Studies in Teaching
2011 Research Digest

Action Research Projects
Presented at Annual Research Forum

WAKE FOREST
UNIVERSITY

Department of Education

Winston-Salem, NC
June 15, 2011

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Studies in Teaching – 2011 Research Digest

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The Effects of Prompted Math Journaling on Algebra 1 Students' Achievement and Attitudes

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June, 2011

Although writing is not an activity traditionally used in mathematics, it is a very powerful tool when students are given journal-writing prompts that focus on learning, teaching, evaluating, and assessment processes (Dougherty, 1996, p. 556). Prompted math journaling allows students to exhibit two of the National Council of Teachers of Mathematics Process Standards: Communication and Reasoning & Proof (National Council of Teachers of Mathematics, 2000). Math journaling allows students to express conceptual understanding of mathematics in words.

While math journaling has been studied, it is unclear how students feel about the activity and if it improves the confidence levels of students. The purpose of this study is to examine not only the effectiveness of math journaling in teaching Algebra 1, but also how students view their own mathematical abilities. The questions that guided this study are:

1. What impact does prompted math journaling have on student understanding of Algebra 1 concepts?
2. How do students feel about math journaling and what are the effects on their perceived math abilities?

Review of Literature

Math journaling is an effective form of pedagogy as it elicits student participation. Baxter, Woodward, and Olson's study of seventh grade math students showed that students who never spoke in class used journaling as an outlet to participate (2005, p. 132). Based on these results, it appears that journaling engages students who are hesitant to speak in class. Journaling seems to be a safer environment in which students can freely write their thoughts without fear of speaking in front of their peers and teacher.

Prompted math journaling not only draws participation from students, but it serves as a medium for students to communicate with their math teacher. Teachers can receive information

directly from students that can impact and improve their teaching (Borasi & Rose, 1989). The journals provide insight for teachers to understand first-hand what students have or have not learned. Teachers can use this information as formative assessment and create lessons in response to what learning has been demonstrated by their students. After reviewing students' math journals, teachers can decide to simply review a concept or initiate a more involved exploration of a concept to deepen students' learning.

Although research supports math journaling, it cannot be used haphazardly and expected to yield positive results. Math journaling has the potential to increase student learning through effective teacher facilitation. Teachers play a critical role in making student journal writing successful. Teachers can shift students from summarizing to writing dialogue that involves students asking and pursuing their own questions (Clarke, Waywood, & Stephens, 1993). It appears that teachers can raise the level of mathematical understanding of their students through effectively facilitating prompted journaling.

Methodology

This study took place at a public high school located in central North Carolina using nine Algebra 1 students. The participants were asked to anonymously complete a survey using a Likert-type scale to assess students' attitudes about their math abilities. The survey is a modified version of the Fennema-Sherman Mathematics Attitudes Scales (Fennema, & Sherman, 1976). The treatment was prompted math journaling, and accordingly the pre-test occurred before prompted math journaling was used in class and the post-test survey was administered after the two week treatment was finished. The survey asked participants to rank their level of agreement with a series of statements regarding the participant's attitude towards math. Additionally, participants' grades were tracked throughout the semester to examine possible changes in achievement when prompted math journaling was used. Participants also took a pre-test and post-test on an Algebra 1 unit, Factoring Polynomials. The pre-test on Factoring Polynomials is a modified chapter 8 test from the Holt McDougal Algebra 1 textbook (Burger, Chard, Hall, Kennedy, Leinwand, Renfro, Seymour, & Waits, 2011, p. 578). In order to obtain additional qualitative data and student insight, selected students participated in a brief interview.

Results

Quantitative Data Analysis

The modified version of the Fennema-Sherman Mathematics Attitudes Scales was used to measure each student's math confidence level (Fennema, & Sherman, 1976). Students were given the survey before and after the prompted math journaling. The results indicate that each student's confidence improved an average of 7% after math journaling was used. Of the nine students in the study, the survey revealed that seven had an increase in their math confidence while two had a decrease in their math confidence after math journaling was used.

The pre-test and post-test on Factoring Polynomials, a modified chapter 8 test from the Holt McDougal Algebra 1 textbook, was used to measure student achievement (Burger, Chard, Hall, Kennedy, Leinwand, Renfro, Seymour, & Waits, 2011, p. 578). All nine subjects failed to answer any questions correctly on the Factoring Polynomials Pre-Test. The previous unit of Algebra 1 was on multiplying polynomials, so all subjects attempted to multiply whenever possible rather than factoring. Although the participants' average increase from the pre-test to post-test was only 38%, it should be noted that the pre-test and post-test differed greatly from the tests used in this class. The students were accustomed to taking multiple choice tests for Algebra 1, and the Factoring Polynomials pre-test/post-test was open answer. Partial credit was not awarded on the pre-test and post-test as only correct answers were scored.

The participants' math achievement on factoring polynomials is perhaps better measured by the unit test on factoring polynomials created by the high school's Algebra 1 Department. All Algebra 1 students at the high school take the same multiple choice tests. Prompted math journaling was only used when teaching the unit on Factoring Polynomials. After the unit on Factoring Polynomials was taught incorporating math journaling, students' test grades improved by 41% on average. However, some students made great gains while others made very minute improvements.

Qualitative Data: Student Profiles

Six students participated in one-on-one interviews with the researcher. These students were asked questions to voice their opinions on prompted math journaling and its impact on their math achievement. Sarah, an eighteen year-old junior, is an occupational student who has not

always liked mathematics. Occupational students have IQs below 70 and take a modified high school curriculum that is geared towards post-school employment and independent living. Sarah views prompted math journaling positively and talks about how it was used on the factoring polynomials unit, *"I think it is good because we all have different strategies for doing things, some do FOIL some do the box. It doesn't matter which one you do, as long as you know what you're doing and are confident about it."*

Hope, a multiracial fifteen year old freshman who rarely speaks in Algebra 1, likes prompted math journaling but does not think it impacts learning Algebra 1. Hope enjoys prompted math journaling because, *"It's fun and a little bit easier (than computations)."* However, when asked if prompted math journaling helps her learn Algebra 1 compared to not using math journaling, Hope believes that it *"doesn't make much of a difference."* Sarah and Hope represent the consensus of the interviewed students, as all students responded favorably to using prompted math journaling in Algebra 1.

Conclusion

The results of this study suggest that prompted math journaling may improve student achievement in Algebra 1. Improved test scores are more apparent in the school-wide Algebra 1 test which was multiple choice. The pre-test/post-test on factoring polynomials used for this study was open ended, and the participants of this study were unaccustomed to open-ended math tests. The participants in this study had differing results for both tests, which suggests that perhaps mastery of material was not achieved.

Prompted math journaling does not appear to improve students' mathematics confidence levels. It is encouraging to see that all interviewed students enjoyed math journaling and would like to see it used in their Algebra 1 class. However, these students may have responded favorably when interviewed by the researcher, because the researcher used math journaling when teaching the students. The results of the modified version of the Fennema-Sherman Mathematics Attitudes Scales pre-test/post-test indicate that prompted math journaling has little impact on each student's math confidence level (Fennema, & Sherman, 1976).

Prompted math journaling requires the teacher to take a considerable amount of time to read student responses and write responses to the student when used regularly in class. Writing responses creates dialogue between the teacher and students which may not take place otherwise.

It not only provides students with feedback on their mathematical thought process, but it allows for relationship building between teacher and student. Teachers are able to see more than just a wrong answer, but are able to follow each student's thought process. It may be necessary to model responses or provide guidance for students during initial exposures to prompted math journaling. The prompts must also be carefully selected, so that the teacher is asking students information that can be used to improve instruction. It should be noted that prompted math journaling can be polarizing to students who have reading and writing disabilities.

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Group Work and Attitude

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June 2011

Review of Literature

The hope of any teacher is that their instruction will reach all of their students in such a way that the students' attitudes towards the teacher's specific subject and education in general, will be altered to the point that the student truly enjoys the learning process. Attitude is what spurs the student on to greater things in his/her educational development and it is the job of the educator to get through to each student as much as possible. In the English classroom the instruction can take many forms. In their book, *Bridging English* (2008), Milner and Milner state that "there are four fundamental ways in which classrooms and learning are organized:" lecture, whole-class discussion, group work, and individual work (p. 20). All of these structures have their place in the English classroom but, according to George Hillocks, Jr. (1986), only "small-group work would break the flat atmosphere of our classes and add depth and dimension to our instruction" (p. 68).

When looking specifically at students' ability to read and understand a text, small group work is extremely important. Robert Probst's (1984) reader-response theory "supports many possible interpretations of a work based on the reader's experiences, beliefs, and values" (p. 20). He argues that students should analyze their own responses as well as others' and cooperate to come to an understanding of the text. That is not to say that the interpretations will be the same, but that the students will work together and learn from each other in order to arrive at their interpretation. In his book *The Literature Workshop* (2003), Sheridan Blau suggests a similar approach. He proposes that the best way to teach literature is in a dialogue-focused classroom through group work (Blau, 2003). This environment will help students consider their and their peers' contextual knowledge in order to more fully understand the text (Blau, 2003). Martin Nystrand (1997) concurs with both theorists in his theory of discussion and discourse. He urges "students to use not only the text or teacher as a source of knowledge but also themselves and their classmates" in a small group setting (p. 82).

Small group work has many advantages over the other three forms of instruction mentioned above. According to the Milners (2008), "the group approach allows students to generate ideas, use language, learn from each other, and recognize that their thoughts and experiences are valuable and essential to new learning" (p. 36). Similarly, Nystrand (1997) suggests that small groups of students meet regularly to review each other's writing and offer suggestions. This allows students to understand how they connect to their peers; also, "peer interaction promotes reasoning and cognitive reorganization" (p. 102). This claim is substantiated by Lev Vygotsky's theory of proximal development (1978) which states that "human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (p. 88). That is to say that in order for children to grow in their learning, they must work with their peers; only then will they be able to fully develop their ability to learn.

In a classroom setting, according to Peter Smargorinsky (1989), "the advantage of doing activities in a small group…is that more students can participate in the discussions and that they can express themselves more candidly" thereby making the students more comfortable with one another and their learning environment (p. 68). Kathy A. Nelson (1990) agrees that "cooperative learning groups provide students with high-quality peer relationships which are a critical element in the development and socialization of adolescents as well as student-student interaction patterns" (p. 58). Beth Rubin (2010) also concurs that group work "ensured that students were working with and getting to know peers they might not have interacted with otherwise and also [students] provided academic support for each other" (p. 8).

In accordance with the research above by both theorists and classroom teachers, if group work is used in a classroom, students' attitude toward the material should be a very positive one, provided that the group work was used in a structured way conducive to student learning. The aim of this research is to find out how students react to group work and how working in groups affects their attitude toward the material, specifically reading and understanding texts.

Methodology

In order to collect data for my study, I observed five English student teachers' classes in two large public high schools in Forsyth County, North Carolina. Each teacher was observed at least twice and, overall, I observed classes with group work a total of ten times. Each

observation was for a full fifty minute period as well as anywhere from five to ten minutes of feedback from the teacher following the class (Appendix A).

Subjects for this study included approximately 200 students in the classrooms of the five student teachers. The students' grade levels ranged from ninth to eleventh grade. Three of the teachers' classes were primarily composed of Caucasian non-Hispanic students while two teachers' classes were composed primarily of African-American students. Each class had a modicum of diversity although not statistically relevant. The students were of varying ability levels, according to the student teachers, although I did not have access to any student records including test scores, IEP's, etc.

Each time that a student teacher was conducting a lesson that involved group work I attended the class and took detailed notes. I focused, foremost, on how each student interacted with his/her group members and how each student reacted to working in groups. Obviously this presented some unique challenges as it is impossible to watch 28-35 students, depending on the class size, so I had to narrow my focus down to one student in each group. Based on the number of groups, I chose an even number of males and females and concentrated on those students. Each class period I changed the students that I focused on during the group work.

After observing a few classes I further narrowed my focus to how group work affected students' attitudes towards understanding the texts that they were reading in class. Initially, some of the group work that I observed had more to do with test-taking strategies, due to state standardized tests, rather than focusing on literature. I did not feel that this type of group work represented a standard class day so I disqualified it from my study. Focusing on students' attitudes toward understanding texts became my main concern due to the fact that I believe understanding texts and how they relate to them is the main goal of students in an English classroom.

Finally, after collecting all of my field notes and interview responses I analyzed my qualitative data. While it is difficult to come to solid conclusions in a qualitative study, I did see trends developing throughout my semester of observations.

Results

While no qualitative study can come to definitive conclusions, I did see a strong corollary between small group work and improvement in student attitude in English classrooms. The first time that I observed a group work lesson was with Teacher C. I saw this teacher implement a

lesson in which students were not only in small groups but were moving around the room every few minutes in order to learn context for the novel they would be reading. According to this teacher, "The students responded better than I ever expected to this activity. They were not only engaged but were excited about what they were doing."

The next week I observed another assignment; this time by Teacher E who had students grouped but in a more stationary manner. The students were obviously enjoying themselves as they learned characterization by creating visual representations of the characters in a novel. When interviewed after class, Teacher E said, "This was the first time that I've used group work in my class but I know that the activity was well received by my students and I'll use it again."

The assignments given by Teacher C and Teacher E were very different. Basically the only things that both lessons had in common was the fact that they were designed as small group work and focused on students understanding texts. The positive attitudes shown by the overall class gave me a good sense that group work had a positive effect on school attitude. My field notes also bore that out.

As I observed other lessons I saw this scenario repeat itself time and time again. I would observe a teacher using group work with his/her students and a student that I was watching would be excited about what he/she was doing and as soon as the group work ended and a different kind of lesson began, the student would shut down. Not all of these "shut downs" were as dramatic as the students putting his head down on his desk and refusing to participate but they were all obvious. This was especially true when I narrowed my focus to activities that focused on students' understanding of texts. They were much more excited about discussing class readings with their peers as opposed to a teacher-led discussion or lecture.

During the subsequent interviews with the student teachers the most common answers that I received were that "small group activities were beneficial to the class" and that "the overall attitude of the students was very positive" during the group work activity. These answers corresponded mostly with what I observed in class and recorded in my field notes. While the majority of students that I observed did seem to have their attitude positively influenced by group work, there was a small subset of students whose attitudes were seemingly negatively affected.

While observing students there were those that seemed generally uncomfortable with the idea of working with their peers. Whether this was because of past issues or general social

awkwardness I was never able to find out, however it was clear that the attitudes of these students were negatively impacted each time that group work was assigned. While this group of students was a large minority, there were enough to them to make the case that they were more than outliers.

When I raised this issue to Teacher D, I was very happy with the response I received, "I know that [this student] is not comfortable with group work and we have discussed it. I asked the student to continue trying to work with groups as I feel it will be beneficial to her. I know that she would rather work by herself but, for her sake, I want her to keep trying. We compromised somewhat in that when we do some group work I allow the students to choose whether to work in groups or by themselves. This gives her the opportunity to choose to work solo from time to time."

This teacher was very thoughtful in addressing the individual needs of students and did a great job of getting feedback from the students about the type of assignments they were doing in class. Overall, the vast majority of students – 47 of the 52 observed – seemed to enjoy at least one aspect of group work and all the teacher interviews I conducted bore out a positive correlation between group work and student attitude

Conclusions

When going back over my notes and interviews I was not surprised at the results of my study. It stands to reason that putting students together with other students in an inherently social setting would have a positive effect on their attitude. However, this is not to say that all students' attitudes are improved by using group work. Teachers need to make sure that they know their students well so that they can identify the students for whom group work may be an issue. This problem needs to be addressed one-on-one between the student and teacher in order to find a solution that is advantageous to all involved. The many factors that play into the attitude of students are what make any definitive conclusion impossible. That being said, although this study was qualitative and definitiveness was difficult, I definitely saw a correlation between group work and positive attitude among students. What I didn't necessarily expect, and what I wasn't necessarily studying, was that group work also seemed to have a positive effect on student engagement and quality of work. Although I, again, was not able to draw any definitive conclusions about this phenomenon, it seemed to be present even when I was not looking for it.

Implications

The first implication of this study is the obvious one, that teachers should use group work in their classroom as it seems to correspond strongly to positive student attitude. The second implication is that further study is needed on this topic in order to figure out exactly what it is about group work that affects student attitude in a positive way. Other implications are more subtle. Going through the process of this study was positive for me, not only because I saw some results, but because I saw new questions that I would like answers to. Do students learn better when group work is used in class? Do activities using group work cause students to create stronger connections to texts? Does group work produce better results on assignments? Does group work actually affect student engagement? These are questions that I had, maybe, thought about in passing before, but they are now questions that are at the forefront of my teaching. This process not only made me a better researcher but also a better teacher and it is that implication that may be the most important.

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Assessing How Current Events Contribute to Student Learning Outcomes in a Civics and Economics Course

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June, 2011

Researchers assert that current events are an effective classroom tool as news sources are easily accessible, naturally engaging, and make curriculum material more relevant to the individual lives of the students. This study investigates the incorporation of current events in the classroom as a mechanism to impact student learning outcomes in a civics course.

Literature Review

The National Council of the Social Studies (2010) asserts that integrating current events in the classroom is an important dimension of democratic education. The intrinsic nature of a democracy is to create a society that embraces diverse range of opinions in order to productively influence the society in which one lives. Through teaching citizenship education in social studies, society is able to create an educated and productive citizenry that will contribute to the betterment of the national and international community. Social studies education fulfills a function in democratic societies as its foundation is to instill democratic values and principles. By facilitating civic literacy, democratic values are taught which in turn train active and democratic individuals. Civic literacy is fundamental in order to cultivate responsible and thoughtful participants in democracies.

Current events allow for representations of multiple perspectives and this is vital to civic literacy as students prepare for their roles in democracy (Friedman, 2008). Students need to know how to deal with issues that plague our governing democratic society. The civics education allows students a forum to experiment with social, political, and cultural issues that they will face when they become full citizens. Respecting the opinions of others is also valued in society, and higher order thinking skills are developed through the integration of current events (Friedman, 2008).The incorporation of current events is a tactic that educators can use which addresses the goals of social studies instruction. While covering curriculum material is a necessity in civics classroom, current events brings an innovative dimension to classroom material as they facilitate students' acquisition of new knowledge (Deveci, 2007). It maximizes

gains of social studies education (Anyon, 1981). Knowledge is used in a way that allows for their classroom background to become present in their everyday lives and see how classroom knowledge applies to them. Further, current events are relevant to students' lives. Civic education is dynamic, and current events allows for an outlet to address issues in society that are ever-changing. Schools are supposed to equip students with the needed skills to become contributing society, and civics education allows for students to develop a sense of identity. As they are able to develop their own unique views of current events issues, they are intrinsically developing their own personal belonging to society..

The positive aspects of implementing current events are the focal point of this study. The aim of this study is to determine how the incorporation of current events in a Civics & Economics classroom will impact student learning outcomes. Therefore, the research question of this study is how does the use of current events impact student learning outcomes in a civics classroom?

Methodology

To answer this question, a study was conducted in a suburban high during the spring 2011 semester. Thirty-one honors tenth grade students enrolled in civics and economics course completed a series of assignments relating to current events. The first task of this study was to assess student's background knowledge of current events through a pre-instruction test. Students then participated in a series of assessments involving current events, which were used to evaluate student learning outcomes. Subsequent to the student activities, participants were taught lessons about the legal systems and traditions in accordance to the North Carolina Standard Course of Study for Civics. Assessments included student responses to questions, student participation in discussions, and student-created products. Each activity was evaluated with grounded theory. Students will heretofore be referred to with pseudonyms.

Results and Conclusions

Three major trends emerged from the data. One finding from the data was an increase in student interest in current events throughout the instructional unit. When comparing the results of the initial and final Likert scales, students indicated their level of interest in current events on a scale from 1 to 5 (1-"not interested at all" to 5-"extremely interested"). Using the data from

twenty-nine students, 52% (fifteen students) indicated an increase in interest in current events at the end of the instructional unit. 10% (three students) expressed a decrease in their level of interest in current events. 38% (eleven students) of students had no change in interest level in current events at the end of the study.

Students also signified an interest in current events during a class discussion. Of the twenty-nine students that participated in the discussion, two students did not contribute to the discussion at all. Although these two students did not express their views about the topic during the discussion, these students did reflect on their interest during the final reflection and communicated their beliefs about the issue on that final assignment. Seventeen students participated at a high level during the current event discussion (spoke more than three times). This data shows that the usage of current events in this unit garnered a significant amount of student participation. Students do not participate if they are not interested in the discussion, and the high level of participation in this study indicates that students were engaged in the current events assignments. Several students noted that students who do not normally speak in class were involved in this discussion. Matthew said, "I think it was [effective] because a lot of people got to talk who usually don't talk in class." Discussion naturally sparks interest in students, and current events are a productive means to increase student engagement and increase student interest in content material.

Because students expressed interest in current events, this study also signaled positive student learning from the usage of current events. This trend was clearly expressed by sixteen students in their final reflections as they felt that current events helped them to understand the content better and use higher level thinking skills to discuss how current events are relevant to their lives and interests. Data from the study also exhibit a positive effect on student learning and achievement. On the five written assessments given in this unit, at least twenty students successfully met the learning objective for each assessment. When comparing the percentage of students answering questions on the pre and final assessments accurately, student achievement increased.

Results also showed that students felt using current events were effective because they were able to gain lots of perspectives on issues. Thirteen students in their final reflections indicated that discussions about current events are effective because they are able to receive multiple perspectives on an issue. Dana responded that current events are effective because, "it

allowed different ideas to flow through the classroom. That way everyone hears the statements and learns facts regarding other things." Students further indicated that they were able to learn information that they would not have otherwise received from the textbook or traditional lectures. Timothy said that current event discussions are useful "because there were many things that were said that could help someone in the class bring more awareness to the issue."

Several students indicated that current events are helpful because it allows them to critically think about issues and gives them a platform to see how classroom material relates to their personal experiences. George stated that he likes discussing current events "because it raised a lot of questions and issues on what we should do." Another student, Sarah, stated that current event articles are effective because "it allowed different ideas to flow through the classroom. That way everyone hears the statements and learns facts regarding other things." Students found value in incorporating current events in the classroom especially because it allows them to express their personal beliefs about issues. When asked if he believed discussing current events was effective Sean said, "Yes, because it showed everyone's views on an issue that we all had some background about." John also replied, "Yes, because mostly everyone argued their point with support and expressed their views."

