and anecdotes when revising as compared to independent revision. Additionally, the peer revision program, lead to students repeating words less within drafts and making fewer conventional errors. In a somewhat unrelated finding, the students involved in peer editing in Kindzierski’s study who revised with peers tended to write in a more expository style rather than a narrative style. This expository style has proven more difficult than narrative for middle school students.

Lu and Zhang (2012) noted that the impact of peer interaction is as strong for the reviewer of the work as it is for the person whose work is being reviewed. This relationship was described as reciprocal and was also noted in Yu-Fen’s (2010) study. Both Lu and Zhang and Yu-Fen noted that the reciprocal nature of the peer review and revision process was aided, and in part made possible, by the use of online services to perform those revisions and reviews. Similarly, students today have more and more access to web-based technologies that allow them to work collaboratively from anywhere in the world. Because of the use of online technologies, students are also able to interact more often than in face-to-face environments which Lu and Zhang noted can lead to a wealth of revisions and in turn can include many more meaningful revisions. Additionally, Lu and Zhang concluded that playing the role of assessor of a classmate’s work as well as having one’s own work assessed lead to even greater learning outcomes.

Yang and Wu (2011) noted an overall increase in the number of revisions of students when using a peer revision process as compared to when revising independently. While the overall number of revisions increased, the number of global revisions to ideas and structures increased at a greater rate than that of the overall revisions. In addition, Yang (2011) examined students’ opinions of the use of peer feedback and noted that many times peer feedback provided local conventional revisions that students did not notice independently as well as global revisions that lead to a reorganization of the text as a whole. Furthermore, students in Yang’s study reported that they possessed more confidence and satisfaction with their finished drafts after the peer revision process.

This final thought from Yang’s (2011) study also lead to the conclusion that students were more motivated to support their classmates through the use of peer review and revision and through the use of online peer review. This motivation to support their peers could also bleed over to influence students to review and revise their own writing in later drafts. This increased motivation could also be said to have a positive impact on the amount that students write and revise. Kindzierski (2009) found that among her students with emotional and behavioral disorders, the use of peer revision lead to an improvement in social interaction as well as an increase in the internalization of writing strategies and a decrease in apprehension about initiation and completion of writing tasks.

While motivation to revise and write can be a first step, and peer revision can lead to many more revisions than simple independent revision, many additional studies have found that the quality of peer revision can also have a profound impact on the quality of the finished product. To that end, student training in proper methods of peer revision can lead to even greater gains than through untrained peer revision. While studying a group of English as a Foreign Language Students, Rahimi (2013) found that students who had been trained in the use of a structured peer feedback model offered higher quality revisions than their untrained peers. Specifically, Rahimi found that untrained student reviewers tended to make a similar amount of formal, or conventional, revision as their global revisions, with global revisions being more desirable. Meanwhile, their trained peers tended to suggest a similar number of formal revisions to those who were untrained while including even more global revisions. Rahimi also found that as a training program proceeds, the desired results are magnified. Further, along with a larger amount of revision suggestions, Rahimi noted a larger percentage of those formal and global revisions that were applied to the future drafts.

Failing the presence of instructional time or resources to be devoted to extensive training programs for revisions, Tsai and Chuang (2013) noted that a single training in a structured system of peer revision could serve to improve the quality and quantity of peer revision suggestions as well. Tsai and Chuang described a structured system of revision on which their subjects were trained in a single session. From this session, they found similar results to Rahimi in that more participants in the trained group performed revisions, more revisions were suggested for the trained group, and a greater percentage of the revisions of the trained group were global rather than local.

While many of the existing studies on peer revision, both online and in the face-to-face format, rely on structured systems of peer review or established computer software that drives the entire process, many teachers and schools may not have resources to implement those programs. A possible solution to that drawback is to use one of the Web 2.0 tools that exists to foster social learning. Such tools are considered by many to be micro-blogging tools, and Mills and Chandra (2011) argue that such micro-blogging tools can provide valuable literacy practice through the use of collaborative educational communities. One conclusion that Mills and Chandra drew that is particularly poignant is that micro-blogging can change the way that students complete the writing process through its unique combination of immediacy and time for reflection. While the use of a micro-blogging platform may allow students to provide written feedback with more reflection and thought than feedback provided verbally while also allowing writer to receive feedback more quickly than feedback from a teacher.