Finally, student data confirm that students felt confident about their ability to use current events and understand its relevance to their daily lives. Students felt they could comfortably answer questions about the current events and how they pertain to the unit. Students successfully found outside articles, and connected these articles to classroom objectives. Students indicated that current events helped them to share their personal beliefs and insights about curricular themes. Shaina stated, "I felt the things I had to say gave the class something to think about. I talked about how educators should bring awareness to cyberbullying and explain to students how harmful it is to their peers." Students felt that they effectively contributed to the class through the usage of current events. Carla said, "I stated my opinion, which happens to be the same as the article. I added something that had not yet been said. The articles helped me understand the issue more." Thirteen students indicated that their beliefs about issues are valuable. Many students indicated that they shared valuable insights about current events when they were discussed. On a scale from 1-5 (1-"poor" to 5-"extremely well") twenty-five of the twenty-nine students rated their performance on current events activities at a level three or higher. Ten students rated their performance as extremely well or a level five.

Discussion

This study signifies the importance and positive attributes of incorporating current events into social studies classrooms. Not only is it an effective means for students to receive curricular information, it also develops and builds on 21st century skills which are essential to function in today's society. Because of increase in interest and achievement due to current event instruction, students felt more confident about their ability to express their beliefs and understand how the standard course of study relates and applies to their daily lives.

In this study, almost every student indicated some degree of interest in current events. As educators, it is important to find areas of interest to students and incorporate them in instruction so that students are engaged. In order for students to retain information, they must be engaged. Current events offer a wide abundance of current event resources that are readily available to not only educators, but to students. Since there is such a wide variety of current event articles that are easily accessible, teachers will can find current event articles without difficulty that relate to the standard course of study and areas of student interests.

Students are eager to apply classroom knowledge to real-life examples, and current events help students understand and apply connections between the civics curriculum and their daily lives. Civics education equips students with a useful understanding of the political and social systems that impact decision making, and this discipline encourages students to make decisions based on acquired knowledge (NCSS, 2010) This study exhibits that students find value in current events, as it allows them to discuss information formally in class discussions, or find how current event articles relate to areas of their lives outside of class. Lots of students express disconnection between textbooks and their lives, and current events are an effective means to bridge the gap between the curriculum and the issues students face as citizens. Students feel that textbooks and lectures do not create a warm environment for them to express their ideas, but current events gives them an effective platform as they are able to gather different perspectives about topics and back up their opinions with real life examples.

Moreover, current events allow for teachers to cater their instruction to reflect personal interests of their students. Students understand that textbooks are created long before they enter a classroom, and current event articles allow for students to see that learning is active and that they can apply classroom knowledge to their daily experiences. Students take interest in assignments

and readings that are relevant to them, and utilizing current events allow for students to be engaged in learning which will manifest into higher academic returns for these students.

More studies need to be conducted about the best resources to use for current events instruction. During this study current event issues were incorporated through various means, including magazines, newspapers, television broadcasts, and scholarly articles However, students responded differently to the diverse types of sources that were used in the unit. More investigation about the most effective type of media sources needs to be conducted to further analyze the best usage of current events in classrooms. Also, more studies need to be directed towards developing the best practices for incorporating current events in classrooms. A variety of methods were used in this study to introduce current event topics to students; however, current events methods need to be further studied so that teachers are able to utilize the best methods for students so they are taught by most effective techniques, resulting in increased civics efficacy and appreciation.

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What is the Impact of Inquiry-Based Instruction in a Group Setting?

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June, 2011

There are several ways of teaching social studies to students but certain approaches prove to be more effective. An effective form of social studies instruction is that which is meaningful and engaging for the student; according to the National Council for the Social Studies (2008), using skills such as "information gathering and analysis, inquiry and critical thinking, communication" in the classroom is one way to make learning more meaningful for students (online). In addition to using these skills, presenting information in an authentic context allows students to grasp and relate to material. Meaningful learning builds knowledge and understanding on the part of the student and the teacher (National Council for the Social Studies, 2008). Involving students in inquiry-based instruction allows them to be active in their learning and cognitive development. An effective method to teach social studies therefore requires that students are active participants in their own learning.

Teaching World History

One area of social studies particularly important in today's global society is World History. In their position statement on global education, The National Council for the Social Studies, expresses that through the study of World History students are able to see the connections between the past and present as well as the various cultures across the world (online). Studying World History is a fundamental part of any history curriculum because it allows students to develop an awareness of how their country was influenced in its development; these realizations help to build better citizens (NCDPI, 2004).

Student Construction

Research suggests that students are active in constructing their own ideas about and conceptions of history. Barton (2008) communicates this idea through studying students' conception of historical time. He found that students continually develop their understanding of historical time, which is structured by their encounters with it (Barton, 2008). Based on the research of Barton (2008), it is important for teachers to structure students' conceptions of the past by presenting historical information in the best way. Using inquiry-based instruction allows

students to combine previous knowledge with the content and build a strong foundation for knowledge. Inquiry based instruction requires extensive scaffolding and effort on the part of the instructor to be effective but is a satisfactory method to convey historical knowledge.

Engaging Students

Active classroom instruction necessitates that students process what they are learning and develop schema to do so. The principle behind active learning in the classroom is that it is "minds on," focusing students to engross themselves in the task and material (National Council for the Social Studies, 2008, online). When teachers employ strategies to make lessons active they allow students to be engaging dynamically in the learning process, developing diverse skills.

Primary Sources

One strategy of engaging students in active historical thought and inquiry is through the use of primary source documents. Documents have an important place in history as well as other disciplines. Barton (2005), while supporting the use of documents in the classroom, cautions that instruction as well as background training and knowledge must be acquired for their effectiveness. Despite the cautions that Barton (2005) expresses, he credits primary sources as a tool to "motivate historical inquiry" (p. 751; Foster & Padgett, 1999).

Constructivism and Inquiry-Based Instruction

Constructivist learning theory is one supporting element behind historical inquiry in the classroom. Piaget in his Stage Theory of Cognitive Development proposed that children develop intellectually in a series of stages through the processes of assimilation and accommodation (Sternberg & Williams, 2010). Throughout the learning process, children and therefore students are actively thinking and assessing the information they come in contact with.

One teaching strategy developed on the basis of constructivist theory and student centered learning is inquiry-based instruction. Inquiry-based learning is "the process of asking meaningful questions, finding information, drawing conclusions, and reflecting on possible solutions" (Levstik & Barton, 2001, p. 19). This type of learning captures the natural human tendency to inquire and structures it within a content based context, establishing connections between prior and new knowledge (Panasan & Nuangchalerm, 2010). Foster and Padgett (1999) found that the skills developed through historical inquiry gave students life skills such as being able to discern different perspectives and evaluate the validity of arguments and evidence.

Group Work

Group academic settings help students to create links between the world inside and outside the classroom. The skills developed and practiced during group work in class allow students to be citizens of a global society (Stahl & Vansickle, 1992). Stahl and Vansickle emphasize the presence of the word *social* in social studies. They find that *social* refers to "the need to engage in worthwhile, goal-oriented tasks within supportive interpersonal environments" (Stahl & Vansickle, 1992, p. 9). Group settings for classroom instruction, particularly lessons using inquiry-based learning, provide a context in which students can interact with and benefit from classmates to reach a certain objective.

This study seeks to combine the aforementioned topics to answer the question; what is the impact of inquiry-based instruction in a group setting?

Method

Participants

The participants in this study were 16 ninth grade World History students at Seaside High School in a Public School District. Seaside High's enrollment is approximately 1,222 students (North Carolina State Board of Education, 2009). The school is composed of three main ethnic groups with African Americans representing approximately 47%, Caucasians representing approximately 33%, and Hispanics representing approximately 19% of the overall student body. The study group was composed of six male and ten female ninth grade students.

Designing the activity

The tasks included for this study first consisted of inquiry-based group work to develop historical understanding and knowledge on topics in World History. Group work assessments were in multiple forms consisting of exit-tickets, student worksheets, a unit test and various other formats they created as a result of instruction. The teacher's role was to assist students during group work and help scaffold the thought process.

Data Sources

Group inquiry-based assignments aligned with the North Carolina Standard Course of Study for World History. The assigned tasks helped students develop a variety of historical skills while also gaining content knowledge such as creating historical accounts. Student work was evaluated for accuracy, evaluations were guided by specific rubrics and expectations. Evaluated work was used to analyze the level of student achievement reached during the group activities. In

addition to student achievement, their engagement with the assignment and material was measured in two ways. Student engagement was monitored through observations based on the grounded theory approach.This approach allows for theories and conclusions to develop from the data (Glaser & Strauss, 1967). Group participation surveys were also used to assess student engagement.

Data Analysis

Measuring engagement helps to show how effective inquiry-based group work is in regards to keeping students involved and interested in the assignment and material. Class periods were videotaped to provide further evidence for students' time on task, and student engagement was monitored through teacher analysis of these videos. The teacher's role was to monitor students' time on task, interaction with material as well as with their peers and the teacher as they completed assignments in groups. Spradley's (1980) Description Matrix was used by the teacher to record student's time on task.

Inquiry Based Activities

The first inquiry-based activity in which students participated focused on the Early American civilizations of the Mayans, Aztecs and the Incas. Using their textbooks, students were asked to read and discover about the civilization they were assigned. Each group was given a different assigned summary activity as well as the option to complete a subject-based rap to present to the class. At the conclusion of the activity, students were given an exit ticket to assess what they had learned.

The second inquiry-based activity was a chart of famous explorers to coincide with the class's study of the Age of Exploration. In groups of three or four, students used interchangeable parts to complete their blank template of a chart. As an interchangeable part inquiry-based activity, students were given a bank of descriptions, which they had to match to one of the seventeen explorers listed on the sheet as well as identify the explorer's country.

The third inquiry based activity, still part of the larger Age of Exploration unit, allowed students to inquire about the Columbian Exchange. Broken into groups of three-four by counting off, students were presented with the task of answering who, what, when, where, and the multiple positive/negative effects of the Columbian Exchange. The students were graded for the completeness of their worksheet and then tested on the information as part of the unit test.

The final inquiry based activity was a summative activity for the Age of Exploration unit. In structured groups assigned by their teacher, the students participated in a webquest to inquire

about assigned explorers. Inquiry-based instruction in a group setting seemed to have its largest impact on students in two main areas, that of engagement and achievement.

Results

The first theme presented in the data is that smaller student groups yielded a higher level of engagement. Based on observational data as well as group survey data, group dynamics and productivity seem to be at the highest level when students are in groups of three to four. In the first inquiry-based activity, students began their work in small groups and combined into larger groups for the second part of the activity. Based on video and observational evidence students were engaged in smaller groups, taking it upon themselves to find the answers, feeling a great weight of responsibility to complete the task since there were fewer workers. When students combined into larger groups of six to eight, students resorted to copying the other student's papers or falling completely off task. Smaller group settings facilitated collaboration and allow students to divide the work into proper roles while also maintaining an adequate amount of engagement for each student. The second theme present in the data is that practice increased engagement. Based on observational data and student survey analysis, students worked better and more effectively in later activities. The data in this study show that students were gaining an understanding of how to effectively work as part of group. The last activity displayed the highest levels of engagement by the majority of the students. Observational data showed that student questioning also decreased with the more activities each student participated in. The increase in student engagement positively affected student achievement on individual assignments as well summative assignments. Coupled with the increase in engagement existed a positive relationship with achievement.

The data show that a strong relationship exists between a student's level of engagement and their grades on assignments. Natural outliers to the data exist, of course, but the data still infer a relationship between engagement and achievement, seen in both high and low achieving students. It can be concluded therefore that the students in this study who achieved at the highest levels were the most engaged with both the material and their group members.

Implications/Discussion

Throughout the research process, several implications were found. One implication found involved the best way to create inquiry-based learning experiences for students. Small groups of three-four members were the most effective group size in this study. Detailed and assigned roles

for every group member were also an essential part to successful group work. In addition to assigning specific roles and tasks to every student it was important to create mixed ability groups. When groups are constructed with consideration of the abilities and personalities they are the most productive. Survey data collected after group work helps to check the effectiveness of a group and allows students to voice their concerns about unproductive group members.

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Developing Oral Language Ability in the High School Spanish Classroom

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INTRODUCTION

Today's world is becoming increasingly globalized, and as a result, there is an immediate need for citizens in the United States to be proficient in foreign languages (The Partnership for 21st Century Skills, 2004; Kordsmeier, 2000). The need for proficiency touches not only the government and businesses but also daily life situations (The Partnership for 21st Century Skills, 2004; Kordsmeier, 2000). Proof of this is found in the 2007 U.S. Census Bureau report that almost 20% of Americans, which is more than 55 million people, speak one of over forty different languages not including English at home (Shin, 2010). Due to these changes, educators must prepare students to meet the demands of a changing society. Students will encounter jobs upon graduation that may not yet exist and that will require a different skills set and knowledge base than those currently included in K-12 education. Being proficient in at least one foreign language will help students function in their daily lives and increase marketability for employment (Ramsey, 1999; Kordsmeier, 2000).

REVIEW OF LITERATURE

Proficiency in a foreign language is relevant in the 21st Century because the processes involved in developing language ability also help develop one's cognitive abilities (Marcos, 2001;). In 1994 with the Goals 2000: Educate America Act, foreign language was named as one of the core subjects for which national standards were developed (Goals 2000 Legislation, 2005). In 1996 *The Standards for Foreign Language Learning* (1996) were released, and they describe the content knowledge students should possess when they complete a program of study in a foreign language in grades K-12 (ACTFL, 1996). Two years later, in 1998, The American Council on the Teaching of Foreign Languages (ACTFL) produced the *ACTFL Performance Guidelines for K-12 Learners* which provide a common measurement of students' development of the content knowledge of the national standards (ACTFL, 1998). As the focus on the need for

foreign language education increases, *The Standards for Foreign Language Learning* and the *ACTFL Performance Guidelines for K-12 Learners* will help foreign language teachers produce students who are prepared for the 21st Century and who possess ability to communicate ably in a foreign language.

To produce students who are proficient in a foreign language, educators should ensure that their students are participating in performance-based tasks which are based upon authentic use of language for communication (Sohn, 1998, p.60). The *Performance Guidelines for K-12 Learners* can aid foreign language teachers to design assessment practices using a variety of communicative contexts, thus providing a way to document students' progress in language ability as they continue in a foreign language program of study (ACTFL, 1998). The Performance Guidelines describe three levels of proficiency: novice, intermediate and pre-advanced, in the three modes of communication: interpretive, interpersonal, and presentational (ACTFL, 2006).

Both the Standards and Performance Guidelines have had a tremendous impact on the field of K-12 foreign language education and the way in which instruction is carried out (Liskin-Gasparro, 2003; Sohn, 1998). Primarily, foreign language teachers are more aware of the need to provide their students with opportunities to use their foreign language ability for a variety of communicative tasks and in a wide array of communicative contexts (Shrum & Glisan, 2010). Foreign language teachers can help their students advance their ability by maximizing their exposure to the target language as well as by using performance-based instruction and assessments which measure and document students' ability to use language for communication purposes (Turnbull & Arnett, 2002; Baugh, 1994).

Research shows that without contextualization of language in instruction, students are not as able to utilize information in developing communication (Schwartz & Martin, 2004). Additionally, because students assimilate new information by scaffolding language over time, it is important that foreign language teachers activate students' schema so they can use their background knowledge to comprehend new information (Schwartz & Martin, 2004). Moreover, contextualization of language has been shown to increase students' motivation, their depth of engagement in learning, the amount of information learned, and their self-perception of competence in the target language (Cordova & Lepper, 1996). Cohen (1996) suggests that in addition to performance-based instruction, foreign language educators should use activities

which keep the learner at the center of instruction. Therefore, group work can be valuable because it can increase motivation and provide a platform for students to communicate with others as would be necessary in real-world situations (Shrum & Glisan, 2010).

Specific strategies that foreign language teachers can employ to develop oral language ability include minimizing teacher talk, using the target language as the medium of instruction, utilizing probing and open-ended questions, and designing instruction that is meaningful, motivational, and cognitively challenging (Hall, 1999). Successful oral language activities are open-ended, providing students with multiple solution paths and opportunities to negotiate meaning so as to allow them to create with the language in authentic contexts (Bearden, 1998). Developing these oral language skills helps students learn how to communicate in spontaneous and interpersonal situations (Laborda, 2009).

This review of literature has examined the need for proficiency and some of the oral language strategies that may help develop oral language ability. Given the limited amount of time most foreign language teachers have for instruction, it is important to incorporate activities which require oral language production and that challenge students to use language for a variety of communication purposes. This action research study investigated the use of instructional strategies that develop students' oral language ability in the high school Spanish classroom.

METHODOLOGY

This action research study was conducted during April 2011 at a high school located in the Piedmont area of North Carolina where the researcher was assigned for the student teaching internship in Spanish. A total of 19 students from three Level 2 Spanish classes participated in the study and were selected based on their membership as students in the classes where the researcher taught. The researcher sent consent forms home via students and administered forms of assent to them, explaining the purpose of the study and obtaining written permission to record and film them as well. All records, materials, and names of participants were kept confidential. Participating students were assigned an identification number (1-19) which was used to identify them during the data collection. These consent and assent forms were stored in a locked cabinet in the office of the researcher's advisor's office.

This study was comprised of three data sets. The first data set was instructional practices focused on oral language development in four activities that subjects completed as part of normal instruction. The activities used for this study were: an interview, a description of a photo

followed by probing questions used by the researcher, a problem solving activity, and an oral presentation. The second data set was field notes taken by the researcher that focused on her instruction while subjects completed the four oral language activities as well as notes taken from video footage of the activities. The final data set was a post-instructional survey that participants completed at the conclusion of the research study to help the researcher gain information regarding the use of the oral language strategies. The data collected were analyzed to investigate the impact of the use of the strategies on students' oral language development.

RESULTS

In this study, the researcher analyzed the use of instructional strategies in the high school Spanish classroom involving the use of oral language strategies. The researcher looked for themes that emerged from data collection to answer the research question: "How does the use of oral language strategies develop oral language ability in the high school Spanish classroom?"

Results from this study showed that activities which included visuals were shown to enhance students' oral language ability in the domains of comprehensibility, vocabulary usage, and language control. For example, many students made gains in distinguishing between correct uses of the preterite, imperfect, and imperfect progressive. Furthermore, students made gains in recycling previously learned language by describing background information such as what people in the audience were doing, what people were wearing, and descriptions of physical appearance. This demonstrated that the incorporation of visuals provided a specific context for oral language production, and therefore, students demonstrated more oral language ability.

Three of the four oral language activities allowed students to work with a partner to complete the task, and results showed that during these activities students demonstrated development of oral language skills such as circumlocution and negotiation of meaning. Participant 8's statement on the post-instructional survey recognizes this growth. "I found out what to say to get around something I didn't know." Results also suggested that students were more engaged and enjoyed activities to a greater degree when they involved a partner. This directly supports the research regarding increased motivation that can result from group work and that it provides a platform for students to communicate with others as in real-world situations (Shrum & Glisan, 2010).

Additionally, data from this study reinforced Cordova and Lepper's (1996) research which stated that richer contexts can increase students' intrinsic motivation which can lead to

their use of more complex language. This action research study found that activities with richer contexts heightened student motivation and pushed students to use more complex structures as well as speak more comprehensibly. Importantly, through these activities, students were shown to improve greatly in the domain of language control by distinguishing between past tense grammar structures and how to use them accurately. An interesting note of importance was that although the interview was the first activity students completed and the oral presentation was the last activity, participants scored on average 0.61 points less (using a 4 point scale) in the domain of comprehensibility on the oral presentation. There was reason to believe that because the interview had a more specific and structured L2 context, students were more motivated to complete the task, and therefore spoke more comprehensibly.

Finally, results showed that students performed better on oral language tasks when they were given many opportunities to use and hear the language. Gain was seen over time in the domains of language control in activities which allowed students to hear another person speaking the language in addition to using the language. Importantly, in the only activity in which there was no opportunity for students to hear the language, the oral presentation, students showed a decrease in all domains of oral language ability. Thus, results from this study agree with the research of Hall (1999) and Shrum and Glisan (2010) which states that teachers can increase the chances for students to gain oral language ability by providing opportunities for students to use and hear the language.

CONCLUSION

After completing this research study, two ideas emerged which should be addressed in future research. First, results of this study showed that students were not able to use the presentational mode of communication well. Further research about the significance of assessment of oral language development would be helpful in understanding how to help students become more proficient over time in a foreign language program. Second, during this action research study, the researcher was greatly aided by the use of recording technology to gather students' oral language production. Without this technology, students would have performed their presentations one at a time, thus making it much more difficult to carry out this study. Therefore, it would be beneficial to explore further how technologies can aid in documenting oral language progress, and when technology is unavailable, how students' progress can be followed over time.

This research study intended to investigate how the use of oral language strategies develops oral language ability. Through conducting this study, the researcher found that oral language strategies should be used in purposefully designed and carefully thought out activities rich in communicative context with a variety of opportunities for students to use and hear the language, preferably in pairs during interpersonal communication. Additionally, the researcher learned the importance of activating students' schema with background information before beginning an oral language task so students are better able to access and use previously learned language. Accordingly, the researcher plans to focus on scaffolding language within meaningful contexts in instruction, using the target language as the medium of instruction. With additional expertise in the instructional practices explored in this study, the researcher hopes to help her students become proficient speakers of Spanish.

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"There's an App for That:" A Study Using Apple iPads in a United States History Classroom

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While some schools of thought place a large importance on citizenship promotion, there are other purposes and benefits of the social studies. The National Council for the Social Studies (1992) recognizes the importance of these skills; in its *National Curriculum Standards for Social Studies* position statement it noted that students should be able to "apply inquiry processes; and to employ skills of data collection and analysis, collaboration, decision-making, and problem-solving" (online).

Integration of technology into the social studies curriculum is not only beneficial for developing critical thinking and problem solving skills but it encourages the inclusion of 21st Century Skills as well. The Partnership for 21st century skills' overarching mission is to "combine a discrete focus on 21st century student outcomes (a blending of specific skills, content knowledge, expertise and literacies) with innovative support systems to help students master the multi-dimensional abilities required of them in the 21st century" (online). It is hoped that the skills and knowledge students will master will help students succeed in work and life in the 21st century.

Despite increased accessibility, many teachers continue to underutilize Internet resources and experience difficulty reconciling the use of computers and preparation for statewide standardized tests (Davis & McClain, 2003; Friedman, 2006). Davis and McClain (2003) found that teachers failed to use experimental learning resources from the Internet in instruction due to pressure from high stakes standardized testing in their content area. Many teachers also report using technology for lower order tasks (Friedman, 2008; VanFossen & Waterson, 2008).

The use of the Internet also can stimulate student learning and engagement. Sherman and Hicks (2000) found that when given the proper instruction teachers can create web based instruction that encourages creative and student centered learning. Further, the Pew Internet and Life Project found that 93% of teens use the Internet and 64% of teens have participated in "content-creating activities" (Lenhart, Madden, Macgill, & Smith, 2007, p. i). Use of the Internet in this context allows teachers to expand lessons to allow students the liberty to use social studies

content in a more creative manner. Integrating the Internet into instruction as a means of assessment, allows students to take ownership for the content. Heafner and Friedman (2008) found that the introduction of wikis can facilitate student centered constructivist learning and also improves motivation and self-efficacy. In addition, students that created wikis were able to retain more content than their peers who learned using traditional teacher centered methods.