Such micro-blogging platforms have long been an aspect of social media. Meena, Mittal, and Solanki (2012) describe social networks on virtual communities. These communities allow students to create personal profiles, explore interests, meet other people from around the world, and interact online. While these aspects of social media reflect the possible positive uses, and connections to the common core standards, of social networks, the Meena, Mittal, and Solanki study among others noted that there are pitfalls to the use of social media among students. Perhaps the most pressing concern with social media, given the time and budget constraints, is the amount of time that students might spend on social networking sites without proper teacher supervision. Meena, Mittal, and Solanki noted that students have become so “addicted” (2011) to social media that the time students spend can contribute to the detriment of their studies. That amount of time wasted on social media at school can erode the amount of class time that is available to students and tie up the scarce resource of technological equipment for the use of other teachers and students.

A second negative aspect of the use of social media among teens, found by Clipson, Wilson and Duferene (2012) is the deleterious effects that the irresponsible use of social networks can have on the relationships. The Clipson study found that of the 300 college students that they interviewed more than a quarter had experienced dilemmas with relationships based on their use of social media. Additionally, one in five college students reported a lost or damaged relationship because of social media.

Edmodo serves as one social learning tool that provides a micro-blogging component along with more robust capabilities to connect students. Dobler (2012) notes that many educators have used Edmodo to create an instructional hub where learning is collected in the form of ideas and resources and students are able to access it at any time. Through the use of the storage and collaboration components of Edmodo, students would be given the opportunity to use the platform to share their work and comment on the work of others. Furthermore, Edmodo allows for students to use all of the tools and resources of the internet at large while a teacher has the ability to monitor all of their actions. This ability would add yet another aspect of training to the idea of online peer review. Finally, the social aspect of Edmodo would serve to further encourage students to use peer review and revision.

Edmodo is a social learning platform that teachers can use to help combat some of those negative aspects of social media while taking advantage of the positive capabilities of the tools. Hammonds, Matherson, Wilkins and Wright describe Edmodo as a gateway tool for teachers to use to improve communication with parents and students, customize instruction, plan and implement professional learning, and motivate and encourage students (2013). As noted by Hammonds, Matherson, Wilkins and Wirght, Edmodo provides students with a social network that is easily monitored by teachers to help allay some of the issues with time. Additionally, Edmodo is easy for students to learn, further reducing the time commitment for it to be effective. The platform is also open only to students in a class, which limits the number of relationships that might be damaged and, perhaps most importantly for younger students, protects students from outsiders.

**Research Problem**

Yang (2011), Tsai and Chuang (2013), Lu and Zhang (2012), among others, researched the efficacy of using online systems to encourage students to work with peers to revise written texts. All found that the use of online peer revision encouraged students to make more revisions than they would have made in revising independently.

**Specific Platforms**

While these studies all returned valuable results about the use of peer revision and the use of electronic methods for completing those revisions, all had drawbacks in their design or scope that created problems for the use in my own classroom. Among those problems was that the studies focused on peer revision using computer-based programs that were either proprietary, in the beta testing phase or were the larger focus of the study. None examined the effectiveness of using a free and readily available computer program. Edmodo is just such a program that is being used in many classrooms around the country (Hammonds, Matherson, Wilson, & Wright, 2013, p. 40).

**Subject Demographics**

A second drawback of many of the studies was in the population that was studied. In many of the studies, the subjects were college students. In others, the subjects were students who were learning English as a Foreign Language. And in many of the studies, the subjects were from countries other than the United States. While these results are a valid starting point for the studies on the use of electronic means for peer revision, none of the studies focused on students who fit the profile of many in the United States who are increasingly expected to collaborate with their peers in writing.

**Online Revisions vs Revision in Person**

An additional drawback of the studies was that they focused on the difference between the impact of online peer revision and independent revision with little attention paid to any differences in impact of online peer revision and offline peer revision. For that reason, part of the impact that was reported in those studies could be attributed to the use of peer revision as opposed to the use of online peer revision. With that difference being noted, the possibility exists that online peer revision may hold no more benefit for the average classroom teacher than face-to-face peer revision.

**Statement of the Problem**

Based on those drawbacks, this study will focus on the particular needs of English-speaking middle school students in the United States. The study will seek to answer the following research questions:

1. What impact does online peer review have in creating a difference in the amount and quality of revisions that students complete as compared to face-to-face peer revision?