Handheld devices, a relatively new form educational technology, also allow student centered learning. Berson and Balyta (2004) recognize the role of portable technology: "handheld devices offer a means to maintain the physical structure of the classroom while enhancing content delivery and student productivity" (p. 145). In addition, when handheld devices are designed specifically for classrooms and teachers, students will be able to spend more time becoming critical thinkers, effective communicators and responsible citizens (Berson & Balyta, 2004). However, while there is no argument against the benefits of handheld devices, there still exists little scholarship and direct application for the use in a social studies classroom. Friedman and Hicks (2006) urge researchers to cease discussion on technology's potential and continue to take steps in exploring how technology impacts learning. In addition, research is scarce in how the use of technology impacts achievement and learning outcomes (Swan & Hofer, 2008). This study addressed these issues, as it investigated the effect of Apple *iPads* on achievement in an eleventh grade U.S. history classroom. Specifically, the research study sought to explore: what impact did the *Explore 9/11* application have on student achievement?

Methodology

The researchers utilized a quasi-experimental design and the population was five sections of US history, two standard and one honors, utilized *iPads* in instruction and the last two sections, one honors and the other standard, were instructed with paper-based primary sources. Of a sample population of 74, 49 students used *iPads* and 25 students received the content with traditional methods.

Participants completed a pre-test that measured student prior historical knowledge on 9/11, attitudes toward technology and interest in history. The study occurred over a series of two 50-minute class periods. Every section completed a brief informal writing exercise and shared personal stories about 9/11 in a whole class discussion. All sections then viewed a CNN news clip from September 11, 2001 and a discussion followed. The first three classes worked in small groups of 2-3 individuals and used the *Explore 9/11* application to examine and analyze oral

history accounts from survivors of the terrorist attacks. During the audio clips, students completed a graphic organizer. The second day, students finished the tour using the *iPads* and students completed post-test that consisted of the same questions that were present on the pre-test to assess student progression in achievement.

The last two class sections were instructed without *iPads*. Following the discussion on the news clip, students worked in small groups of 2-3 to analyze a packet of primary sources. The primary sources contained the exact transcription of the audio accounts from the *Explore 9/11* application. Students completed the same graphic organizer and were encouraged to work collaboratively. The last two class periods also completed the post-test assessment to measure changes in achievement.

Results

The *Explore 9/11* application for the *iPad* impacted student achievement overall. Students in the class periods that used *Explore 9/11* application on the *iPads* scored higher on the graphic organizer (out of ten points) on average as opposed to the students who read the same material on paper. In classes that utilized *iPads*, the means were comparable and student achievement on the graphic organizer was higher. While the *Explore 9/11* application on the *iPads* did help facilitate higher student achievement, the one point difference in the overall means does not indicate a strong impact on achievement.

Class periods two and six were honors and the mean scores on the graphic organizer are almost identical. The standard level class periods that utilized *iPads* scored close in comparison (8.8 and 8.1). However, the standard section taught using traditional methods scored much lower at 6.6 in comparison with its honors counterpart that averaged a 9.25. In addition, the difference between the overall means of the standard sections and honors is 1.45 and thus larger in comparison to that of *iPads* vs. traditional methods. The *iPad* section scored a mean of 9.3 and the section taught using traditional methods averaged a 9.2 on the graphic organizer. The standard class periods experienced a difference in scores, with the *iPad* sections scoring a mean of 8.45 and the section taught with paper materials averaged a 6.6. The overall performance of students in standard classes suffered from the absence of the application.

Generally speaking, students that utilized *iPads* to experience the *Explore 9/11* application wrote more detailed responses in the graphic organizer overall as illustrated by student scores. However, both the honors sections wrote more detailed responses in comparison

with the standard level classes regardless of the *iPads*. There is little difference in detail between the high achieving standard and honors students that utilized the *Explore 9/11* application on the *iPad*. However, one difference was the standard students often copied details from the text while the honors students put the information in their own words. The differences in achievement are much more evident amongst low scoring graphic organizers. Low scoring honors students received a low grade because the graphic organizer was incomplete. The low score was not due to misunderstanding the information or failure to provide detail but rather incompleteness. Standard level students regardless of technology used, received low scores due to incompleteness and lack of detail.

One trend that occurred in each class period regardless of the presence of *iPads* was difficulty with the last question in the graphic organizer. The last question required students to connect the material presented in the application to the news footage watched in the beginning of the class. There was not a class period, honors or standard, that at least one student did not have a question on the last column of the graphic organizer. Once explained, many students successfully completed the final question. Finally, overall students in the honors classes entered the classroom with more historical content knowledge. Standard level students knew basic background information but most could not name important figures or groups.

The most interesting and informative trend to emerge on the post-test was present in every class period regardless of ability and teaching method utilized. Considering the main thrust of the lesson focused on the personal accounts of ordinary citizens, student achievement was impacted as evident by the inclusion of 'fireman, police men, doctors, volunteers' as answers on the post-test. While the inclusion of ordinary individuals on the post-test, it was more prevalent in the class that utilized the *Explore 9/11* application on the *iPad*. Furthermore, students in honors sections were more likely to include ordinary citizens as opposed to students in the standard level classes.

Discussion

The impact of the *Explore 9/11* application on the *iPad* on student achievement may be small in quantitative terms but the implications of this study are far reaching. The use of the application on the *iPad* created collaboration and cooperation among students that was not present in the class periods that used paper primary sources. The first three class periods all worked collaboratively in small groups as advocated by the Partnership for 21st Century Skills

and the National Council for the Social Studies. Students working with the paper readings all read independently and did not discuss the material with their peers. On the contrary, the *iPads* facilitated and encouraged group collaboration which ultimately positively impacted student achievement.

The positive student feedback as well as the inclusion of ordinary citizens in historical accounts offers a strong case for the use of primary sources in history classrooms. Primary sources are readily available on the Internet, however teachers still find it difficult to include the outside sources successfully into a class period. Handheld devices such as an *iPad* solve this problem. *iPads* engage the student with its interactive format and a number of applications already exist to provide teachers and students with primary sources in a new format. Applications such as the *US Constitution* and the *Declaration of Independence* deliver the traditional documents on the *iPad* but with little added value. *Explore 9/11* is a rare application because it engages students with its audio and images but does not require the Internet to function. One of the largest limitations to the mainstream inclusion of the *iPad* into classrooms is the issue of wireless Internet. Many districts prohibit the use of wireless internet outside the media center, which creates a roadblock to the value of handheld devices' accessibility and portability. A solution to the wireless internet is the extension of the acceptable use policy to include the wireless networks. The same website blocker can be applied to the wireless network thus facilitating the use of handheld devices in classrooms. While the use of *iPads* in the social studies classroom is not the sole answer to standardized test preparation, the fear that technology may detract from content and the test may be quelled. As illustrated by the results of this study, student achievement was positively impacted by the presence of an interactive application on the *iPad.*

The limitations of this study are the small sample size and the specific use of one application on the *iPad,* thus making the results difficult to generalize across populations and other applications. However, as time moves forward the number of applications only continues to rise. The benefits of the use of handheld devices such as the *iPad* are widespread, but scholarship remains scarce. Technology holds the key to the future of education and handheld devices will be it the center offering personalized experiences and instruction. Research in the field of educational technology within social studies needs to continue so practice can follow in its footsteps.

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Increasing Parent Involvement: Using Newsletters to Expand School-Home Communication

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Many students coming from low socioeconomic backgrounds achieve less than their middle-class peers (Sacker, Schoon, & Bartley, 2002). One aspect of socioeconomic status that influences student achievement is parent involvement. Students whose parents are more involved in their education through discussions about class activities, have high aspirations for student achievement, and have positive attitudes towards subject matter have higher levels of educational achievement than students whose parents are not involved in their education (Sylva, Sammons, & Siraj-Blatchford, 1999). A number of parents are not involved with their child's science education because parents oftentimes do not understand their role as an advocate for their child's education, are not aware of class activities, or do not understand the importance of science in their own lives (Desforges, 2003). Teachers and schools can work to increase parent involvement by improving communication between the classroom and home. One way to increase school-home communication is through the use of class newsletters that update parents on class activities, upcoming assignments, and talking points they may have in discussions with their child. The purpose of this study is to examine the influence of science class newsletters on parent aspirations for their child in science, parent-student conversations, and parent attitude towards science and use that data to develop my philosophy towards school-home connections and improve upon the use of newsletters in my own classroom.

REVIEW OF LITERATURE

Socioeconomic status is one of the most widely studied variables in educational research (Sirin, 2005). A large body of research has found a link between various aspects of socioeconomic status and student academic performance as measured on standardized achievement tests (Sacker, Schoon, & Barley, 2002). For example, parental aspiration for a child's educational attainment has demonstrated effects on student achievement. Communication of high parental aspirations for a child through parent-child discussions is related to higher student scores on achievement tests and increased graduation rates (Singh, Bickley, Keith, Keith, Trivette, & Anderson, 1995; McNeal, 1999; McNeal 2001).

Parent attitude towards science is another aspect of parent involvement that is related to student achievement. Students perceive their parents to have a positive attitude towards science when parents make an effort to discuss what their child is doing in science class, when parents take them to participate in science-related activities, and when parents talk with their child about science in the news and daily life (George & Kaplan, 1998; Tenenbaum, 2008). Students' positive attitudes towards and interest in science, in turn, is related to higher achievement in science (George & Kaplan, 1998).

Parent-child discussions of classroom activities is the aspect of parent involvement most consistently shown to improve science achievement, prevent dropouts, and improve student behavior in school (McNeal 1999, 2001). It is through discussions with their children that parents most effectively communicate their aspirations for their child and their attitude towards and interest in science (McNeal, 1999).

It is important to note that the relationship between parent involvement and student attainment is not linear. Parent involvement may be proactive, consisting of activities that promote student achievement even before a child enters the science classroom, while other aspects of parent involvement are retroactive, in response to student problems. Proactive parent initiatives are more likely to be related to increased student achievement (Desforges, 2003).

Schools can influence parent involvement, and in turn, student achievement, through a variety of interventions. Teachers and school administrators may not be able to influence the determining effects prescribed by socioeconomic status, but they can work to inform parents of their role in their child's education and help them feel more comfortable partnering with the school to help their child succeed. Some parents are not involved with their child's education because they themselves were not successful in school. These parents are hesitant to take strides to try to help their child in school because they think they cannot help their child, or they do not know how to help their child. Some parents feel uncomfortable coming to their child's school because it brings back memories of their own academic difficulties and trouble relating to teachers and administrators (Eccles & Harold, 1993).

Schools have tried various strategies to encourage proactive parent involvement, including providing parents with school-related information, giving parents a voice in school decisions, and encouraging school-parent partnerships (Desforges, 2003). Epstein developed a framework of ways parents might be involved in their child's education, including effective

parenting, communication with their child's school, volunteering at school, helping their child with homework and academic planning, participating in school governance, and participation in community-wide events in support of their child's school (Desforges, 2003). Intervention strategies have focused on increasing proactive parental involvement as defined by Epstein's framework for involvement, but interventions have not focused on altering parent aspirations for their child or their attitudes towards particular subjects, or by influencing parent-child conversations (Desforges, 2003). Research on the success of various strategies for increasing parent involvement is lacking. Research has found little evidence to support the claim that parental involvement programs successfully increase parent involvement and promote student achievement (Mattingley, Prislin, McKenzie, Rodriguez, & Kayzar, , 2002).

METHODOLOGY

The following study was conducted through the lens of Action Research. There were 13 student and 9 parent participants in the IB biology class chosen for this study. The teacher-researcher spent time observing and teaching the class under study and developed two newsletters for parents aimed at fostering parent involvement. The researcher surveyed and interviewed student and parent participants to ascertain the level of parent involvement with students' science education and the extent to which newsletters influenced this involvement. Data from the interviews and surveys were then qualitatively analyzed to examine the influence of newsletters on three aspects of parent involvement: parent aspiration for their child in science, parent attitude toward science, and parent-student conversations about science and science class. This analysis was then used to propose guidelines for the design and use of newsletters in science classrooms.

RESULTS AND ANALYSIS

In general, survey and interview data indicated that students and parents most often pointed to students as the initiators of school-home communication and conversations about science class, and to students as "gatekeepers" who effectively foster or impede communication about school. Although parents sometimes initiated conversations about upcoming assignments and grades, especially when they saw their child working on an assignment or project, students and parents alike largely agreed that it is the responsibility of students to handle any school-related concerns. As an example, one parent recounted how she taught her child to take responsibility for communication with the school: "Generally we've done the advocacy- we've

taught [our student] to advocate for herself. So at this point, we haven't had much communication with the teacher." One student also explains, "But honestly, in high school, I don't think [communication with parents] is important. You're supposed to learn to be independent for college and most [students] don't care about parent involvement." Students indicated that communication with the school was their own obligation, and taking responsibility for that communication prepares them for life outside the support of their parents.

Survey and interview data also suggest that parents and students are not communicating about class content. One student reported, "We don't talk in-depth about too much that goes on in my class, I just provide overviews of the general class structure." This illustrates that parents and students are not talking about science content. One parent even noted that she had not contemplated the importance of talking about science with her student until prompted to do so by the surveys sent home: "This survey has helped me realize that although I know my child is doing well in his classes, I need to be more involved. Instead of just asking, 'How are you doing in class?' I should be asking, 'Tell me what you learned today.'"

Almost all parents and students, who recounted recent parent-student conversations, reported that they most often talked about student progress and factors that affect student progress. When one parent was asked about the content of those conversations, she said, "Assignments, requirements, what unit they're on, is she getting it, is it hard, what projects they're doing." Another parent said, "In general, the class seems to be a failure and lacks both teacher expertise, as well as lab equipment and adequate materials to support learning." This demonstrates the emphasis on student progress and factors that affect student progress in conversations between parents and students about science class.

When students do talk with parents about things they are learning in science class, rather than just the logistics of student progress, students most often initiate these conversations because they are interested in and engaged with the subject matter. One student shared the reason for a recent conversation:

> I suppose if I think it is very interesting of if it is something that I didn't know before, or if it is something different I would maybe talk about it, or something that like I know is in their area of specialty or something. It kind of depends.

Another student reported, “If it was a debate topic, I’d want to hear her perspective. Those are the things I’d want to talk about.” This suggests that when students do talk with their parents about science, they like to discuss controversial issues and learn their parents’ opinions on these topics.

In addition to parent-student conversations about science class, the surveys administered to parents and students also examined the aspirations of parents for their child to succeed in science and parent and student attitudes towards science before and after receiving two class newsletters containing information on the class content, activities, and current events in science. The data indicate that student perceptions of their parents’ aspirations for their success in science grew over the newsletter intervention period, whereas parents’ aspirations for their child’s success in science diminished over the intervention period. Furthermore, students had more positive attitudes towards science after implementation of the newsletters, whereas parents had a diminished view of the importance of science after the intervention period.

CONCLUSION

Teachers must take several important steps to insure that newsletters foster effective parent involvement in students’ academic lives. Because parents and students seem to dismiss the importance of parent-student communication about school, teachers must inform students and parents of the importance of parent-student conversations about science class, encourage students to talk with their parents about science, and provide prompts for discussion. Teachers should also inform parents of the importance of proactive parent involvement and provide parents support for learning to become proactively involved in their child’s education. Furthermore, because students are the gatekeepers of information communicated between schools and parents, in order to get information about science class home to parents, teachers should consider providing direct access to this information via emailed newsletters, a class website, or Twitter. Although parents and students agree that high school students should take ownership of their educational experience, parents and students want parents to be aware of upcoming class schedules. Teachers should provide parents means by which to learn of upcoming assignments and class activities. Teachers can also increase the likelihood that students will share content-related information with their parents by making this information related to the real world and actively engaging for parent-student discussion (i.e., through the presentation of controversial issues in science).

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Guided Discovery Learning with Collaborative Discourse

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A constructivist view of learning says that children do not simply absorb information as it is presented to them. Rather, the information is incorporated into their existing frameworks of knowledge, or they construct new frameworks. Learning is student-centered and an active process, not a passive experience of absorbing new information. So, effective teaching should be student-centered and allow students the opportunity to construct their knowledge as they encounter new information. Guided discovery learning activities allow students such an opportunity. Teaching through guided discovery gives students an interactive way for them to discover concepts for themselves instead of receiving information through lecture. Collaborative discourse gives students the opportunity to work together and articulate their thought processes and theories. This goes naturally with guided discovery learning as students work towards understanding by conversing and brainstorming with one another.

Guided discovery learning with collaborative discourse integrates several standards stressed by the National Council of Teachers of Mathematics: *Communication*, *Reasoning*, and *Learning* (National Council of Teachers of Mathematics, 2000). As students discover their knowledge through guided discovery learning, they are an active part of their education. Students have the opportunity to learn through experiencing these discoveries, instead of being presented with facts to memorize.

Literature Review

Teachers have reported positive attitudes towards inquiry in the classroom. A study by Marshall, Horton, Igo & Switzer (2009) surveyed K-12 science and mathematics teachers on

their beliefs about and their use of inquiry in the classroom. Overall, math and science teachers of all grade levels reported less time devoted to inquiry learning than their reported ideal amount. Preservice teachers also reported the intention of incorporating inquiry laboratory activities within their classrooms after participating in their own inquiry-based investigations, led by Wilhelm & Walters (2006).

Hassi and Laursen (2010) explored the benefits of inquiry-based learning (IBL) in undergraduate mathematics courses. They found that students in traditional courses reported weaker cognitive, affective and social gains than students in IBL courses, and they found instruction less helpful. They also showed negative changes in motivation and beliefs between the beginning and end of the course. Preservice teachers reported cognitive and affective gains, although these were less than the benefits reported by the advanced mathematics students. Although more data analysis is still to be reported on this study, the early findings show a benefit to the use of inquiry-based learning.

However, Gijlers & de Jong (2005) found that for collaborative discourse to be most beneficial for all students, pairings or groupings must be done intentionally, with heterogeneity by ability levels. Although the class is to be student-centered, research suggests that there are important considerations and planning to be done by the teacher to maximize the benefits of guided discovery learning and student discourse.

The mood of student interactions has been found to affect the creativity of the collaboration. In a study by Chiu (2008), disagreements over ideas and polite interactions supported creativity for problem-solving, while agreements and rude interactions resulted in less creativity. Further, groups that showed high levels of creativity often solved the problem successful. So politeness should be stressed in the classroom setting.

Teacher discourse has an effect on student group work, as concluded by Webb, Nemer, Kersting, Ing, and Forrest (2004). Their study found that student interactions mirrored the discourse their teachers modeled in class. The teachers in the study rarely encouraged students to ask questions or verbalize their problem-solving strategies. In turn, students working in groups who served as help-giver modeled these roles: did most of the work, provided low-level help, and infrequently monitored understanding or strategies.

Although there is research on guided discovery and collaborative discourse, little research relates both while considering students' achievements and attitudes. This research study relates past research in each concept while considering students' achievements in and attitudes towards mathematics in a high school course to ask: "How does guided discovery instruction with collaborative discourse impact students' achievement in, and attitudes toward, math?"

Methodology

Three lessons that incorporated collaborative discussion with guided discovery were investigated for the study. Students investigated a mathematical concept with the aid of guiding questions as part of a worksheet as they worked with their peers. Students were encouraged to work together and talk through their ideas. After the lessons, a focus group of six students from an Honors Geometry class was interviewed and audio-taped. Excerpts from the focus group interviews were selected and organized into themes.

The first activity's goal was for students to use patty paper and a simple reflection of a point to discover the relationship between the line of reflection and the segment joining the preimage to the image. Students discovered that the line of reflection is the perpendicular bisector of this segment. Each student had their own patty paper to use to explore.

The second activity focused on another property of reflections. Students worked in pairs on a worksheet to explore reflections of a trapezoid. This gave them hands-on experience with

reflections, and they discovered that the preimage and image of a reflection are congruent. This led the students to a new vocabulary term: isomorphism. After performing more than one reflection, students were to discover if they could move the preimage to the image by just one reflection. Once they find that this is not possible, several students found that two reflections is the same as a rotation.

Finally, the third activity was set up as a worksheet for students to use the Pythagorean Theorem to discover the side length ratios of a 30-60-90 triangle. That is, instead of being told the ratios and then asked to apply them to solve for missing side lengths, students used the Pythagorean Theorem to find the missing sides of several 30-60-90 triangles and then were asked to find the ratio of the short leg to the hypotenuse and then the long leg to the hypotenuse. Once the ratios were discovered, the students could apply them to solve 30-60-90 triangles with only one side length given.

Results and Conclusions

In the focus group, students readily gave their opinions on the activities that incorporated guided discovery learning. Students expressed both positive and negative reactions to discovery learning. Students' comments also demonstrated ownership of their learning. They had positive comments for partner work but appreciated working with their peers in moderation.

First, the students said they remembered the patty paper activity that was done during the lesson on reflections, and then expressed positive reactions to the activity. It was observed during all classes that the students were more engaged being able to work with the concept in concrete form. During one of the classes, a student who usually takes more time to process and understand new concepts, quickly caught on with this activity and exclaimed, "I get it!" These reactions to the lesson show students' affective, cognitive and social gains, as also found by Hassi and Laursen (2010) through inquiry-based learning.

There were more mixed reactions to the activity that guided students to discover the side ratios of a 30-60-90 special right triangle. Although some of the students expressed positive reactions to discovering the ratios and enjoyed finding it for themselves, two students shared that they did not enjoy it and did not find the activity successful. This ratio activity had less vocal prompting by the teacher and let the students work through the prompted questions and exercises on the worksheet, with the goal of the students discovering the ratios. While some of the students seemed to enjoy thinking "outside the box" and discovering the ratios for themselves, some had strong preferences to already have the ratios and then work through the exercises.

Another activity that students did to discover concepts of reflections in the rigid transformation unit had students work with partners. The students interviewed agreed that they liked working with partners, but they appreciated partner-work in moderation. However, when asked what they thought of assigned pairs, they all had negative reactions. Student A.M. expressed frustration working with a partner who does not want to do work, which leads to less motivation. Both A.M. and his partner are high-achieving, highly motivated students. However, for pairings to be most beneficial for all students in the class, Gijlers & de Jong (2005) find that pairings should be heterogeneous by ability level. The students' comments express the desire to work with their friends, and not just for social reasons; they find they get more work done.

The students interviewed shared that if they did not understand a concept, then they talked to their partner about it, and shared positive feelings for such interactions with their peers. During the interview, the students alternated in contributing their input, adding to the previous comment. The students kept a polite form of communication and collaboration, which Chiu found conducive to a creative solving-problem environment (2008). The interview showed that students enjoyed working with their peers, but they also appreciated partner-work in moderation;

no student said they wanted to do partner-work every day. Although there were some mixed reactions to the discovery learning activities, some of the students' comments illustrated ownership of their learning.