2. Can Edmodo serve as a viable platform for online peer revision?

3. Does online peer revision encourage students to provide more positive or negative commentary than face-to-face peer revision?

**Description of Population**

The study took place at Simpson Middle School, a mid-sized middle school located in Cobb County. The school has a total enrollment of 900 students. Since no Language Arts classes were available for the study, the pool of potential participants was limited to two intact classes of seventh grade Invention and Innovation students. Of the sixty-eight students (twenty-four in one class and thirty-four in another) who received assent forms, only forty-eight returned the forms (sixteen in one class and twenty-eight in the other). The smaller class of sixteen students was the control group, and the larger class of twenty-eight students was the experimental group. Both groups included mostly white students with students of Asian ethnicities making up the second largest ethnic group in the classes. For more information on the racial and ethnic makeup of the classes, see Figures 1 and 2 below. Both classes were evenly split with half female students and half male students. All students in both classes were selected for their inclusion in the classes because they are also enrolled in upper level or advanced content math and science classes. Many are considered gifted, and most scored in the “Exceeds Standards” range on the most recent administration of the CRCT.

Figure Figure

**Methodology**

Prior to beginning the study, the researcher sent parental consent and assent forms home to all students in both classes. The students who were included in the study returned their forms. However, all students in both classes completed the writing assignment that was used as a baseline. The writing assignment was a blog post that regarding the use of the engineering design process in a recently completed project. When all students had completed their blog post, they were asked to pair up and comment on the work of their peers. Both groups had been trained throughout the school year to use the Praise Question Polish (PQP) method of peer commenting in which each commenter is asked to provide a point of praise as well as question something that he or she did not understand and suggest a method for polishing the writing. For the purpose of this study, the students will be instructed to include at least one comment in each of the three sections of the PQP method with the suggestion that they include two or more. This will allow for the researcher to count the multiple revisions to be compared. This method will also allow for the researcher to track both positive and negative comments about the writing.

In the control class, the students were given the choice of suggesting revisions directly on their peers’ work or writing suggestions and comments on sticky notes. All students chose to make comments in the margins of their peers’ papers. Students were provided with twenty-five minutes of a fifty-minute class period to suggest revisions. They were then provided with the remaining twenty-five minutes to make the suggested revisions to their own papers.

In the experimental class, the students were asked to join a new group on Edmodo in which they would be placed into small groups with an assigned partner. Within that small group, students read the work of their peers and made comments via messages to their partners. Students were instructed to post their rough drafts as a “Note” in their assigned small group. Their peers were instructed provide suggestions as replies to those notes. Students were provided with a fifty-minute class period to make revision suggestions and to make changes to their own work. However, they were also afforded the opportunity to make suggestions and revisions outside of class as well. Finally, students were asked to resubmit their final drafts to an “Assignment” in the overall revision group.

**Data Collection Methods**

The researcher first collected the rough drafts and final drafts produced by all students in both classes. For the control group, the researcher reviewed each rough draft and tallied the number of suggested revisions and categorized them as local, having to do with spelling and grammar, or global, having to do with the overall structure of the work. The researcher also counted the number of comments and categorized them as positive or negative. In the experimental group, the researcher printed the final drafts then compared them to the rough drafts. The researcher counted the suggested revisions and comments from the message boards and categorized them. Finally, the researcher compared the final drafts to the suggested changes to determine how many of the suggested changes were accepted.

**Data Analysis Methods**

Data was analyzed using the Data Analysis Toolpack available in Microsoft Excel. A two-sample Analysis of Variance (ANOVA) and a two-sample T-test assuming equal variances were employed to determine if differences noticed in the data were statistically significant.

**Data Observations**

Based on the results of the experimental study, those students in the control group suggested a greater number of revisions overall and a greater number of revisions per student than those students in the experimental group. However, students in the experimental group accepted a greater percentage of the suggested revisions than students in the control group (see Figure 3).

Figure

An average of 2.94 revisions per student were suggested among students in the control group while an average of 1.64 revisions per student were suggested in the experimental group. However, an average of 1.69 revisions per student were accepted in the control group while an average of 1.39 revisions per student were accepted by students in the experimental group. In the control group, students accepted 57.45% of suggested changes while students in the experimental group accepted 84.78% of revisions that were suggested. Results of the ANOVA revealed a statistically significant with a two-tailed P-value of 0.01. Experimental group students accepted more overall revisions than did students in the control group, but a major difference occurred in the percentage of global revisions that were accepted. Students in the control group accepted 35% of global revisions that had been suggested while students in the experimental group accepted 81.48% of global revisions.

Students in the control group suggested more local revisions than global revisions while students in the experimental group suggested more global revisions that local revisions. In the control group, students suggested 57.45% local revisions and 42.55% global revisions. In the experimental group, students suggested 41.3% local revisions and 58.7% global revisions. Additionally, students in the experimental group accepted a greater percentage of local and global revisions as compared to students in the control group (see Figure 4).

Figure

In addition to an analysis of the suggested and accepted revisions from each group, the researcher analyzed the number of comments provided by each student as well as categorizing those comments as positive or negative. Students in the experimental group provided more comments per student than those in the control group. Additionally, students in the experimental group provided more positive feedback than their peers in the control group. Comments by students in the experimental group provided 51.35% positive comments and 48.65% negative comments while students in the control group provided 40.54% positive comments and 59.46% negative comments. A single factor ANOVA revealed a statistically significant P-factor of 0.05.

**Findings and Conclusions**

The first research question is in regards to the effects of using Edmodo for web-based peer review among teenagers. The data collected from the study indicated that the control group, the group that revised in person, suggested more total revisions and more revisions per person. The experimental group accepted more of the suggested revisions than did the control group. Similarly, the experimental group suggested a greater number and a greater percentage of global revisions while the control group produced a greater number and percentage of local revisions. In both cases, the experimental group accepted a larger percentage of the revisions. The data suggested that the use of Edmodo for web-based peer revision by middle school students has the effect of encouraging students to provide more global feedback than local feedback. Additionally, students were more likely to accept the suggested revisions from the classmates when using Edmodo for peer review.

As to the second research question regarding the viability of using Edmodo for peer review, the platform can be useful for peer review, but it has some drawbacks. While Edmodo was successful as a platform for online peer review in this case, a great deal of time was required for setting up a separate Edmodo “class” for the experimental group and assigning students to “small groups” so that their revision comments would be private but still accessible. Additionally, some students had some trouble accessing the proper small group to comment on their assigned partner’s work.

The third research question was related to the positive and negative comments that might be made by students in the control group during face-to-face revision compared to those made by the experimental group during online revisions. The research indicated that students in the experimental group made more positive comments on the work of their peers when using Edmodo for online peer revisions than did their peers who revised in a face-to-face setting in the classroom. This was somewhat unexpected as the literature suggested that one of the drawbacks of online peer revision was the tendency for students to use the protection of the online environment to make negative comments to their peers. However, that was not the case in this study as students in the experimental group provided more positive comments and a greater percentage of positive comments than their peers in the control group.

**Validity and Reliability Questions**

The main question of validity that occurred in this study was in the selection of the two classes that would serve as the control and experimental groups for the study. The researcher selected two different intact classes to serve as the groups in the study which represents a convenience sample. Such a sample would not be considered a valid sample because the classes chosen were not representative of the population of the school as a whole. Additionally, a question of reliability may arise since the classes that were used were also not representative of the population of the Southeastern US or the United States as a whole.

A second validity concern that arose was in the difference between the two classes. Since the classes were not representative of the overall population, they were also made up of two different groups of students with different language arts backgrounds and different writing skillsets. Those differences came to light in the writing samples that were used for the study. In the study, students in the experimental group produced more for the writing assignment than their peers in the control group. Additionally, the students in the experimental group produced written work that was better organized in the rough format than their peers in the control group. Those differences could have created differences in the number of revisions in two main ways. First, the increased output from the experimental group may have led to greater opportunities for suggested revisions. Secondly, a set of writers who are more likely to produce longer works may also be more likely to suggest, and later accept, more revisions.

**Protection of Human Subjects**

The chief ethical questions in the study were in the areas of researcher bias and unequal benefit for the experimental group as compared to the control group. The first concern for researcher bias was guarded against by two classes that were previously familiar with the researcher. A second teacher assisted in verifying the revision count completed by the researcher. The question of unequal benefit was safeguarded by providing similar revision time using Edmodo for the control group as well as a second revision session for face-to-face revision for the experimental group.

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