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Multiple Types of Assessment and Learning Styles

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One of the six principles for school mathematics established by the National Council of Teachers of Mathematics states "assessment should support the learning of important mathematics and furnish useful information to both teachers and students" (National Council of Teachers of Mathematics, 2000). A key part of this principle is the concept of using assessment to inform instruction because the results of assessment in the classroom should be carefully considered when planning ahead. Another use of assessment in a classroom is to make sure students are learning the concepts and this is done best when teachers provide opportunities for their students to present their learning in whichever mode is most effective.

The learning styles of each student can vary greatly within the classroom and using multiple modes of assessment allows for these differences. Incorporating all types of assessment in a classroom is called for in current research: "using a variety of assessment formats allows for different learners to demonstrate their knowledge and skills in the best way they know (Oberg, 2010, pg. 2)." Teachers who include multiple types of assessments can provide students with the opportunity to express learning in different ways which has the potential to increase learning within the classroom.

Different types of assessment can be categorized as performance or standard assessment. Standard assessment is found in the form of traditional pencil and paper assignments, multiple-choice tests, or essay tests. Performance assessments usually require students to perform a task to demonstrate their knowledge. These tasks can include group projects or presentations and are often graded by a rubric.

Literature Review

Assessment in the Classroom

Traditional assessment has often failed to allow for creative and practical thinking as a result of being too narrow. After conducting research on the effect of traditional assessment on developing the reasoning skills of students, Sternberg (2008) found that an important weakness of traditional assessments is that they fail to effectively inform students on methods for

benefiting from their strengths and making up for their weaknesses. This conclusion implies that assessment in the classroom should provide enough feedback to continually develop the reasoning skills of students and also allow them to demonstrate their learning in the best way they know how.

Performance assessment, or assessment that requires students to perform a task so their thinking process can be clearly demonstrated, is an important concept to consider when planning assessment within a classroom. A study of 290 high school students was conducted to measure the cognitive constructs used on performance-based assessments (Suzuki, 1997). The author stressed the importance of scoring performance-based assessments and stated that there are two ways to score students' responses. The first way is to simply mark a response correct or incorrect and the second way is to score separate reasoning processes with the use of a rubric. This study focused on measuring performance using a rubric because they believed open-ended questions accounted for the differences in students' reasoning process and their demonstration of understanding. This illustrates the idea that students can have understanding of the material even if they obtain the wrong answer. It is important to realize that a variety of cognitive constructs can be used for the solving of a single task. This was illustrated by Suzuki when he found through his research that performance-based tasks have an advantage over multiple-choice tasks in the classroom because students can clearly demonstrate their step-by-step thinking process in their answer. Multiple-choice tasks may be limited in this sense, because the structure does not allow students to demonstrate the cognitive behaviors that influence their solution.

Multiple types of assessment

Using multiple types of assessment in a classroom can be beneficial to students. In her case study of teachers integrating performance assessments into the classroom, Oberg (2010) found differentiation in instruction and assessment is essential in the classroom and that the assessment must be appropriate for the students and furthermore, the assessment must be clearly linked to the instruction. Based on this finding, it is important to use multiple types of assessment to allow for diversity in the classroom. This study then looked at the use of performance assessments, which they determined offered a better variety of opportunities for students to demonstrate their learning of certain content. This research supports the idea that using multiple types of assessment in a classroom is beneficial to both the teacher and the students.

A qualitative study in a ninth grade mathematics classroom documented the implementation of multiple assessments, using questionnaires to determine students' feelings about the assignments given. The findings of this study were positive (Lim & Colgan, 2004) as students responded that teachers should continue to implement multiple assessments in the classroom. Students gave reasons to support this belief, including that alternative assessment such as journaling and portfolios help them remain organized and can show the teacher each student's best work.

Learning Styles

A study in Turkey classified eighty seventh-grade pupils according to the Learning Style Scale developed by Grasha and Riechmann then compared these results to their performance on mini-science projects (Bahar, 2009). This study found that students of different learning styles performed differently on this assignment, allowing the authors to conclude that a relationship existed between the learning style of students and their performance on these projects. Students were also asked to evaluate their feelings about the assignment on a five point Likert Scale. This questionnaire showed that generally the comments made by students were directly related to their scores on the projects. Students worked individually on these science projects and it was determined that students whose learning style was characterized by a need to work with others had significantly lower scores than those who excelled at individual work. The study also found that there were some students in the poor performing groups who actually performed well on the assignment. Bahar explains that this may be because these pupils were effective learners in that were able to adapt the skills necessary to successfully complete the project. The results of this research demonstrate that teachers should be aware of the diversity exists in every classroom when considering the learning styles of all students. The research also shows that helping students develop skills to effectively demonstrate their learning on assignments they do not generally succeed at can be beneficial to the student.

Diversity of learning styles cannot be ignored within the classroom. Bahar (2009) found through his study that although learning styles are very different, no one style should be looked at as a disadvantage in a classroom. This diversity should be taken into account and in order to do so, teachers should gather more information about the learning styles of their students. The author stresses this especially when it comes to teaching styles because if a teacher allows a certain learning style to determine their instruction, it gives an advantage to students whose

learning style aligns with the teaching. This research reinforces the idea that diversity of learning styles can have a positive effect on the classroom environment if the teacher accounts for the differences while planning their instruction.

Valid assessment of students' skills is one of the key components of student learning and it is therefore important to research ways to improve the use of assessment in schools. This study will implement a variety of assessments to answer the following question: What is the effect of using multiple types of assessment on the performance of students with different learning styles?

Methodology

The learning styles in this study were defined according to the VARK learning preference questionnaire and include visual, auditory, reading and writing, and kinesthetic. Students completed the VARK questionnaire, which is composed of 16 multiple choice questions. Students selected the best response to each question and could choose more than one answer if necessary. The results were calculated and the students were classified according to whatever learning preference the survey determines. Students were classified as more than one type of learning style if the results indicated they preferred multiple styles (Fleming, 2010).

The tasks the students completed during the study were the different types of assessments. These assessment tools were used to determine understanding of material after it was taught. The assessments measured different material but were considered equal during data analysis. The assessments included a multiple choice test, two chapter tests, a group quiz, and two projects that required students to create a drawing and write about it.

The scores of students on different types of assignments were analyzed at the end of the study. Differences in scores on the different types were examined for each student and these differences were compared to the learning styles to determine if there was a relationship between the two. The scores of the class as a whole were looked at to see the highest performers as well as the lowest performers and whether those scores remained consistent across the different types of assessment.

Results

After students completed the VARK questionnaire, the answers were recorded and students were classified according to their learning style. Out of the 9 participants, one student had multiple preferred learning styles. The results showed 3 students were auditory learners, 2

students were kinesthetic learners, 3 students were reading/writing learners, and 1 student was both a visual and a kinesthetic learner.

Table 1: Student Learning Styles

	Visual Learner	Auditory Learner	Reading/Writing Learner	Kinesthetic Learner
Student 1			✓	
Student 2			✓	
Student 3			✓	
Student 4		✓		
Student 5		✓		
Student 6		✓		
Student 7				✓
Student 8				✓
Student 9	✓			✓

Table 2: Group Averages for each Assessment

	Self-Portrait Project	Flag Project	Group Proof for a Grade	Proof Test	Chapter 3 Test	Midterm
Visual Learners	100	98	100	85	81	90
Auditory Learners	93	95	97	88	80	76
Reading/Writing Learners	89	93	90	75	70	63
Kinesthetic Learners	100	99	97	92	83	87

Overall, the data shows that the scores of students varied when multiple types of assessment were included. According to the data, visual learners performed best on assignments that allowed for student creativity. Auditory learners benefitted from an assignment that provided a learning environment in which they could talk with group members and hear the ideas and input of other students before they were required to demonstrate their learning. Reading/writing learners performed best on an assignment because instead of having them work out numerical problems, it had them describe mathematical transformations depicted in pictures in their own words. From the results, it appeared that kinesthetic learners perform best when they are given an active role in demonstrating their learning. As Oberg (2010) stated, it is beneficial for students to

include more varied assignments in the classroom that allow students to demonstrate their learning in unique ways.

Also, students seemed to enjoy the variety of assessments and understood the importance of performing their best on all the different types of assignments. This supports the findings of Lim and Colgan (2004), which showed that students responded positively to the inclusion of multiple types of assessment and that students enjoyed being able to complete projects where they had plenty of time to edit and submit their best work.

The implications of these results are that different learning styles in the classroom should be accommodated with multiple types of assessment. These results furthered the findings of studies such as the one conducted by Bahar (2009) that showed there is a relationship between students of learning styles and the types of assessment they are given. Teachers can utilize this relationship in the classroom by providing multiple types of assessment and allowing students the opportunity to show their learning in different ways.

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Recognizing and Understanding Irony

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June 2011

The question that draws every serious, life-long-learning teacher to self-reflection is: how can I best facilitate learning for students? There are a plethora of areas teachers can study in order to find answers to this inquiry. The area of concern for this research study is ironic literature. This study is concerned with what the best teaching practices are for training students to recognize and understand textual irony.

Review of Literature

The study of literature particularly is not a simple task; it is complex, covering possible aspects such as lengths and types of texts and methods for teaching them. Wilhelm (2010) has argued that students gain a deep appreciation and understanding of literature when teachers put greater emphasis on learning procedural rather than declarative knowledge. This knowledge is created by having students think of literary elements in terms of how they naturally consider them in real life, become familiar with literary elements through appropriate exercises, and practice transferring what is learned to new works of literature. Transferring knowledge to new readings is similar to Henry's method of teaching concept development. Henry (1974) purports that students learn literature best when teachers allow them to affectively think and compare at least three texts with a common theme that resonate with individual students. This type of method is both analytical and critically synthetic in nature, building upon the analyses of previous treatments of concepts and texts. Similar to Henry's idea of concept development is Probst's idea of reader response. Probst (1988) believes literature needs to be experienced, not merely reduced to facts, and this task is accomplished by having students react to texts. In the three theories previously mentioned, the thread that unites them is the belief that students are the vehicle through which texts have meaning, and they should be probed throughout the process of reading literature.

An initial way of probing students' minds is getting them to discuss texts in group work. Nystrand and Gamoran (1997) conducted a study to investigate how recitation and dialogue

based instruction are used and how effective they can prove to be; they found that "what ultimately counts is the extent to which instruction requires students to think, not just report on someone else's thinking" (p. 72). Blau (2003) is interested in getting students to discuss and respond to literature rather than get involved in a recitation session with teachers. He recognizes that the interpretations of texts often arise out of personal experience; therefore, students likely would have multiple readings of a text. Some of these different interpretations should be celebrated as unique while others may be considered as confounding or even misreadings. As a follow up, Milners (2008) thinks it is appropriate for students to enter into what they call interpretive communities after they respond to literary works so that their peers may affirm, refine, or challenge the validity of their responses.

Formal analysis is another way students can understand the meaning of literature. Milners (2008) advise us, as they do for interpretive communities, to "consider the knowledge of literary concepts and vocabulary as part of what allows us to clarify, deepen, and enlarge our initial responses to literature" (p. 161). And that is what is accomplished with formal analysis. This method of instruction is traditional and is in line with the paradigm of New Criticism. Wilhelm (1997) describes New Criticism as "a highly systematic and formalist approach to rigorous, analytic readings of texts" which stresses best or even correct readings (p. 13). Wilhelm purports that the rigidity of this theory makes students disenchanted with the process of reading literature. This finding motivated Wilhelm to write a book that includes new terminology which focuses on allowing how the learning of students affects instruction so that they can enjoy reading texts and personally engage them (2010).

Furthermore, authors also help readers find meaning in literature by employing literary devices or codes within texts such as irony. Kennedy (1978) advises "we had best be alert for irony on the printed page, for if we miss it, our interpretation of a poem may go wild" (p. 19). This is not true only for poems, but also for other literary forms as well, for irony is critical to understanding certain texts. To recognize the irony therein, readers must have a good idea of what irony is. Irony means different things to different people; therefore, Smith (1985) says, "To study irony effectively, then, one must narrow the focus" (p. 4). Narrowing the focus means to clearly define the scope of irony when teaching the concept to students.

Perrine (1988) defines irony simply as "a situation, or use of language, involving some kind of incongruity or discrepancy" (p. 1412). He distinguishes three types of ironies in his book:

verbal irony, dramatic irony, and irony of situation. Irony can be hard to recognize at times, but Booth (1974) suggests that there are "cues" in texts that help us recognize irony. These cues are "straightforward warnings in the author's own voice" (p. 53) whether via titles, epigraphs, or direct statements, "known errors proclaimed" (p. 57), "conflicts of facts within the work" (p. 61), "clashes of style," (p. 67) and "conflicts of belief" (p. 73). In addition, one of the results in Milner's study (1999) is that "students at every grade level were far more able to recognize irony than they were able to label it" (p. 312). Howbeit this may be true, favorable test outcomes with regard to the concept of irony require that students be able to recognize and label irony as such.

Methodology

During the course of one week, I analyzed 8 assessments taken by a sample of 28 English IV honors students in a high school in North Carolina. In order to assess how well students were able to recognize irony on the printed page before instruction, I gave them a diagnostic test in which they had to read a short piece and answer questions about what they read. Three questions checked for reading comprehension while only two of the questions were irony specific. I had planned to split the class in half, having one half read Kate Chopin's "A Story of an Hour" and the other half read Marge Piercy's "A Work of Artifice;" however, it came out to be that 18 students read Chopin's piece and the other ten read Piercy's piece and answered questions for them as diagnostic tests. The students did similarly for their post-test on day five, except they read and answered questions for the piece they had not read for the diagnostic test.

At the beginning of the unit, I introduced students to the concept of irony via PowerPoint Presentation. I exposed students to the concept throughout the week with examples taken from film, music lyrics, and poetry. For the pieces taken from each of those mediums, I asked students to recognize the irony in them, label them, to demonstrate knowledge of how the irony in them affects their understanding of the text.

Results

For day one, the teaching strategy was effective insofar as 20 students were able to name and define the three types of irony. It would be hard for students to recognize irony on the printed page if they did not know what the three main types of irony are or what irony is in general; therefore, it was critical to for me to know that the students could label these situations as such. For day two, students were eager to contribute to the classroom discussion in the conceptual readiness activity, and they seemed very engaged with the films I showed them. At

the conclusion of *The Lottery*, students were shocked and said things like, "Whoa! What just happened? Wait? That was ironic." I could tell then that students had perceived the irony of that film in particular. Moreover, twenty-two students were able to recognize at least 5 of the 7 ironic moments in selected scenes in *The Lottery* and *Terminator 2*. Only 9 students were able to recognize irony in at least 2 of the 4 music lyrics on day three. When I scaffolded the process of recognizing irony by summarizing the songs, the scores of 20 students improved. I presume that students were unable to consider the irony in these songs because they were too enthralled with listening to music they enjoyed or indifferent to those they were not consumers of. On day four, 17 students were able to recognize irony in at least 5 out of the 8 poems. Overall, the scores of 13 students worsened, 9 improved, and 6 remained the same.

Implications

The implications of this research are as follows:

- Teachers should use direct instruction, and provide adequate opportunities for practice, and personal reflection activities to help students develop or sharpen their ironic points of view.
- Teachers should employ film in the teaching of irony because it is particularly effective in gaining students' attention and enabling them to perceive irony in entertaining ways.
- Teachers should scaffold the process of recognizing irony by going through the process of becoming aware of irony in texts. Teachers can do this by summarizing and interpreting texts.
- Teachers should use short print and non-print texts to teach irony to students.
- Students can sharpen their ironic point of view through the aid of peers via group work.
- Student-centered research needs to be done to determine how much of students' inability to recognize irony is such that and not due to reading deficiencies or apathy.

Conclusions

The study of irony recognition is an important one because the ability to do so is indicative of a critical reader. Teachers who know how best to teach the topic will help students become critical thinkers, and if they teach the topic in a similar fashion as I have, they will help students to see the connection between the classroom and the world in which they live.

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The Use of Contextualized Listening Activities to Develop Listening Comprehension in the High School Spanish Classroom

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Introduction

Communication in a foreign language is complex in its interrelated use of skills: listening, speaking, reading, writing, and knowledge of culture. Of those, listening is often considered the "Cinderella" of these skills because it is often less emphasized in instructon (Flowerdew & Miller, 2005, p. xi). However in short, without listening, communication would not exist (Hirsch, 1983; Chamot, 1990). In fact, as Hirsch (1983) mentions, humans spend more time engaged in listening, approximately 42 percent of their time awake, than in any other communicative task ―32 percent speaking, 15 percent reading, and 11 percent writing. Thus, in the foreign language classroom (L_2), as well as in our daily lives, listening plays a key role in the language acquisition process.

Review of Literature

Following the release of ACTFL's *Standards for Foreign Language Learning in the 21st Century* (1996), which defined the content knowledge students should possess in a program of study in grades K-12, ACTFL designed the *Performance Guidelines for K-12 Learners* (1998) as a measurement gauge of students' progress in the content knowledge according to the levels: Novice, Intermediate, and Pre-advanced. The *Guidelines* describe the language ability that students should have at each level based on the use of real-life, communicative language tasks, and teachers should consider these in designing experiences that are task-oriented at all levels, K-12 (ACTFL, 1998). This way, students can gain greater ability to comprehend and produce language as they gain proficiency over time.

For students to be able to gain ability to communicate, Krashen (1982) states that language acquisition occurs optimally when students are exposed to one level above the sum of their competence, or what he called i + 1 (i for input). This push is optimal for L_2 acquisition because otherwise, when the 1 increases, students are prone to become anxious and filter out instruction (Krashen, 1982).

In response to Krashen's input hypothesis, Terrell (1982) theorized the Natural Approach to language acquisition stating that listening should be developed prior to speech emergence. He argued that, similar to L_1 acquisition during human infancy, students of any age should be exposed to the L_2 aurally within authentic contexts for an extensive period before being expected to produce language orally. This approach allows students to become comfortable with the L_2 and thus, eventually, more natural communicators of the language (Terrell, 1982).

However, the ear must still be trained to listen so as to help students become proficient in a language that is not their own (Hirsch, 1983; ACTFL, 1996). According to Elkhafaifi (2005), "Before a skill can be tested, it must be taught" (p. 505). Elkhafaifi (2005) and Chamot (1990) go on to state that because listening is integral to one's proficiency development, it is important that foreign language teachers provide their students with a variety of strategies regarding how to listen during the pre-listening, while listening, and post-listening stages.

For pre-listening, Chamot (1990) suggests that foreign language teachers model for students how to plan to listen, encouraging them to pay attention and to construct a strategy, be it taking notes, chunking the information into parts that are easier to analyze, paraphrasing, or translating, among many other strategies. For the while listening stage, Chamot (1990) suggests that teachers model strategies such as directed and selective attention; self-monitoring; the repetition of a piece of language aloud or in one's mind; the grouping or chunking of the L_2 heard based upon common characteristics; note-taking; the substitution or paraphrasing of words and phrases for simplification; summarization of an entire text (or getting the gist); translation; and, inferencing of new information following a context. For post-listening, Chamot (1990) suggests that teachers engage in questions and negotiation of meaning with their students.

Three instructional strategies involve not only students' listening ability but also their ability to read, write, and speak. Video-mediated listening (VML) brings students authentic video from the respective cultures studied with captions in the L_2 on screen (Markham & Peter, 2003). Another effective instructional strategy is dictation involving the reading aloud of a text by the teacher for the students to write down all or part of the text (Flowerdew & Miller, 2005; Shrum & Glisan, 2010). Myint (1998), however, suggests another variation on the traditional dictation called a dictatory in which the teacher reads aloud a brief text each day and the students either complete a partial or full dictation. Each dictation builds upon the preceding one in the form of a short story; thus, engaging the students in the plot where they will make predictions,

pay better attention, and ask questions (Myint, 1998). Finally, one of the most effective reactions to listening to discourse is oral production (Shrum & Glisan, 2010). Having students respond orally to a scenario or in partner activities engages both listening and speaking abilities simultaneously.

Listening proves to be as equally important as speaking, reading, and writing in L_2 acquisition. Chamot (1990) argues that listening is the only language skill in which the individual cannot control the rate of the input —the speaker's discourse— or the output —his/her own comprehension of the discourse. Yet, for a language learner, listening is more arduous as his/her bank of vocabulary, grammar, as well as sensory memories attached to certain words, is fairly scarce (Shrum & Glisan, 2010; Flowerdew & Miller, 2005). Thus, foreign language teachers should engage students by activating their schema prior to exposure to input, and by incorporating strategy instruction into the curriculum and a variety of enjoyable listening tasks that are performance-based.

This review of literature has examined strategies that foreign language teachers can use to develop and assess students' development in listening ability. Thus, the purpose of this action research study was to examine how contextualized listening activities help students develop listening comprehension ability in the high school Spanish classroom.

Methodology

The study took place in April, 2011 during the student-teaching internship of the teacher-researcher in a public high school in the southeastern United States with a study sample of 48 students in two Level II Spanish classes. Once permission, informed consent, and informed assent were procured, the teacher-researcher conducted a three-tiered study. The first data set included three instructional strategies that the teacher-researcher used for students to practice listening strategies: chunking the discourse, getting the gist of the discourse, directed attention, note-taking, listening for words already known, and guessing the meaning of words similar to English. First, students were administered a VML comprehension activity that employed Spanish captions, to which the students listened and viewed three times before responding to written questions regarding the clip. Second, in a later session, the teacher-researcher read aloud the final partial dictation in a dictatory series to which the students listened three times and wrote down the missing words that he said. The third and final piece in another session involved a role-play scenario and follow-up questions read by the teacher-researcher using language lab

technology to which students listened three times and then orally responded. Prior to the study taking place, students practiced with each instructional strategy on numerous occasions.

During instruction, the following data collection methods were used as the second data set of the study. The students were video-recorded, if permission was granted, and, following the instruction, the teacher-researcher took field notes in a journal about the instruction, student engagement, and students' development of listening comprehension.

As the third and final data set of the study, the students were administered a survey created by the teacher-researcher to complete regarding the use of the instructional strategies and students' development of listening comprehension ability.

Results

Overall, students performed best on the VML with a sample average of 92.1 %, while they performed worst on the recorded scenario with an average of 72.66 %. However, the dictation average was not significantly different from that of the recorded scenario with a sample average of 72.73 %. Aside from averages, several recurring themes are pertinent to mention. Through field notes and survey data, it was determined that students have lower anxiety and perform better on listening activities when they are instructed on good listening strategies. With an array of strategies such as listening for the gist of a discourse, chunking a discourse, listening for words already known, note-taking, and focused attention, students had various techniques available to them exemplified by the teacher-researcher so that they could experiment and personalize their own set of best practices in listening to use for the future.

The researcher also learned that listening comprehension seems to be less difficult and students do better when more than just the ear is engaged. One student's comment on the post-study survey seems most applicable. "It is easier to understand material when more than just hearing is engaged." While listening, it is common for one to use visual stimuli ―body language, moving lips, facial expression, and the surrounding context― to best understand heard discourse. Nevertheless, listening is a skill that must be developed for the foreign language student so as to better communicate with native speakers of the L_2.

VML was the instructional strategy that employed most varied skill sets: listening, reading, and the viewing of images. It also exposed students to authentic materials and cultures. Students were able to hear native Spanish-speakers, thus providing more than just the teacher-researcher's voice as a listening stimulus. This multi-sensory strategy, as well as the invoked

interest from a fresh and exciting stimulus, most likely contributed greatly to student success in developing better listening ability which is applicable to their daily lives.

The dictation was set in a story format that used vocabulary and grammar pertinent to the Spanish II curriculum. Like the VML that showed a detailed context, the dictatory format allowed students to make predictions by using context from previous dictations, and thus students were observed as being more engaged. Several students commented in the surveys about how they became better spellers via dictation which, therefore, further developed their writing ability. While the study was conducted to see how students developed listening ability in Spanish, the collateral development of other language abilities became thematic.

The recorded scenario proved difficult for most students despite many of them performing well; however, this activity did not only focus on listening. It focused on using strategies such as note-taking, directed attention, and the students' choice of strategy to listen for meaning —listening for the gist or chunking—, to process the discourse and then respond orally. This instructional strategy thus focused heavily on listening ability but also on speaking ability.

The strongest theme between all of the listening activities employed in this study was that students who had prior exposure to Spanish either in middle school or due to their heritage learner background consistently performed better on all three listening comprehension activities than students who had no prior exposure to the language beyond the Spanish level I high school course. On VML, students with prior exposure scored, on average, 93.3 %, while those without prior exposure scored, on average, 88.7 % —a small difference. However, on the dictation, students with prior exposure scored, on average, 78.1 %, while students with no previous experience scored, on average, 69.3 %. On the recorded scenario, students with prior exposure scored, on average, 86 %, while those without exposure scored, on average, 63.4 %. Thus, the teacher-researcher believes that prior exposure to Spanish either in middle school and/or as a heritage learner has the possibility of affecting success on the instructional strategies used in this study as well as possible development of listening ability.

Finally, it is probable that these activities helped boost students' self-confidence in Spanish, or at least in listening ability. Of the 48 students involved in the study, 24 (50 %) scored a higher average on the listening activities than their cumulative average for the course up to the point of this study being carried out. Hopefully, these activities especially boosted the self-confidence in Spanish for those five students who were currently failing the course at the

time of the study. These success stories, though few, are not to be taken lightly as they show that all students have the ability to improve listening skills no matter their standing in the course.

Conclusion

Listening, often seen as the least important language skill after speaking, reading, and writing, provides the foundation for comprehension and thus production of oral language. Nevertheless, when listening activities are administered out of context without images, words, or other clues that aid in comprehension, it is more difficult for students to gain listening acuity. This study aimed to employ contextualized listening activities to further help students develop listening comprehension ability through explicit listening strategies modeled by the teacher-researcher along with three instructional strategies: a video-mediated listening experience, a dictation, and a role-play scenario with a recorded response. In effect, each instructional strategy employed not only enhanced students' listening ability but it also supported the processes involved in reading, writing and speaking. The majority of students appeared to enjoy the activities and therefore, the teacher-researcher will continue to use these, as well as other activities focused on listening comprehension, in later instruction.

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The Effects of Photograph Analysis on Students' Historical Thinking Skills

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June 2011

History is often thought of as a dull subject rooted in dry lecturing and rote memorization. The work of historians, however, is very dynamic, based on inquiry, critical thinking, and imagination. In order to bring the excitement of history back into the classroom and to help students develop historical thinking skills, researchers have noted the value of having students analyze primary source documents (Eamon, 2006; Pappas, 2006). This study examined the practice of historical photograph analysis, a primary source method that holds potential for awakening students' curiosity and helping students delve into authentic historical thinking.

REVIEW OF LITERATURE

Though the term "historical thinking" is difficult to define, its meaning has been illuminated by recent research. VanSledright (2002) describes historical thinking as the examination and analysis of "evidentiary traces" of the past and the making of "careful judgments" regarding the perspectives presented therein (p. 6). Similarly, Reagan (2008) writes that historical thinking involves assessing the reliability of source material and Burenheide (1997) describes it as the active construction of historical knowledge as opposed to the mere reception of facts. Slatta and Atkinson (2007) connect historical thinking with the skills of inquiry, critical thinking, and collaboration. In summary, helping students develop historical thinking skills is to help them 'do' history rather than just hear about it.

One of the main tools for developing historical thinking skills is the examination of primary source material (Eamon, 2006; Pappas, 2006). Primary sources are defined as sources which were created during or soon after a historical occurrence and which thus invoke the memories of people who lived through that event, from newspapers and journals to photographs, video footage, interviews, maps, and so on (Library of Congress, n.d.; Pappas, 2006). Much research points out the benefits of primary source investigation on students' historical thinking skills. Eamon (2006) asserts that using primary sources helps students think critically, evaluate context and bias, and consider how history is constructed. Barton (2005) notes that primary

sources, though teachers must present them carefully and correctly, can stimulate student curiosity and help them make personal connections with historical figures and events.

The classroom use of *visual* primary sources—which include drawings and paintings, cartoons, photographs, and films—has particular value for today's digital-age students, who are constantly inundated with stimuli from the computer, television, and other technologies (Gaudelli, 2009; Little, Felten, & Berry, 2010). The analysis of visual primary sources can help students develop important visual literacy skills while also translating historical content into a medium that students find familiar and engaging (Felton & Allen, 1990; Levstik & Barton, 1997). Historical photographs are especially apt to capture student interest due to their explicit ties to the reality of the past; thus, historical photography analysis was the focus of this study (Akbaba, 2009; Dallmer, 2007).

While photographs can be valuable tools to hone students' historical thinking, they are often used superficially and cosmetically rather than in a way that truly generates critical analysis (Felton & Allen, 1991). In order for students to think critically about historical images, teachers must carefully scaffold image-analysis activities; that is to say, they must guide students' investigation in a way they helps them progress from lower-level to higher-level thinking (Allen & Felton, 1991; Saye & Brush, 2004).

Although there is ample research about the *theory* of using photograph analysis to improve students' historical thinking skills, *practical* accounts that describe the successes and obstacles encountered during the photograph analysis process are lacking. This study sought to explore and illuminate some of the practical 'nuts and bolts' of historical photograph analysis to help other teachers improve their own classroom use of this approach.

METHODOLOGY

The participants in this study were 26 eleventh grade United States history students in a suburban public high school in the south-east region of the United States. At the beginning of the study, the students completed a brief pre-test questionnaire on historical thinking. This was a written (short-answer) questionnaire designed to assess students' understanding of how history is written and what it means to think historically. Next, as part of a lesson that was aligned with the North Carolina Standard Course of Study for United States history, a selection of historical photographs related to World War I were reproduced in print form. Students were divided into

small groups and the groups rotated through 'learning centers' around the room, each featuring one of the historical photographs. For this analysis, the students were given copies of a photograph analysis guide (adapted from the worksheet provided by the National Archives website) which they filled out for each of the six photographs. Then, as a processing assignment, each student wrote a journal entry as if he or she were an individual living during World War I, drawing on historical information that they gathered during the photograph analysis.

About one month later, during a lesson that was aligned with the World War II unit from the North Carolina Standard Course of Study, the students took the historical thinking post-test questionnaire (which was identical to the pre-test questionnaire) and repeated the analysis process for six World War II images. This time, instead of being given scaffolding sheets to structure their analysis, the students took notes at their own discretion. After the analysis they again completed a processing assignment, each writing a journal entry as if he or she were an individual living during World War II, based on information gleaned from the photographs.

Both photograph analysis lessons were videotaped and classroom observations were noted during each analysis activity. The data for this study included observation notes, the questionnaires on historical thinking, and student work samples from the photo analysis activities and processing assignments.

RESULTS

This study identified four major benefits that photograph analysis can have on students' development of historical thinking skills. However, it also detected two pitfalls of historical photograph analysis that could potentially lesson the benefits of this technique.

The first benefit of photograph analysis was that it helped students take on historical perspectives. This was evidenced by the way they sought to understand the thoughts, emotions, and situations of the people in the photographs on their analysis sheets and in their journal entries. They were also challenged to look beyond the "surface" of the images to judge between various historical perspectives; for example, with the photograph of soldiers holding up a Nazi flag the students had to determine whether these were patriotic German soldiers or Allied soldiers holding up German loot.

The second benefit of photograph analysis was how it facilitated the students' creativity and imagination. This creativity was evidenced by the sophisticated historical characters that the

students created in their journal entry assignments, from female factory workers and Japanese internment camp prisoners to a Boy Scout collecting scrap metal for the war effort and a German American during World War I who was experiencing anti-German discrimination. The way that the students drew on information from the photographs in their creative writing showed how the photograph analysis process bolstered their historical imagination.

Third, photograph analysis helped develop the students' skills in asking high-level historical questions. The scaffolding sheet based on the National Archives' model instructed students to record questions that they had about each photograph. With this scaffolding, the students noticed and questioned important details in the photographs.

Fourth, the photograph analysis activities helped students better understand how photographs can be used as primary sources. On their post-test questionnaires, several students identified photographs as potential primary source documents, whereas they had not mentioned photography on their pre-test questionnaires. Furthermore, some of the students were better able to explain the value of photograph analysis on the post-test questionnaire, based on their personal experience with photography and how it helped them connect with history.

Despite these benefits, the photograph analysis in the study also proved to have two potential pitfalls. First, in the second round of analysis—in which the note-taking was unstructured—the students looked at the photographs superficially, took note of very few details, and appeared unengaged. In short, with less structure and direction the photograph analysis appeared much less effective in honing students' historical thinking skills. Second, the students occasionally made errors in their analyses and journal entries, misinterpreting historical perspectives, failing to connect events with plausible dates, and so on. Without teacher or peer intervention to correct these errors, the students' misconceptions persisted. Such misconceptions—minor though they might have seemed—could ultimately be a source of confusion for a history student.

DISCUSSION/IMPLICATIONS

This study demonstrated that historical photograph analysis can be a valuable practice for helping students develop historical thinking skills. Analyzing photographs can help students make personal connections with the material, develop historical perspectives and questions, engage in creative thinking, and understand how history is written. Perhaps the greatest benefit

of photograph analysis is how it flips students' usual experience of school onto its head; usually, the students are asked questions and must come up with the answers, but photographs encourage the students to become the questioners, thus engaging them in the work of historical inquiry.

Nevertheless, history teachers must be mindful that photographs on their own do not provide the background information or the structure necessary for students to fully understand their significance; images can in fact be the source of historical misinterpretations if they are analyzed carelessly or superficially. Photograph analysis must thus be structured carefully, with specific questions for the students to answer for each image. Teachers must also provide essential background information for each photograph and, if possible, "debrief" students' findings as a class after the activity in order to correct any misinterpretations.

The findings of this study largely corroborate previous research on the topic of historical photograph analysis. This study highlights researchers' assertions that students can simply "consume" photographs rather than "critique" them if teachers do not plan and structure photograph analysis (Gaudelli, 2009, p. 112; Little, Felten, & Berry, 2010). The fact that analysis activities must be carefully scaffolded for maximum student learning is particularly supported by previous studies (Felton & Allen, 1990; Lehman, 2010; Saye & Brush, 2004). This study also adds unique findings to the topic of historical photograph analysis. First, it breaks down and explains *specific* benefits of photograph analysis on students' historical thinking skills, from the ability to take on historical perspectives to students' growth in historical questioning skills. Second, this study highlights how photograph analysis can help students tap into their creativity and imagination if the analysis is paired with a creative writing assignment.

Possible topics for future study in this area include whether photograph analysis is best completed as individual or group work, what types of photographs best evoke students' curiosity, and how the purpose of the photograph analysis activity—for instance, whether it is used as an introduction or a review to a unit—affects the way it should be structured and administered.

CONCLUSION

Historical photograph analysis is a valuable tool to engage students in the historical thinking process, but it must be approached carefully. Photograph analysis can at best become devoid of learning or, at worst, can hinder accurate learning if it is not scaffolded to guide the analysis process and if teacher and/or peer support to counter misinterpretations is not in place.

However, with proper preparation and scaffolding, photograph analysis activities can help students engage in the work of historians, examining historical perspectives, connecting to history in a more direct and personal way, and tapping into their historical imagination as they enter into scenes from the past.

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Effective Approaches for Teaching Irony in the High School English Classroom

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June 2011

To understand effective approaches to teach irony in a high school English classroom, I conducted action research within a unit on irony during my student teaching at a Winston-Salem Forsyth County high school. Irony is a literary technique which is used when reality is incongruous with expectations or when a term implies a meaning opposite of the literal definition. Perceiving irony is a skill which many high school students do not acquire easily. The subtlety of irony makes it difficult to identify and comprehend within literature. By tying irony to students' personal lives and background knowledge, I conducted a week long unit to discover what teaching methods would effectively help students better grasp irony.

Review of Literature

There are several ways to approach teaching literature to students. Many theorists support the reader-response approach, rather than the New Critical approach (Probst, 2004). New Critics believe in one unified interpretation of a literary work, while reader-response supporters feel there are many possible interpretations of a work based on the reader's experiences, beliefs, and values (Probst, 2004). According to Probst (2004), a reader-response theorist, teachers must meet several conditions to have an effective student response-based teaching style: receptivity, tentativeness, rigor, cooperation, and suitable literature. Therefore, the teacher must be receptive to students' responses as the students work together to analyze and evaluate their own responses. Four stages of reading literature outlined in *Bridging English* also emphasize the importance of reader response by placing it as the first stage (Milner & Milner, 2008). The subsequent three stages are the interpretive community, formal analysis, and critical synthesis. Therefore, these stages of reading literature build upon and extend Probst's reader-response theory, while still maintaining emphasis on the readers' unmediated reactions to the text.

Furthermore, Marshall, Smagorinsky, and Smith believe that an effective discussion should "place a much greater emphasis on students' knowledge and experience, on what they live through as they read, and on how they talk about their responses after reading" (1995).

Similar to Probst (2004), these authors believe that students must become personally engaged with the literature and that student responses must be valued by the teacher. Sheridan Blau (2003) further supports an ideal classroom which focuses on the process of students reading and producing discourse as much as it is on substance of discourse.

The third stage of reading literature (Milner & Milner, 2008) is formal analysis which means to "consider the knowledge of literary concepts and vocabulary as part of what allows us to clarify, deepen, and enlarge our initial responses to literature" (161). One of these literary concepts which is integral to students' understanding and interpretation of literature is irony, especially its most complex, sophisticated dimensions. Similar to the debate over the best way to teach literature in general, there are two opposing approaches for teaching irony. Smith (1989) classifies these two methods as tacit and direct: "Teachers using direct instruction specify the strategies that the students should employ. In contrast, teachers using tacit instruction presume that students will develop on their own effective strategies for dealing with texts" (257). The study conducted by Smith (1989) to examine these two methods of improving students' ability to interpret irony in poetry utilizes five clues through which, according to Booth (1974), authors signal that their work might be ironic. The direct instruction treatment sought first to build students' capacity to search for and share an awareness of the five clues, while the teachers using tacit instruction did not explicitly mention irony (Smith 1989). The study revealed that both methods can effectively improve students' interpretive skills in a particular genre (Smith 1989).

In the article, "The Ironies of Students' Recognition of Irony," Milner (1999) studied students' recognition of irony in three forms—joke, poem, and short story. The irony in the poem was consistently the most difficult to recognize (Milner, 1999). Interestingly, less-able students recognized irony better than did academically able students: "It may be that because irony and closely allied sarcasm are language tools that are seldom taught at school, but are used constantly in daily life, they are not as well understood by high academic achievers as by more street-smart kids" (312). Therefore, as aforementioned, the focus in an effective classroom must remain on what the students already know and on their initial and unmediated responses to the text. Marshall, Smagorinsky, and Smith (1995) found that effective classroom discussions need to place greater emphasis on students' knowledge and experience, which therefore supports why students were best able to find irony in the joke which is easily understood within the realm of

their everyday lives. Both direct and tacit instruction of irony can prove to be ineffective if students do not first relate to and engage themselves with the text.

Blau (2009) sums up students' understanding of irony by defining "true knowledge," which is "true to the extent that it advances learning and serves to lead those who hold it to larger and more capacious understandings." Students must be allowed to discover their own interpretations of literature, rather than solely receive a teachers' interpretation. Students acquire true knowledge when they are first allowed to interpret the texts on their own. An understanding of irony must also be achieved through students' natural response to a text.

Methodology

This action research study took place over one week in March 2011. The participants of this study were twenty-five students in my first period, tenth grade, English II class at a Winston-Salem Forsyth County high school. In order to be included in the study results, the students must have completed both the pre- and the post-test on irony. My cooperating teacher and I identified six students in the study group who worked consistently at an above standard level (24%), three students who worked at standard (12%), and sixteen students who worked below standard (64%), meaning over half the study group consistently worked at a below standard level.

In order to collect data on how the students comprehension of irony changed throughout the five-day unit, I used a diagnostic pre-test on Liam O'Flaherty's short story "The Sniper" and a summative post-test on the poem "Richard Cory" by Edwin Arlington Robinson Each test consisted of five multiple-choice answers with four possible choices for each question. Three of the multiple choice questions on each test were a gauge of reading comprehension. One question on each test tested students' ability to recognize and identify irony in the literary selection. The final question on both tests asked the students to describe the effect of irony in the tested poem or short story. Also, at the bottom of each test selection, difficult or unfamiliar vocabulary words were defined. This reduced the effect of reading comprehension difficulties, and increased the tests' focus on gauging understanding of irony. The students were given as much time as needed within the 48-minute class periods to complete the tests. I devised these test questions based on students' ability levels for the specific class. As a class, we had neither read nor talked about either selection prior to the tests.

The pre- and the post-test served as the beginning and end of the five day unit. In between, I designed a dynamic unit all centered around irony. I exposed the students to irony in

a variety of mediums so that they may better identify irony in literature. I hypothesized that after a week of irony instruction, students would be able to better identify irony more successful on the post-test than they were able to on the pre-test. I predicted increases on both questions of identifying the irony and also understanding the effects of the irony in the literature of both tests.

I based the sequence of unit activities on Bloom's Taxonomy (1965) which begins with students understanding a basic definition of a concept to students' ability to create this concept. Creation demonstrates the highest level of comprehension of a topic. Immediately following the pre-test, I began with direct instruction on the definition of irony. Within Bloom's, giving students a basic definition of irony along with examples addresses the lowest and first learning objective: Knowledge. Then, to keep the unit centered on students' personal knowledge, I elicited examples of irony from their own lives. Students quickly discovered that many sarcastic comments and jokes are ironic. By connecting a seemingly foreign concept to students' everyday lives, they became engaged with irony and began to acquire a deeper understanding of a concrete definition.

On the following day of the unit, I began class with a PowerPoint presentation which included many ironic images. Students wrote a short response, explaining why the images were ironic, for a formative assessment. Through this activity, I was able to gauge students' unmediated reaction to real world irony through their laughter and comments on the photographs. Next, students were assigned to read a short story, "The Little Girl and the Wolf" which is an alternate telling of "Little Red Riding Hood." In partners, students divided a sheet of paper in half and drew on each side what the ending of the respective story looked like. On the back, they wrote a short explanation telling why the retelling is ironic. Allowing students to draw to understand and also allowing them to work collaboratively proved to be an effective way for students to grasp irony. This activity moved up Bloom's Taxonomy by requiring students to apply their knowledge of irony within the context of a literary text.

To allow students to experience irony in yet another context, the next day students watched a clip from the TV show, *The Twilight Zone*. Following the episode clip, students composed a short paragraph describing the irony of the show. In order to allow students to once again experience literary irony, as a class I led a guided reading of Kate Chopin's "The Story of an Hour." We paused after every few paragraphs to write down Mrs. Mallard's current mood. This allowed the class to tangibly track her changes in mood, thus allowing students to better

identify the irony at the end of the story. The guided reading was a scaffolding technique I used to help the students in class who had difficulty reading and also to display techniques to identify irony. Furthermore, allowing students to work through "The Story of an Hour" addressed the next level of Bloom's: Analysis. The students had to analyze Mrs. Mallard in order to support their claim that the ending was ironic.

On the final day of instruction, the activity I assigned utilized the highest level of Bloom's taxonomy: Creation. We began class by listening to a promotion on National Public Radio by Alec Baldwin entitled "Don't Give." In this radio clip, Baldwin pleads with listeners to not give during the pledge drive, although given his tone and references, students are easily able to pick up on his sarcasm. After quickly analyzing this ironic speech, students in groups were assigned to create their own sarcastic and ironic speeches to be given to the class. To further relate irony to students' personal lives, I gave students topics to write on including: why cafeteria food should be better, why students should not have homework, and why cell phones should be allowed in school. These easily relatable topics engaged students in the composition of irony. This culminating activity, utilizing Bloom's Taxonomy, tied this student-centered unit together.

Results

I gauged students' understanding of irony at the end of the unit with the post-test. I measured students' progress in the two multiple choice questions on irony. The results are divided between a question which asked students to identify irony and a question which asked students to identify the effects of the irony. Based on the twenty-five students in the study, the results were positive. For identification of irony, on a measure students' progress from the pre- to the post-test, eighteen students improved, five students remained static, and two students regressed. For identification of the effect of irony, on a measure students' progress from the pre- to the post-test, fifteen students improved, seven students remained static, and three students regressed. The students who remained static correctly answered the questions on both tests.

Conclusions

Based on the data from the post-test, students improved both their ability to recognize irony and also their ability to identify its effects. More students improved in their ability to identify irony than their ability to correctly identify the effects of irony. I believe this was due to the direct instruction on the definition of irony. The tasks throughout the week focused more on identifying irony rather than studying the effects of irony. The students seemed to grasp the

effects of irony whenever we viewed ironic pictures from the real world. Their laughter demonstrated their unmediated response to the irony of the pictures. An academic, literary text read in a test format does not allow for as much natural response. Therefore, students were more successfully able to identify the irony in the texts after a week of instruction, but not as many were able to feel the effects of this irony.

Implications

This action research study demonstrates the effectiveness of using student-centered instruction based on the principles of Bloom's Taxonomy in order to help high school students better understand irony. The limitations of this study include the limited instructional time and the short-comings of a standard multiple choice test for students to display their knowledge. However, using a comparable multiple choice test for a pre- and post-test allows for efficient data collection and comparison. More studies need to be conducted on how to improve students' understanding of the effects of irony within an academic setting. Overall, a majority of the students' scores improved in this study. Based on my experience as a researcher, the combination of Bloom's Taxonomy and student-centered activities encouraged students' engagement with the material and increased students' curiosity to understand the often elusive subtleties that irony encompasses.

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Inspiring Instrumental Genesis through Guided Reflection

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Technology plays an increasingly important role in mathematics classrooms today. The field of research on technology in the mathematics classroom is bounded only by the limitations in technological capability, and these limitations are being surpassed as fast as they are becoming apparent. For a student however, any given technological tool is nothing more than an external artifact until that student has completed his instrumental genesis with that tool.

Instrumental genesis is the process by which the student develops the necessary understanding of the tool for it to be a successful facilitator of learning. A student must learn the techniques to use an artifact as well as make the conceptual connections between the representations that a technology aid can offer and the mathematical objects being represented. It is this dual nature of the instrumental genesis process that makes it so critical.

Each student has a different understanding of how to use a technology-based aid, and also has a different understanding of precisely how to gain insight from the aid's representations of mathematical concepts. These differences come from each student going through the instrumental genesis process individually. In order to analyze how any technology-based aid is effective in helping students learn, it is critical to know what the student's understanding of that aid is, as well as the process by which the student gained that understanding.

Literature Review

Since Verillon and Rabardel (1995) first rigorously defined the concept of instrumental genesis and established the theoretical framework on which to base investigation, the research on the topic and other derivative concepts has been expansive. By observing 15- and 16-year old students performing on graphing calculators, Guin and Trouche (1999) established that the initial phase of interaction with the calculator, the instrumentalization, was characterized "by a strong dependence on the machine where students often disregarded other information sources" (pp. 213-214). Artigue (2000) observed the second phase of the instrumental genesis to be the process of instrumentation, where students built an understanding of the calculator and its capabilities, the mathematics involved in such functions, and how the two (calculator and

mathematics) interacted. Hoyles, Noss, and Kent (2004) found that during the instrumentation, the most important process is that of abstracting mathematical properties and invariants.

Research on the effects of the instrumental genesis on successful use of technological tools has been extensive. Drijvers (2000) found that a computer algebra system (CAS) could be used to carry out intensive computational problems, leaving students to investigate mathematical concepts with more flexibility; however, students were often unsure of how to utilize the CAS effectively, as a firm mathematical understanding, as well as mathematical flexibility, is necessary. Guin and Trouche (1999) found that students often used the calculator with little or no mathematical understanding and without being aware of the details or having any desire to understand the operation. Furthermore, the limitations in technological aids can themselves create misconceptions in students, as Guin and Trouche (1999), Drijvers (2000), and Trouche (2003) all concluded. On the other hand, Guin and Trouche (1999) and Drijvers (2000) both found that use of technological tools could highlight misconceptions in students.

The instrumental genesis has both a personal aspect and also a social aspect, as Artigue (2000) and Guin and Trouche (2002) expressed. It is Guin and Trouche (2002) that formalized the definition of the instrumental orchestration as a means to address this social aspect. By investigating such orchestrations, Trouche (2003) extended the definition by saying that these orchestrations involve three elements: interaction, explanation, and publication. Guin and Trouche (1999), in their initial investigation of what has been defined as the Sherpa-student orchestration, found that having a student perform on the projector allowed the teacher to observe the student's technique and level of understanding, and also lead or initiate a discussion on different paper and calculator techniques. Hoyles, et al, (2004) gave a detailed analysis of how integrating technology into the classroom via an instrumental orchestration offered varied media of collaboration, among students and between students and teachers.

One of the necessary aspects of promoting successful instrumental genesis in students is the ample opportunity for students to reflect. Guin and Trouche (1999) found that students were often quick to use the calculator to solve problems even without an understanding of the calculator or mathematics involved. On the other hand, the added opportunity for reflection can actually be one of the key benefits of using such technology. Guzmán and Martínez (2009) reported how the CAS could be used to help students reflect on underlying mathematical concepts as well as understand aspects of mathematical logic. Guin and Trouche (1999)

described that by utilizing the Sherpa-student orchestration, students could reflect on how their techniques compared to the Sherpa-student's, and could decide which usage was best in a given situation; therefore, such orchestrations encourage reflection and promote instrumental genesis.

The instrumental genesis is a complex and critical process that takes place within the individual student. Orchestrations can help guide the social aspect of the instrumental genesis, as well as promote the reflection in students that is both necessary and beneficial for successful instrumentation, but it is in the instrumentation phase that students often fail to make the necessary connections between technology and mathematics. This study will explore the following question: How does guided reflection on the use of the TI-NSpire, in both an individual and whole-class or collaborative setting, affect students' instrumental genesis with this particular calculator?

Methodology

All students in two Integrated Math III classes, where the use of the TI-Nspire calculator and TI-Navigator system is heavily integrated, were observed and invited to complete surveys and participate in focus groups. Four students were purposively selected from those participating; these students were individually interviewed, and these interviews were used as case studies to analyze instrumental genesis in students. Based on the whole class data collected in surveys and focus groups, the first goal was to identify themes recurring in students' discussion of the use of the Nspires, The case study interviews were analyzed with respect to the themes identified in the focus groups, in order to highlight and investigate specific characteristics within the individual case study students that contribute to how students gain understanding from the Nspire.

Results

The primary goal of this research study was to investigate how individual students go through the process of instrumental genesis with respect to the TI-Nspire calculator. The various measures used in the study have been analyzed separately as separate sets of data, though the results from the focus group discussions have been used to help guide the analysis of the individual case study interviews.

Technology Use Survey Data

The survey results were analyzed as three units according to the three corresponding activities, and the changes from activity to activity highlight some important factors that play

into how students use and gain knowledge from the TI-Nspire calculators. From the data there appears to be the trend that the average response for each question except for the second went down from the first survey to the second survey, and then increased again for the third survey. This indicates that students did not feel as comfortable or confident while using the Nspires for the second activity as they had for the first, but then they felt more confident again during the completion of the third activity. And after analyzing what the second question was asking, which was essentially the students' expected lack of understanding, the opposite change in the average response to this question fits quite clearly with the change in the average response for all questions.

Focus Group Analysis

The purpose of the focus group discussions was to obtain student input to develop a set of ideas or themes, and to use these themes to develop a directed method for reviewing and analyzing the individual case studies. Because of the varying natures of the activities used in the different focus group discussions, the themes and ideas that became evident upon analysis are decidedly varied and multi-faceted.

- Theme 1: The benefits of the Navigator system in whole-class orchestrations.

Students felt that the Navigator and the Screen Capture function can be used to greatly reduce the chance for students to get lost or left behind by offering them constant direct guidance, and the benefit of doing so was strongly supported in the focus group data.

- Theme 2: The benefits of using the Nspires over just pencil-and-paper.

In every single one of the focus group discussions, at multiple points during the conversation, students made the point that the material being investigated or reviewed would be much more difficult to learn in more traditional pencil-and-paper environments.

- Theme 3: The benefits of the Nspire's dynamic graphical response and visual display.

In terms of how the Nspire helped the students learn the mathematics being investigated, more often than not, students cited the dynamic nature of the graphical displays and the visual benefits therein.

- Theme 4: The importance of prior knowledge.

The most common comment was that prior knowledge would be highly beneficial in carrying out the activities. Students often felt that they were using the calculators without understanding any of the underlying mathematics and were thus unable to learn anything.

- Theme 5: The acquisition of new knowledge.

In general, students seemed to express that it was difficult to develop new understanding of concepts from carrying out the investigations and activities on the calculator, primarily if there is no previous mathematical knowledge on which to base new ideas or conjectures.

Case Study Analysis

Using the results of the focus group data as a framework, the four individual case study interviews were comparatively analyzed to provide some insight into how individuals gain and verify knowledge with the TI-Nspire calculator. All interviewees completed the same activity on the same day under near identical conditions. From this analysis, three important characteristics have been identified that contribute to and also are indicative of how different individuals gain insight and understanding from the TI-Nspires.

- Characteristic 1: The use of the Nspire's dynamic graphical response and visual display in order to acquire and verify new and previous knowledge.

It is directly due to the dynamic nature of the Nspire display, with the ability to allow students to see related graphs and equations change and respond instantaneously and simultaneously, that each interviewee was able to come to the correct conclusion about the relationship between the denominator of the rational function and the equation of the vertical asymptote, though the interviewees came to said results via different methods.

- Characteristic 2: The mixed interactions between referencing prior knowledge and acquiring new knowledge from the calculator.

It was the reference to the interviewees' prior knowledge of end-behavior of polynomial functions that allowed them to analyze and acquire new knowledge on the end-behavior of rational functions. Before said guided reference, each interviewee was unsure about how to analyze the graph and respond to the question; afterwards, each student was able to draw some correct conclusion about the end-behavior of the rational function.

- Characteristic 3: The preference of using prior knowledge over investigating with the Nspire to acquire new knowledge.

Not only is prior knowledge important in allowing for the acquisition of new knowledge from the calculators, as was previously highlighted, it also often takes precedence over the acquisition of new knowledge from the calculators when students feel capable and confident in utilizing that prior knowledge without having to utilize the Nspires.

Conclusions

The data from the focus group interviews helped to clearly identify five key themes that students noted as being critical in playing into how they use and understand the TI-Nspire calculators. Three of these themes identified in the focus group data relate specifically to how students gain understanding from the calculator. The four individual case study interviews were then reviewed and analyzed for evidence of these three themes. Based on this analysis, three characteristics were identified that specifically contribute to how individual students gain understanding and insight differently from the TI-Nspires.

For teachers in mathematics classrooms in which technology use is common, the importance of recognizing these characteristics cannot be underestimated. Above all else, it is of utmost importance that educators simply recognize the fact that every student is different, and that in particular, every student will be able to use and learn from the TI-Nspire or any technology-based tool differently. Therefore, educators must take the highest care to try and address and engage all students when using technology-based tools and be constantly aware of how different individuals may experience the process of instrumental genesis differently

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Global Citizenship Education in Secondary Social Studies: Utilizing Global Newspapers to Help Students Identify Global Perspectives and Bias

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June, 2011

Global Education

In order to fully espouse global citizenship, it first must adequately be defined. First, global citizenship education differs significantly from multicultural education. While the latter incorporates the study of societies to inspire cultural appreciation, the former emphasizes building students' sense of civic duty and the theme of interdependence among nations in a global context to collaboratively address the world's problems (Ukpokodu, 1999). At its purest form, global citizenship entails espousing a global perspective. Namely, such a perspective includes both substantive and perceptual dimensions. This is outlined by Case (1993),who asserts that the substantive dimension includes "knowledge of cultural values and practices, global interconnections, present worldwide concerns and conditions, historic origins and past patterns of worldwide events, and the alternative and future directions" and the perceptual elements of "open-mindedness, anticipation of complexity, resistance to stereotyping, inclination to empathize, and non-chauvinism." Viewing global education from a variety of perspectives represents the key to its adaptability and importance. Cross and Molnar (1994) define global education in American schools through the lenses of three different perspectives. From the nationalist perspective, globalization threatens the hegemony of the United States. According to the international commerce perspective, globalization represents mainly an economic opportunity for the United States to compete on a global scale. Finally, the humanist perspective contends that globalization and global education present an unprecedented chance to achieve social justice, peace, and understanding across national boundaries. Effective global citizenship education in the United States should include elements of all three of these perspectives (Cross & Molnar, 1994).

Online Global Newspapers as a Means to Teach Global Citizenship and Higher Order Thinking

Perhaps one of the most efficient ways to encourage higher order thinking through the use of the Internet in secondary social studies classrooms is through the use of online global

newspapers. Social studies teachers have used newspapers as a current events instructional tool for decades. Online newspapers, though, imply that the information analyzed represents the most current perspectives on the topic (Hicks & Ewing, 2003). The Internet also allows teachers access to newspapers which they may otherwise be unable to obtain, and these sources are often the most useful in teaching students to analyze current issues from a global perspective. According to Hicks and Ewing (2003), "global newspapers are especially suited to assignments that ask students to compare and contrast different perspectives on similar events" (p. 137). This implies that global newspapers represent a powerful instructional tool in global citizenship education that should be employed to teach students critical historical thinking concepts such as determining perspective and uncovering bias. To be able to effectively develop such higher order concepts, students must ask the following questions of an online global newspaper source:

1. What does the article definitely tell us about an event or point of view?
2. What can I infer from the article?
3. What does this article definitely not tell me about an event or point of view?
4. What new questions do I now need to ask about an event or point of view?

This study seeks to determine how online global newspapers and the above questions can be used, with and without scaffolding, to develop secondary social studies students' ability to analyze global perspectives and biases.

Method

To answer the above questions, a study was conducted in the spring of 2011 in secondary social studies classes at a suburban high school in the Piedmont of North Carolina. Participants in the study utilized sources from global newspapers to analyze relevant current events. In order to help participants learn to detect and analyze perspective and bias in global issues, two different newspaper sources covering the same issue were utilized as part of a weekly current events activity.

This study was conducted in two eleventh-grade United States history classes. The exercises involved in the study occurred in the context of normal classroom instruction and activity, but students' participation in the study was completely voluntary. The study involved students from two honors United States history classes. In total, 35 students from both classes participated in the study, and the participants were heterogeneous with regards to gender, race, and academic ability.

The study was conducted in the same manner in each class. Before students began the current events exercises, they completed a Global Perspectives Inventory to determine their baseline global awareness and perspectives. This instrument, adapted from a similar one utilized by Zhai and Scheer (2004) in their study of global perspectives and attitudes toward cultural diversity, implements a Likert scale to quantify students' global perspectives. The same instrument was administered to the students after all study activities had been completed in order to determine changes in global perspective.

Each activity which comprised the study lasted approximately twenty minutes. For the first activity, which again helped to establish a baseline for students' ability to detect global perspectives and biases in global newspaper sources, students were given one newspaper article (in print from an online source) which pertained to a pertinent current event. For the second exercise, students were given two global newspaper sources which depicted two differing perspectives on a current event in social studies. After some background instruction on the issue by the teacher, students were asked to complete a chart which compared and contrasted the differing perspectives surrounding the issue. At the conclusion of the study, students completed the Global Perspectives Inventory to determine changes in ability to identify multiple perspectives and biases.

Data for this study were collected in four different forms. First, quantitative data were collected from the pre and post Global Perspective Inventories. Qualitative data were collected from two different data sources from the study to examine how well students identified global perspectives and biases in the global newspaper sources by completing the comparison-contrast charts.

Mean Likert scores were calculated for each class from the Global Perspectives Inventories, and changes in the scores were examined to determine changes in global perspective. Qualitative data from the scaffolding sheets were coded and then analyzed for similarities and differences. The themes were analyzed included students' ability to recognize global perspectives and evaluate bias.

Results

The statements on the Global Perspectives Inventory were grouped into categories to match the four themes of global education espoused by Kirkwood (2001): multiple perspectives,

appreciation of cultures, knowledge of global issues, and understanding the world as being composed of interrelated systems.

Furthermore, students identified notions of the world as interrelated systems as important on both Global Perspectives Inventories. The importance of the notion of interdependence among nations and cultures can be inferred from such statements as "It is very important to me to choose a career in which I can have a positive effect on quality of life for future generations," for the mean score for this statement was 4.00 and 4.29 on the pre and post Inventories. For the statement "It is important that we educate people to understand the impact that current policies might have on future generations," the average response score on the Likert scale was 4.25 before and 4.34 after the study.

Finally, the low mean scores on the negatively worded components of the Global Perspectives Inventories suggests the importance of viewing global issues from multiple perspectives. For example, the mean Likert score responses to the statement "Generally, an individual's actions are too small to have a significant effect on the ecosystem" were 2.43 before the study and 2.46 after the study. For the statement "American values are probably the best," the mean score before the study was 2.57 and 2.40 after its completion.

Of the seven significant statements, three reflected the global education phenomenon of utilizing multiple perspectives to analyze global issues. The first statement, "I think of myself, not only as a citizen of my country, but also as a citizen of the world," had an increased mean Likert score from 3.34 to 3.74 (α=0.095). Similarly, the mean Likert score for the statement "My opinions about national policies are based on how those policies might affect the rest of the world as well as the United States" increased from 3.40 to 3.77 (α=0.085). Finally, the mean Likert score for the statement "I sometimes feel irritated with people from other countries because they don't understand how we do things here" decreased from 3.00 to 2.37 (α=0.027).

Furthermore, four of the statements on the Global Perspectives Inventory indicated significant trends regarding the importance of viewing the world as composed of interrelated systems in global education. For example, the statement "I think my behavior can impact people in other countries" represents the central theme of interdependence between citizens of the United States and the rest of the world. The mean Likert score for this statement increased from 3.11 to 3.54 after the study (α=0.092).

Also, participants in the study recognized the economic interdependence of nations and peoples in the modern era through their reactions to three particular statements on the Global Perspectives Inventory. For the statement "Americans have a moral obligation to share their wealth with the less fortunate peoples of the world," the mean response (out of 5) increased from a 3.26 to a 3.97 (α=0.006). Participants further gained perspective on the global economic situation in light of the change in responses for the following statement: "The present distribution of the world's wealth and resources should be maintained because it promotes survival of the fittest." For this statement, the mean response before the study was a 2.80 and a 2.43 after the study indicating moderate disagreement (α=0.079). For the statement "Americans should be permitted to pursue the standard of living they can afford if it only has a slight negative impact on the environment," the mean response before the study was a 3.20, and the score after all study activities were completed was a 2.37 (α=0.002).

Qualitative data for this study was gathered from two global newspaper analysis exercises in which students examined articles on current events to detect global perspectives and bias. For the first exercise, students read and analyzed an article from BBC News entitled "India to Tighten Nuclear Safeguards at Jaitapur Plant." After a brief discussion of this article, students were directed to identify the contrasting perspectives surrounding the issue and the perspective (either biased or unbiased) of the article's author. Of the study's thirty-five participants, 74% correctly identified the contrasting perspectives with respect to the construction of the nuclear plant. 66% also were able to note that the author wrote from a neutral or unbiased perspective.

When prompted with the question "From what perspective does the author appear to be writing?" many participants indicated that "the author is writing from the people's perspective." None of the participants who provided this response, however, elaborated on who "the people" were.

For the second exercise, participants analyzed two online global newspaper articles regarding the conflict between Israel and the Palestinians over the formation of a new Palestinian state. One article from *The Daily Star: Lebanon* and the other from the *Jerusalem Post* both detailed the recent international talks between the United States, the U.N., Israel, and the Palestinians about the possibility of reducing Israel to its 1967 borders and creating a Palestinian state. This exercise was not scaffolded for participants. Only 54% of participants were able to

identify the perspective from which both articles were written, and 26% could identify the biases inherent in the arguments presented in each.

Furthermore, those participants who accurately identified the viewpoints and biases of each article struggled to explain the nuances of the issue in question. Some correctly stated that the *Jerusalem Post* article "shows [Benjamin] Netanyahu in a positive light" and *The Daily Star: Lebanon* "makes the Lebanese [Palestinians] sound like they are really peaceful, so they should get [their own state]," but the same participants could only explain the issue by stating that "the Israelis are against Palestine."

Implications

This exploratory study provides specific insights into the proper implementation of global citizenship education programs in secondary social studies and teachers' impact on the ability of students to identify global perspectives and biases in these programs. Specifically, global citizenship education programs, when implemented as a complementary program to the existing curriculum, precipitated measurable changes in students' global perspectives and views on global issues. Furthermore, the results of this study imply that proper scaffolding of global issues by excellent teachers help students to better identify global perspectives and biases in discussions of current global events.

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The Use of Authentic Materials in Developing Oral and Written Language Ability in the Secondary Spanish Classroom

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In today's society, it has become increasingly important for citizens to gain an understanding of foreign cultures. Because of the growing need for global cooperation, the ability to interact in other cultures with a high level of proficiency is critical to life in the 21st century. While each culture reflects its citizens' beliefs, values, attitudes, and products, it is important to understand that one's culture also influences one's way of thinking and behaving and that it plays an integral role in one's development as a human being. Language, one of the most crucial elements of daily life, is another component that powerfully impacts one's thought processes and belief system, and is therefore affected by a society's culture (Kuo & Lai, 2006). However, while culture affects language, language also affects culture, which makes them inseparable (Byrnes, 2010; Kuo & Lai, 2006). Therefore, to learn a foreign language, one must also develop an understanding about the social aspects of the different cultures in which the language is spoken to gain sociolinguistic competence. Because of this, incorporating the study of culture into foreign language instruction is a necessity.

REVIEW OF LITERATURE

For many years, the American Council on the Teaching of Foreign Languages (ACTFL) has emphasized the integration of culture into an articulated foreign language program to help students develop proficiency in the target language. Cultures is one of the five goal areas of the *Standards for Foreign Language Learning* (ACTFL, 1996), exhibiting the significance of incorporating culture into foreign language instruction. Following the release of the national foreign language standards, the ACTFL *Performance Guidelines for K-12 Learners* (ACTFL, 1998) were written to provide a measurement gauge of students' content knowledge in the five goal areas. The Performance Guidelines outline the levels of proficiency development in grades K-12 according to novice, intermediate, and pre-advanced in a number of specific categories, including cultural awareness, emphasizing the idea that the role of culture is integral to one's language development over time.

Culturally authentic materials provide a realistic context for foreign language instruction in which students can learn and practice the target language (Rost, 2002; Kearney, 2010). These are products that originate in the target culture and are intended for native speakers of the language; in other words, they have not been created for the foreign language learner (Gonglewski, 1999; Walz, 1998). The use of authentic materials in a foreign language classroom provides students the opportunity to be completely "immersed in cultural meanings" (Kearney, 2010, p. 334). In addition, by using culture and its products as a means of learning a foreign language, students are frequently exposed to new language and linguistic features as well as use of contextualized language for a variety of communication purposes, which aid in the development of one's proficiency (Furstenberg, 2010).

The use of authentic materials in foreign language instruction can be accomplished easily due to the wide variety that are easily accessible to teachers, such as stories and proverbs, media and news, art, and television and movies (Thanasoulas, 2001; Kuo & Lai, 2006). Because of the appeal that authentic materials carry for students of all levels, the use of the target language while presenting these products facilitates language development, while also motivating students to learn more about the culture in which the language is present (Calvin, 2005; Ramírez, 1996). Shrum and Glisan (2010) concur by saying that adolescents are interested in learning about "oddities" present in diverse societies and cultures, and they also enjoy comparing and contrasting various concepts. Using technology-based instruction and particularly the Internet can be an especially engaging and meaningful way to present authentic materials in a foreign language classroom (Kuo & Lai, 2006; Kern & Schultz, 2005). The Internet is ultimately the best way to find and utilize these resources because of its accessibility, as well as the many different ways it offers teachers to connect with the materials, especially through the use of authentic websites (Walz, 1998).

Foreign language teachers can present websites using a variety of instructional strategies, including structured web activities, which are not only interactive and engaging to students, but can also help them develop language proficiency (Lafford & Lafford, 1997). There are many ways to utilize authentic websites to design structured web activities that are grounded in culture, are student-centered, and are "tailored to the needs and interests of the individual learner" (Kost, 1999; Lafford & Lafford, 1997, p. 215). Ultimately, these activities afford students the

opportunity to gain a deeper understanding of and appreciation for diverse cultures, improve their grammar, and develop their language proficiency as a whole (Kost, 1999).

By utilizing activities involving authentic websites to present information from the Internet, foreign language teachers are able to provide students with real-life, engaging ways to hone their 21st century skills, including critical thinking, problem-solving, communication, collaboration, and information literacy skills (Partnership for 21st Century Skills, 2004). Also, by designing instruction using the Internet, which purposefully guides students towards the goal of developing language proficiency and gaining cultural awareness, students can be better prepared for life in the 21st century. The purpose of this action research study was to investigate the use of authentic materials from the Internet to develop oral and written Spanish language ability in the high school classroom.

METHODOLOGY

This research study included 41 students in two classes of Spanish in Level Three in a central North Carolina public high school. The study took place between April 7 and 15, 2011. The subjects were chosen according to where the researcher was assigned for the student teaching internship. Students and parents/guardians signed assent and consent forms, which explained the study's design, purpose, and participation details. Data collection for this study occurred during normal instructional delivery as part of in-class assignments completed by all students.

There were three data sets involved in this study. The first data set involved work completed by students while the researcher employed instructional strategies using authentic materials from the Internet. Within this data set there were three assignments, which required students to research authentic websites to answer written questions and make oral presentations about the information they found. The researcher used the completed assignments to evaluate the effectiveness of the instructional strategies using culturally authentic materials obtained from the Internet in helping students develop their written and oral language ability.

The second data set included the field notes taken by the researcher about the instructional process, which included classroom instruction and review of video-recorded instruction throughout the study. Following the video-recorded instruction, the researcher took field notes in a journal about the instructional strategies, student engagement, and students' oral

language development. Students had the opportunity to refuse to be videotaped and still participate in the study.

The third data set included student responses to a written survey, which included questions about student engagement and the development of cultural awareness and language ability. The survey was used to learn students' feelings regarding the use of authentic materials from the Internet in developing oral and written language ability.

The researcher analyzed the data collected from the three data sets. To protect the privacy of the subjects who participated in the research study, the researcher used a coded numbering system and assigned all 41 students a number, 1-41. The researcher looked for recurring themes that provide information about how the instructional strategies using authentic materials from the Internet influenced the students' oral and written language development.

RESULTS

In this study, the researcher analyzed the use of instructional strategies in the high school Spanish classroom involving authentic materials obtained from the Internet. The researcher looked for major themes that emerged from the data collected during the study to answer the research question: how does the use of authentic materials from the Internet in the high school Spanish classroom influence students' oral and written language development?

The results from this study showed that the subjects were able to develop their oral and written language ability, supporting Furstenberg's (2010) claims about the acquisition of new words and phrases through the use of authentic materials from the Internet. For example, on average, students used four newly-acquired words or phrases in both their written work and their oral presentations. Additionally, the majority of students responded affirmatively to the questions on the survey concerning the acquisition of new words from the authentic websites. However, although students may have been able to acquire new language, a smaller percentage of students felt that their comfort level while speaking in the target language was developed. In addition, results showed that more students were able to develop their written language ability further than their oral language ability. This is evident as there were more serious errors in the oral presentations than in the written activities, perhaps showing that students felt more confident writing than speaking in the target language.

Additionally, data from this study supported both Gonglewski's (1999) and Lafford and Lafford's (1997) claims that students can develop cultural awareness through the use of authentic

materials, an important step in gaining knowledge of how to communicate in the target culture. Many students detected phrases specific to the target culture on the authentic websites, suggesting the development of sociolinguistic competence. Furthermore, multiple students pointed out the importance of a certain perspective to the target culture, which suggested that they were becoming more aware of values and behavior patterns of people from diverse cultures.

Gonglewski (1999), Walz (1998) and Shrum and Glisan (2010) wrote about student engagement as a step towards developing language ability through the use of authentic materials from the Internet. Affirmative responses to survey questions and student comments during instruction, which demonstrated the high engagement level of the students while completing these activities, supported their findings. Additionally, multiple students commented on the survey about the appropriate level of challenge of the language tasks and, consequently, their high interest level in completing them. These students' high degree of engagement during the assignments was helping them develop their language ability through motivating them to continue to read and research the authentic website.

CONCLUSIONS

After completing this study, there are certain questions and topics that must be addressed in future research. Most importantly, it is essential that we establish an articulated K-12 foreign language program that places more emphasis on oral language development. As the results from this study showed, students seemed to feel more at ease writing in Spanish than speaking the language. Without an articulated program, it is difficult to track the development of students' language ability over a specific period of time. In a well-designed sequential program, not only can students develop language ability, but researchers may be able to determine more exactly the best instructional practices to help students become more proficient in the target language.

In addition, the results of this study not only showed the researcher the importance of action research as a way to develop effective teaching strategies, but it also helped the researcher understand better some aspects of student learning and their connection to instruction. To help students further develop their oral language ability, the researcher intends to provide frequent opportunities for students to listen to and interact with native speakers from various cultures. Multiple subjects from this study exhibited serious pronunciation errors while making their oral presentation. While they may have correctly used newly-acquired words or phrases and further developed their language ability, it is difficult to communicate with a native speaker if one uses

poor pronunciation. By listening to native speakers of the target language on a regular basis, it might be possible for students to develop more successfully their oral language ability.

Also, as a beginning teacher, the researcher will strive to be more intentional with the teaching of culture in the foreign language classroom. Through this research, the importance of using culture as a context for language learning has been made evident. However, for students to gain more cultural awareness, it will be vital to spend more time discussing important aspects of the target culture. The extra step of extending and emphasizing the role of culture through the use of culturally authentic materials from the Internet within foreign language instruction may not only lead to the development of cultural awareness but may also lead to the development of oral and written language ability.

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Teaching "Habits of Mind": Impact on Students' Mathematical Thinking and Problem Solving Self-efficacy

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All mathematicians share a common characteristic. They have all developed habits of mind, or "mental habits that allow students to develop a repertoire of general heuristics and approaches that can be applied in many different situations" (Cuoco, Goldenberg, & Mark, 1996, p. 378). This is important because research has found that the traditional topics taught in school serve as good descriptors of the work experienced in the real world, but when employees are asked to interpret and understand new and dynamic situations, the mathematics they were taught in school is not helpful (Lesh & Zawojewski, p. 773). By teaching students these habits of mind, one of the goals of this study was to improve their mathematical thinking and teach them how to solve problems in many different situations.

Review of Literature

Student's Problem Solving Confidence

Problem solving consists of analyzing given information and applying that information as well as prior knowledge to develop a solution. In a research study about the effects of metacognitive instruction in mathematics on low-achieving third to eighth grade students, teachers in the 18 selected classrooms observed that students gave up easily when they did not understand at first sight (Cardell-Elawar, 1995). By giving up students were able to avoid the frustration, lack of interest, and anxiety they felt when it came to problem solving.

In a study of the self-efficacy of 66 gifted students and 232 regular education students in algebra classes, the results revealed that "the mathematics self-efficacy beliefs of gifted students made an independent contribution to the prediction of their mathematics problem-solving performance" (Pajares, 1996, p. 338). Therefore, student confidence had a lasting effect on students' problem solving abilities. Elsewhere in his research, Pajares (1996) noted that lack of competence and skill were not primarily responsible for students avoiding math-related courses or careers but instead it was their underestimation of their capability. This self-doubt led students to develop frustration, lack of interest, or even anxiety towards problems that encourage them to think.

Methods for Teaching Problem Solving Research

Teacher development is essential to increase students' mathematical thinking abilities. Schorr (2000) led a research project at Rutgers University that offered teacher development in mathematical thinking instruction. Teachers in the experimental group incorporated inquiry and exploration, active manipulation of meanings, social interactions, and mathematical thinking. Teachers in the control group taught using a more procedural approach to instruction. The research results showed that students with the experimental teachers expressed more comfort and effectiveness in talking about mathematical concepts, making conjectures, testing conjectures, developing arguments, criticizing arguments, and discussing alternative strategies.

A two-year professional development program for middle school mathematics teachers was developed by Pape, Bell, and Yetkin (2003) as context for a study of development of mathematical thinking and self-regulated learning. The sample consisted of 54 students, 29 were in a seventh-grade pre-algebra class and the other 25 students were in a regular seventh-grade mathematics class. Students were required to explain and support their mathematical thinking. By incorporating classroom discourse, students were exposed to different ways of mathematical thinking, allowing for scaffolding in the form of co-solving mathematical problems. The authors stated that having students explain their thinking benefitted the student demonstrating as well as the students listening because they were able to see a variety of solution methods. Accessing prior knowledge was also implemented into this instruction, which resulted in the students gaining confidence in their approach even if they were not able to completely solve them. One student commented "'if I just think about it, then I might be able to figure it out'" (Pape, Bell, & Yetkin, 2003, p. 192). Overall, the authors concluded that the students began to value the process instead of the answer.

Mayer's Model deals with metacognitive instruction which incorporates the following steps: translation of representations, integration of prior knowledge within the problem, planning and monitoring the steps they will use to solve the problem, and solution execution (Cardelle-Elawar, 1995). Students learned to ask themselves "Do I understand the meaning of the words in this problem? Do I have all the information needed to solve the problem? Do I know how to organize the information to solve the problem? And how should I calculate the solution?" (p. 85). This research found that by encouraging students to access prior knowledge, analyze information, organize problems into a coherent representation, and to self-monitor their work by

analyzing and correcting mistakes, students showed improvement in their self-confidence and problem solving abilities.

Suggestions for Problem Solving Education

Thought-provoking questions are essential in any lesson. Watson (2002) suggested that the following questions encourage discourse: "What is the same or different about…? Describe what happens in general. Can you give me an example from your own experience? Can you show me this using a diagram/letters/numbers/graphs etc.? If this is an answer, what might be the question?"(p. 468). One research study, "encouraged teachers to consider carefully the nature of their questions to students, specifically with regard to the extent to which their questions nudge (vs. push) students toward solution processes" (Huntley, Marcus, Kahan, & Miller, 2007, p. 137). This study suggests giving just enough information so students still have to think, instead of giving them too much information.

In order to learn, students need to practice thinking and not just repeatedly apply procedures (Cardelle-Elawar, 1995,). Memorization of procedures resulted in students having the knowledge for an assessment, but being unable to apply the knowledge at a later time. With the different opinion on having routine steps for problem solving, there is an agreement that when it comes to implementing this approach, it should be done so that creativity and complexity of mathematical thinking is not reduced to another set of routine exercises (Muir, Beswick, & Williamson, 2008).

Methodology

This study was conducted over a three week period in an Advanced Functions and Modeling class that included 25 students. The instruction included teaching the following habits of mind: recognizing patterns, challenging solutions, using representations, recalling previous knowledge, and developing conjectures.

The instruments used to measure student self-efficacy and problem solving skills were Pre- and Post Self-Efficacy Surveys, Problem Solving Skills Pre- and Posttest, Student Journal Reflections, and a Focus Group. The pre- and post-survey was taken from a previous study to measure how confident students are in their problem solving abilities (Arndt, p. 69, Ellison, p. 29, & Fogarty, p. 159). Using a Likert scales students were asked to select the level of confidence towards statements and whether they agree or disagree with statements about specific math problems (Murdock, Kamischke, & Kamischke, 2004). A pre- test assessed their problem

solving skills based on the concepts already learned during the year. A posttest included similar problems along with additional problems from the unit (Arizona Mathematics, 2006). Students were asked to write reflections about what they learned about themselves in solving mathematics problems. This was done halfway throughout the instruction and the questions they answered were 1) What did you learn today? 2) What did you learn about yourself in solving mathematics problems? A focus group interview was held at the end of the unit to assess the attitudes of students towards problem solving. Questions were modeled after a set of student interview questions from a previous study (Arndt, p. 66).

This study included qualitative and quantitative research, comparing the pre- and post self-efficacy surveys to see if their confidence in problem solving improved. These surveys were analyzed by comparing the sum from the pre survey and the sum from the post survey to see if there was a significant change in confidence. The pre- and posttest were analyzed by highlighting and recording the amount of habits of mind applied by the students. Student Journal Reflections evaluated their confidence and ability improvements as the research progresses. The focus group data was used to assess their confidence and evaluate the students' feelings towards problem solving.

Results

The pre- and post-survey measured the students' confidence and self-efficacy towards problem solving. Of the 25 participants in the study only 21 participants had data for both the pre- and post-survey due to absences. See Table 1.

Table 1. Confidence and Self-Efficacy toward Problem Solving.

	Mean	**Std. Dev.**	**t-test**	**df**	**Sig.**
Pre-Survey	46.773	7.137	-2.38	20	0.027
Post Survey	49.818	7.800			

Note:** $= p \leq 0.05$

Using a paired t-test, it was concluded that the increase in scores was statistically significant with a p-value of 0.027 falling within the 95% confidence interval. Therefore, the students' confidence in their abilities to solve problems did increase as a result of the instruction.

All of the 18 journal entries received mentioned the importance of drawing pictures. For example, one student stated "I learned that there are all different ways to solve a problem even if you have to draw it out it is much more helpful". Perseverance was another common theme.

One student stated "I have learned that just because a problem looks hard doesn't mean that you should automatically give up on it". Another student commented "I learned how to approach a problem and follow through with it…you can solve any problem by getting started". The data gathered from the journal entries supported the increase in the scores on the post survey relating to the students' self-efficacy towards problem solving.

Of the 25 participants in the study, 23 of the students completed the pre-test. The pre-test was analyzed by highlighting and documenting the number of habits of minds students applied. On the pre-test, 11 students demonstrated recognizing patterns and 8 students demonstrated drawing representations. Analysis of the posttest showed that most students omitted the majority of the posttest. This seemed unusual after the increase in their confidence in the Self-Efficacy Survey and their statements in the journals. The students had been informed that following the completion of their posttest they would be allowed to play games, which resulted in apathy and lower performance than expected.

The focus group was also conducted prior to the students playing games, so the information received from the students was limited. When asked "what habits of mind have you felt most successful using to solve problems?" the most common answer was drawing pictures or representations. One student stated that drawing pictures helps her see what she is doing. This student was referring to solving projectile motion problems where a picture can help you understand where the object is at a certain time. Another student gave an example of how drawing charts to organize the data helped him recognize patterns which was another habit of mind.

Overall, this study was successful in improving the participants' self-efficacy towards problem solving; however, there was no evidence of data that showed actual improvement in their problem solving skills. As stated before, Pajares (1996) concluded that when students were confident in their abilities, they performed better. In this short period of time, this study achieved the first step of confidence which is now the breaking point they need to improve their problem solving skills.

This study supports Pape, Bell, and Yetkin's study in the sense that similar comments were gathered from both sets of participants. For example, Pape, Bell, and Yetkin had a student comment "if I just think about it, then I might be able to figure it out" (p. 192) whereas a student from this study commented "I learned how to approach a problem and follow through with

it…you can solve any problem by getting started". Both of these comments imply confidence, motivation, and perseverance to work through challenging problems. Even though there was no evidence of an increase in mathematical thinking skills, the increase in self-efficacy shows that these tools can be helpful.

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The Impact of Feedback on Student Confidence, Self-Efficacy, and Attitudes Toward Mathematics

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June, 2011

Formative assessment is essential to student learning since it provides feedback on student understanding to both student and teacher. Further, Hyland asserts that feedback from formative assessment "has the capacity to turn each item of assessed work into an instrument for the further development of each student's learning" (2000, p. 234). This statement clearly emphasizes the importance of not only assessing students' work, but of providing students with feedback on the assessed work. Feedback can produce many positive changes for students such as increasing motivation, achievement, effort, and helping them identify their strengths and weaknesses. When feedback is used correctly, it can also help teachers adapt instruction. Feedback can take many different forms which range from numerical grades to praise or written comments. For the most part, students react positively toward feedback and feel that it has a positive impact on their learning. While other studies have examined the effects and significance of providing students with various forms of feedback, this study will explore the impact of frequent, detailed, written teacher comments on a one question quiz that may be given to students every few days of instruction on student confidence, self-efficacy, and attitudes toward Mathematics.

Literature Review

Feedback has been found to have several different effects on students. The first of these is the effect on motivation, interest, and performance because as Lipnevich and Smith (2009a) suggest, when students are given specific information about their work and allowed to make changes based on the given information, their performance improves and they are more motivated to perfect their work. In a study to determine the effects of written feedback on student achievement and attitude toward mathematics in elementary school, Elawar and Corno (1985) found that written feedback positively affected student achievement and attitude toward mathematics. In this study, the written feedback included specific comments about errors as well as suggestions on how to improve and at least one positive comment about the assignment being done well. The purpose of this feedback was to increase student motivation. The authors

concluded that students who received this written feedback displayed higher achievement and higher attitude scores as opposed to others who did not receive written feedback. It was also found that regardless of ability levels, this feedback positively affected student learning. This study also encourages teacher use of written feedback because it gives the teacher more information about how a student is receiving instruction, thinking, learning, and solving problems. Therefore, this feedback appears to be very beneficial for adaptive teaching.

A study conducted by Higgins and Hartley (2002), investigated the meaning and impact of written feedback on written assessments for students in higher education. They found that feedback on formative assessment was vital in encouraging deep learning. Many students in the study recognized the importance of grades, but they were intrinsically motivated and sought feedback that would allow them to connect with their subject in a deeper manner. However, the benefits of feedback were irrelevant if students focused only on the grade or they used feedback to give a list of correct answers for future assessments. The authors also discovered that it is vital for feedback to be returned to the students as soon as possible after they submit the assignment. Feedback should seek to explain student misconceptions and suggest improvements for future work in order to be effective.

The exclusive use of numerical grades has been found to encourage students to rely too heavily on extrinsic motivation and become less creative (Butler & Nisan, 1986). On the other hand, the use of detailed feedback in the form of written comments or praise has been found to have many positive effects as previously described. Within the realm of detailed feedback, there can be many forms. Detailed feedback can be elaborate, given in combination with a numerical grade or exclusively, and the timing of its delivery can vary.

Kluger and DeNisi (1996) found that positive and negative feedback could be beneficial to learning. However, Hattie and Timperley (2007) argue that the effects of feedback are more dependent upon the level at which feedback is directed than whether it is positive or negative. Positive and negative feedback also interacted with the self-efficacy of students. For students possessing high self-efficacy, feedback provided positive confirmation of themselves as learners and they look for negative feedback in order to excel at future tasks (Swann, Pelham, & Chidester, 1988). For students possessing lower self-efficacy, positive feedback on initial success caused several different reactions. Some students engaged at a higher level in order to avoid failure while others avoided future tasks because they had already achieved a satisfactory level of

performance. This avoidance may be because continuing to engage in a task provides students with the opportunity to fail and negate previously earned positive feedback.

All of these things considered, Hattie and Timperley ultimately suggest that when teachers are delivering feedback, they should view it from the students' perspectives and provide information that addresses the three feedback questions and helps students to begin asking those questions themselves. They conclude that the importance of feedback lies in students discovering how and what they do and do not understand and understanding the goals of learning. On the teacher's part, they have to design activities and assessments that provide feedback on the effectiveness of their teaching.

Higgins and Hartley (2002) found several interesting student reactions to feedback. First of all, most students in their study seemed to at least read the feedback which was provided in the form of comments on assignments. Many of the students also felt that if they put forth the effort to complete an assignment, they deserved feedback. They found that students negatively perceived feedback if they felt that it did not provide enough information and was too general to be helpful or it was not personal enough. However, 80% of the students in this study disagreed with the statement "Feedback comments are not that useful" (2002, p. 58). Hyland's (2000) study found that for 90% of students, feedback could assist in identifying strengths and weaknesses, creating a sense of achievement, and improving grades in the future. In Lipnevich and Smith's (2009a) study, college students unanimously identified detailed comments as the most effective form of feedback. In different study by Zacharias (2007) involving college students, if students felt that they received too much feedback, they would be less motivated to improve. Those who did not receive as much feedback felt more positively because they felt that less feedback meant fewer mistakes. Generally, students liked the teacher feedback because it made them aware of their mistakes, gave them direction when revising, and helped them understand teacher expectations.

Methodology

Based on this related research, students in this study were given frequent, detailed, written teacher feedback on one question quizzes every few days of instruction. This one question quiz was identified as such so that students would take it seriously in order to maximize the effectiveness of feedback, but the recorded grade was based on completion, not correctness, in the effort to lower any anxiety that may affect performance. Comments were focused on the

thought process demonstrated in the students' written work. The purpose of feedback was to provide students with a regular means of evaluating what content knowledge they had or had not mastered in order to move forward and add to their knowledge. In order to maximize the effect of feedback for students, the quiz with feedback was returned to students at the beginning of the next class. The instructor was available before and after school to discuss comments with any student who requested further elaboration.

Participants in this study were high school students enrolled in Honors Algebra II classes. Students from these classes which were willing to participate in this study completed a survey before they began to receive regular feedback. The survey analyzed their confidence, self-efficacy, and attitudes toward Mathematics on a Likert scale. After receiving feedback through approximately three units of instruction, students were asked to complete another survey which was similar to the first survey. Data from the two surveys were compared using a T-test for differences in student confidence, self-efficacy, and attitudes toward Mathematics. Further, willing students participated in focus groups that were interviewed and analyzed for specific student opinions concerning the impact of the given feedback on their confidence, self-efficacy, and attitudes toward Mathematics.

Results and Conclusions

After receiving approximately six weeks of frequent, detailed, written teacher feedback on a variety of quizzes, seventy-two students completed a post-treatment survey similar to the pre-treatment survey. The survey questions addressed three variables: attitude, self-efficacy, and reaction to feedback. Students responded to all the survey questions on a five-point Likert scale on which a response of one (1) meant they strongly disagreed, three (3) was neutral, and five (5) corresponded to strongly agreeing with the statement.

The lack of statistically significant changes in the average responses for all of the survey statements indicates that the written teacher feedback did little or nothing to affect student attitudes, self-efficacy, and confidence. There are a few factors that may contribute to this lack of change. First of all, the treatment was applied for a short period of time, approximately six weeks, relative to the amount of time the students had been in this particular course, approximately eighteen weeks. The treatment may have had more of an impact had it been applied for the entire duration of the course or perhaps throughout several math courses. Another factor could be the limited sample population. The students that received the treatment and

completed the survey were from three different honors level Algebra II classes. Most of these students are established in their academic careers and not subject to the effects of a short and not very drastic treatment.

Despite the lack of statistical evidence, the positive effect of the treatment that was observed in the percentage of students that read and found the written feedback helpful was also evidenced during the focus group interviews in which all of the students spoke positively of the feedback and its impact on their learning. Opinions in these interviews also support the practice of giving individualized, written feedback for students because it helps answer individual questions without individuals having to present them in front of an entire class of their teenage peers which can be intimidating for many students. There was a substantial decrease in the number of students that only cared about the grade they received after receiving the treatment which clearly points to at least students acknowledging the provided feedback. The other positive result, an increase, appeared in the number of students that were more concerned with their performance in their math class as opposed to their other classes. This could be contributed to the difficulty of the material at the time of the treatment or more likely, the timing of the treatment in the course (nearer to the end of the course and standardized testing dates).

For the most part, the students of this study reacted to written feedback as expected based on the feedback they were given. The feedback was structured based upon effective forms of feedback found in previous studies that examined the effects of various forms of feedback. In the reviewed literature, students reacted positively to receiving detailed, written feedback as did the students in this study. It was expected that the students would view the feedback as beneficial to their performance and improve their attitudes toward the course, which was observed in this study, to a degree. Some of the students' attitudes were observed to improve when graded assignments were distributed as they received written feedback more often. Based on previous studies, students tend to pay less attention to numerical grades when they receive written feedback over a period of time. This effect was observed in this study as well based on the decrease in students that reported being concerned only with their grade when they received graded assignments.

While providing students with detailed and frequent written feedback requires considerable effort and time on the part of the instructor, the benefits are evidenced in this study. Many students do not like to ask specific questions in class and are either unable or unwilling to

seek assistance outside of class, so providing feedback by writing on graded assignments is one of the only ways to individually communicate with many students. While it may not seem that students are gleaning much from the feedback, they are at least acknowledging its presence and the vast majority will find it helpful. Its impact should be dependent on the frequency and detail when it is delivered to students.

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Understanding Students' Ability to Recognize Irony

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The study of literary elements in the English or Language Arts classroom occurs at all levels of literature study, the North Carolina Standard Course of Study lists them as a necessary part of instruction, and their instruction helps students to better understand the literature that they read. Literary elements of study include character, setting, theme, or devices such as figurative language, diction, symbolism, imagery, and irony. While many of the literary elements taught in classrooms are accessible students, irony can prove elusive. Meaning in an ironic text depends on the reader's ability to recognize where irony happens and what the author's purpose is in using irony. When the reader cannot recognize that the author is using irony, it is impossible for the reader to understand the meaning of the text. Thus, as one of the goals of an English classroom is to help students become capable readers of text, it is necessary to inquire about how students understand irony and whether they can understand its effects. This research study attempts to answer the question: Can high school students identify irony in a text and recognize its effect on meaning?

Literature Review

While different approaches to teaching literature and its elements have emerged, the importance of teaching elements of literature in the classroom remains. Milner and Milner (2008) name four stages for reading literature. After exploring the reader's response to literature individually and communally, the third stage, formal analysis, asks the students to consider, "What in the text causes my response?" (Milner & Milner, 126). The formal analysis stage is extensive, critical to understanding of texts, and includes the consideration of elements like plot, character, setting, and irony.

There are many approaches to teaching elements, but few definitive conclusions exist on the best ways to present irony. One of the most complex of these, Booth (1974), stresses the necessity of repeated, and quality, experiences with irony for an individual to be capable of understanding complex instances of it. Milner, et al. (1999) reference the possibility that students can be developmentally unprepared to comprehend irony. They also suggest that irony is best

understood by beginning with the familiar, such as ironic jokes, which aligns with Smith and Wilhelm's (2010) opinions on initiating interest and understanding by beginning with a schema that is easily accessible and familiar to students. Milner et al. also point to their research findings that students were frequently unable to label irony as the element at work in a text, even if they were able to recognize ironic aspects of the text, showing that a student may understand the definition but not comprehend the function of irony in practice.

Blau (2009) points specifically to two texts which are filled with irony and are often taught in the classroom: Kate Chopin's "The Story of an Hour" and Mark Twain's *The Adventures of Huckleberry Finn.* To understand the ending of "The Story of an Hour" he suggests having students reread the text and air their questions or confusions in group discussions. For *The Adventures of Huckleberry Finn* he suggests having students form groups and close read a passage at the end of the novel when Tom is trying to keep Jim locked up. That way, Blau says, students can experience and own their understanding of the novel without interference from the teacher. Above all, Blau condemns telling students what to expect from an ironic story, which robs them of experiencing the irony and the story itself. According to these approaches, teachers ought to begin with the familiar, like jokes, and provide many varied and rich examples of irony for students to experience, gradually increasing the level of complexity. Students should have the opportunity to work through the questions and confusion they have in response to the text together, with limited teacher interference.

Methodology

The students selected to participate in this research study included two classes of 10th grade English students at a nearby high school. The class was considered standard level and was comprised of students with mixed abilities, including students who had Individualized Education Programs and Limited English Proficient students. Students had prior experience with irony instruction during the previous year, but pretest results showed that the vast majority would benefit from continued study on the subject.

Students first completed a pretest to determine their current familiarity with and understanding of the topic of irony. Some students received Kate Chopin's short story, "The Story of an Hour," while the remaining students received Ernest Thayer's poem, "Casey at the Bat." On the posttest, the students switched. Students read their text individually, then answered five True or False questions on the text and one short answer where they were asked to identify

the type of irony in the text: dramatic, situational, or verbal. Of the two irony questions, one was targeted the place in the text that signaled there was irony at work and the other focused on the effect of the irony on the text's meaning.

I began with simpler forms of irony and verbal irony and offered many different examples of texts, to give the students experience with different variations of it. I focused primarily on verbal and situational irony, as students were less familiar with them. The first day began with a discussion of verbal irony and sarcasm. Students brainstormed daily examples in speech and other instances of irony that we had encountered during the school year. To begin with verbal irony, I used an example of a pledge drive spot that Alec Baldwin recorded for NPR. To introduce it, we discussed advertising in media. Next, students offered what they knew about NPR and we talked about NPR's goals and reputation. I explained how NPR gets their funding from pledge drives and we discussed NPR's target audience. Then, we listened to the radio spot and students followed along on a transcription of the ad. The first time students just listened and we discussed unfamiliar words. The second time, I asked students to highlight phrases where they saw irony. Then, students talked with a partner to share their findings and reported to the class. On the board students filled in a graph with "What Alec says" on one side, and "What Alec means" on the other. We primarily focused on the ad as an example of verbal irony.

On the second day, students began by writing for three minutes on who in the world they would trade places with and why they would want to be that person. I projected the poem "Richard Cory," by Edwin Arlington Robinson. After each stanza, I asked students to share what we knew about Richard Cory's character and how the people in the town perceived him. After revealing the final stanza, we discussed how the ending of the story is different from what the students expected and related it to their writing from the beginning of class. The students came up with a definition of situational irony: when the author wants readers to assume something different from what actually happens. At the end of class, students worked with a partner to come up with a short narrative or poem that includes an element of irony.

On day three, students engaged in a collaborative group activity meant to be a formative assessment of their understanding of irony. Students read a short editorial letter entitled "Denying Care," in which the author uses verbal irony to criticize State Representative Larry Brown for suggesting that government money should not be spent to help treat HIV/AIDS patients. Then, students read the short story, "The Sniper," by Liam O'Flaherty. They were asked

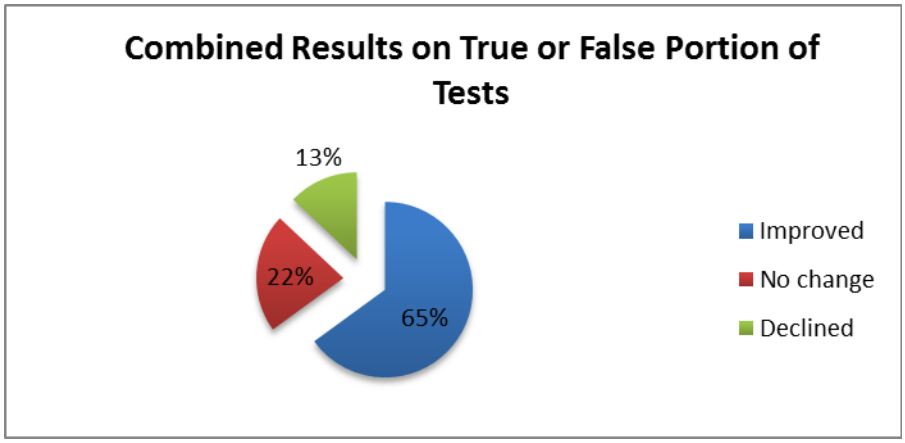
to identify elements of irony in "The Sniper" and discuss with their groups how the end of the story was different from their expectations.

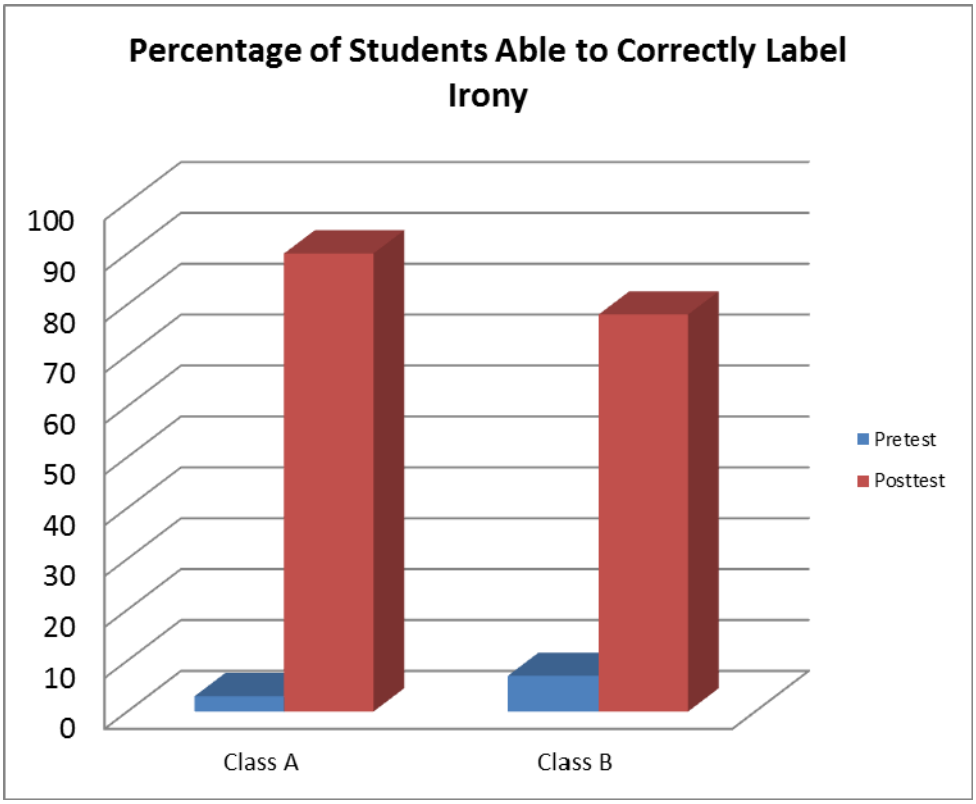
On day four, in an effort to extend the discussion of irony and how it plays on the readers' expectations, which the students struggled with, we first went over the group activity they completed. Then, we watched an episode of *The Twilight Zone*. In the episode, "The Eye of the Beholder," a woman with bandages covering her head desperately wants plastic surgery; if the surgery does not succeed, she will be exiled from society. At the end of the episode, the viewer sees that she is, by our standards, a beautiful woman. I stopped the DVD at pivotal moments so that students could talk about what we would expect her to look like and to discuss issues that the episode subtly addresses, like segregation. I asked students at the end of the episode to talk about what they expected and how the irony depends on what our expectations of reality are.

On the final day, students presented the ironic speeches, dialogues, or poems they wrote and their classmates discussed if their writings were ironic, and if so, how they were. Then, students completed the posttest.

Results and Analysis

At the end of the unit, out of the fifty-seven students who took the pretest, fifty-four of them took the posttest. Of the fifty-four students, thirty-five of them improved. Twelve students saw no change in their score, but of those students, seven of them had perfect scores on the pretest, although none of them accurately identified irony in the short answer question on the test. Seven students' scores dropped on the posttest, but all of those seven students had "The Story of an Hour" on the posttest, which I believe had an effect on their ability to understand the irony simply because it has more advanced vocabulary and more subtly employs irony than "Casey at the Bat." Forty-five of the students out of the fifty-four accurately identified the type of irony used in the work that they were reading, even though some of them did not accurately answer the True or False questions meant to target the source of the irony in the text. That means that 84% of the students were able to accurately identify the type of irony in the texts on the posttest, up from only 5% on the pretest. Broken down by class, in Class A, 3% of the students accurately identified irony on the pretest and in Class B, 7% did. On the posttest, 90% of Class A's students accurately labeled the type of irony and 78% of Class B's students succeeded in doing so.





The discrepancy between the results of the True or False portion of the test and the high improvement between the pretest and posttest on ability to identify irony rests on two things. First, that students have difficulty identifying a specific type of irony even when they can tell that irony is at work, as shown during the group work activity. With more practice at that, they were able to improve significantly. Secondly, the students whose scores declined on the True or False portion of the posttest had "The Story of an Hour" on the posttest. Their lower scores can be attributed to the difficulty of the text in comparison with the poem they read on the pretest, in that they were less able to comprehend the text itself, with its more complex vocabulary, than the

poem. Based on the study by Milner, et al. (1999), I determined that a poem would present more of a difficulty for students than prose, so I expected the poem's form to make it more challenging, but this was not the case for these two texts. Thus, one of the problems with the study lies in the pretest and posttest, as one of the texts was more attainable for some students than for the other, so some students likely succeeded on the pretest that could not on the posttest, and some students likely struggled on the pretest that did not on the posttest.

Conclusions and Implications

The use of varied examples of irony, beginning with the familiar, appears to have been successful in helping students understand how authors use irony and how readers perceive it. However, not surprisingly, students are still limited in their ability to understand irony when their comprehension of the text is lacking. Nonetheless, tenth grade, standard-level students can, with repeated, quality exposure to irony in different types of media, label irony in a text and recognize its effect on meaning. As a result, I suggest that teachers focus on using an approach with varied forms, beginning with simpler examples, for the instruction of irony. Students' understanding of irony will help them more adeptly engage in what Milner and Milner (2008) refer to as the formal analysis stage of reading literature, where students use formal elements to understand what, specifically, in the text causes readers' reactions to literature.

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Improving Student Achievement through Error Analysis

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Three NCTM principles found in the NCTM Executive Summary: Principles and Standards for School Mathematics (2000) link together in a call for the use of appropriate formative assessment in order to inform instruction and promote attainment for all students. Equity requires "reasonable and appropriate accommodations" be made so that teachers promote "access and attainment for all students," this necessitates that teachers be able to identify student misconceptions and address them. Identifying and addressing weaknesses also falls under Teaching, which requires teachers to understand what students already know and what they need to learn so that instruction can be successfully adapted. Yet to understand what students know there must be assessments that provide useful data, this is the NCTM principle of Assessment. This action research study answers the call the three principles make by attempting to improve student achievement through using formative assessment to analyze student misconceptions, then using this data to adapt instruction to accommodate the difficulties of individual students and to inform teaching to the current knowledge of the students as a whole.

Literature

Formative assessment is the tool that allows teachers to identify misconceptions and student weaknesses. In fact, McMillan, Cohen, Abrams, Cauley, Pannozzo, and Hearn (2010), in their research investigating the use of formative assessment in secondary classrooms and its effect on students, define formative assessment as assessment that includes appropriate identification of student weaknesses, measures successful progress, provides specific feedback, and includes instructional correctives different from previous instruction.

A study by Wiliam, Lee, Harrison, and Black (2004) studied the effect of incorporating formative assessment into the classrooms of twenty-four secondary math and science teachers, attempting to measure how the development of formative assessment affected student achievement. Their research indicated that substantial learning gains resulted when teachers introduced formative assessment into classroom practice. Another study by Wiliam (2007) showed that high school students taught by the thirty-six math and science teachers

developing the use of formative assessment outscored comparable students in the same school by approximately 0.3 standard deviations. However, these learning gains only occur if formative assessment is used properly and effectively, which means there is an adjustment of teaching and learning that results from the assessment. Tierney and Charland (2007) found in their study that when various formative assessments were used properly, there was an emphasis on pedagogical change, highlighting the possibility of responding to the needs of an individual learner, or group of learners, by adjusting unit plans or shifting curricular goals. This supports the idea that student learning improvements are linked to teachers making greater use in their lesson planning of the information gained from assessment.

A research study by Xiaobao and Yeping (2008) investigating student misconceptions asserted that all the forms of effective formative assessment attempt to identify and analyze systematic errors. A study by Stefanich and Rokusek (1992), which investigated computational errors in mathematics among twenty-five fourth-grade students, defined systematic errors as repeated computational errors. Xiaobao and Yeping's (2008) study also states that understanding the origins of systematic errors is a vital part of correcting them.

Perhaps the most important and the most difficult step in correcting systematic errors is the initial step: identifying these errors. Riccomini's research (2005) asserts that because many students who are not proficient in basic math skills demonstrate numerous math misconceptions, it is essential for teachers to recognize these various misunderstandings so that they can direct an instructional focus at those areas. However, according to the work done by Brown and Burton (1977), it is much more difficult to recognize and diagnose what is wrong with a student's method of performing a task, than it is to perform the task itself. Riccomini's study (2005) asserts that the recognition of errors is achieved through a methodical examination of students' completed math work. To create a model of students' misconceptions, teachers must use what Movshovitz-Hadar et al.'s research on classifying groups of errors calls constructive analysis (1987). Constructive analysis is analyzing errors by asking: "To what question is the wrong solution right?" and "What logic can justify what the student did?" (Movshovitz-Hadar, Zaslavsky, & Inbar, 1987, p. 5). In their study, six different common types of student error were identified through constructive analysis. The identification of these common errors was found to be important because once a student's errors are isolated, then a teacher can create a remedial plan aimed at that particular error pattern (Riccomini, 2005). This type of teaching is called

diagnostic teaching, which Stefanich and Rokusek (1992) describe in their research as a tool for effectively directing student remediation to the areas identified through specific error identification.

Stefanich and Rokusek (1992) affirmed that when a pattern of error was diagnosed and instruction was directed to remediate the incorrect procedure, then new learning usually took place quickly. Consequently, formative assessments that identify and analyze student misconceptions and errors, and then use the gathered information to adapt instruction are essential to effective teaching and increased student achievement. Volante, Beckett, Reid, and Drake's (2010) research support this claim that if formative assessments are developed to diagnose and then to remediate student systematic errors and misconceptions then they can improve student achievement. The findings of McMillan, et al, (2010) also give evidence that student achievement, measured by a mastery scale, had a positive relationship with formative assessment used to diagnose student weaknesses. The result of Wiliam's (2007) investigation of integrating formative assessment with instruction was students did better in number fact knowledge, understanding, problem solving, and confidence. This action research study will attempt to replicate Wiliam's investigation, while answering the question: Does analyzing and addressing student misconceptions improve student achievement?

Methodology

Thirty-eight students from two of the researcher's standard Algebra II classes participated in the research study. Throughout the unit participants completed short 1-2 question daily (or every other day) quizzes, Ticket Outs, which tested procedural and conceptual understanding of recent material. Five representative students also participated in interviews that confirmed the presence of particular misconceptions through having the students solve problems orally. The researcher then analyzed these Ticket Outs and interviews for student misconceptions, taking notes on the errors throughout the analysis. During the next lesson the errors identified were addressed through adjusted instruction during the re-teaching process. At the end of the unit, students completed a unit test that tested procedural and conceptual understanding of the completed unit.

At the end of the study math achievement scores were analyzed using a 2×7, Measure(Ticket Out, Unit Test)×Lesson, Factorial ANOVA, using the SPSS, in order to determine if there is improvement in student achievement after the material was re-taught based

on the misconceptions identified and analyzed in the participant Ticket Outs and interviews. The Factorial ANOVA also determined if the individual lesson in the unit had an effect on the students' scores.

Additionally, the researcher categorized the errors identified through analysis of the Ticket Outs into ten error types. After the misconceptions had been categorized, five studies of the five most common error types identified and addressed by the researcher were compiled, including in each case study the achievement outcomes of participants in whose Ticket Outs the misconceptions were found.

Results

The ANOVA test determined that there was a significant difference between the students' scores on the Ticket Outs and the students' scores on the summative unit test. However, the mean of the student scores decreased from the Ticket Outs to the unit test. Additionally, the ANOVA test determined that the lesson being tested had a significant effect on the mean of the students' scores. However, post-hoc Scheffe tests indicated the only significant difference occurred between Lesson 1, reciprocal functions, and Lesson 5, adding and subtracting rational functions. Furthermore, the ANOVA test showed that the lesson being tested had a significant interaction effect on the difference between the Ticket Out scores and the unit test scores.

Table 4: Factorial ANOVA Results

Source	F	Significance	Effect Size
Ticket Out × Unit Test	10.235	.001	.021
Lessons	3.173	.005	.038
Lesson × TO-UT	5.717	.000	.067

After the error type studies were compiled, the mean change in scores from Ticket Out to Unit Test for the included students in each error type study was calculated. In three of the five error type studies over fifty percent of the included students improved from the Ticket Out items to the Unit Test items, additionally, in four of the five studies there was a positive mean change in score from Ticket Out items to Unit Test items.

Conclusions

The aim of this research study was to use formative assessment that includes identification of student weaknesses or lack of understanding and instructional correctives that are different from previous instruction that will help students attain the learning goals, and then see if the use of this formative assessment improved student achievement. Wiliam, Lee, Harrison, and Black (2004) concluded from their research on incorporating formative assessment

into classrooms that using formative assessment would improve student achievement. However, at first glance, the data from this study does not seem to support this conclusion. The Factorial ANOVA test showed that there was a significant difference between Ticket Out scores and Unit Test scores. However, the Ticket Out scores were significantly higher, meaning student achievement decreased rather than increased from the formative assessment to the summative assessment.

However, there are limitations to the conclusions that can be made from this data. A primary limitation is the difference in the format of the items, the Ticket Out items were all open response and students received partial credit if any aspect of the problem was correct. In contrast, the unit test items were all multiple-choice and were marked as right or wrong regardless of work shown. This skewed the percentage correct because the Ticket Outs had more opportunity for the percentage correct to be higher, therefore it would be harder for percentage correct to increase on the unit test items. Another limitation to this data is that it does not account for the fact that it is likely that students will do better on the later material, such as lesson 5 and 6 where the increase in percentage correct took place, than on the earlier material that the students have not worked in depth with since earlier in the unit. A final limitation is that the unit test has higher stakes, which may affect the performance level of some students in the study.

Consequently, although the ANOVA test on the analyzed data did not show improvement in student achievement that does not mean there was not any improvement. The analysis of the data about individual student achievement drawn from the error type studies supports the conclusion that student achievement did improve when from the formative assessment systematic errors were identified and analyzed and then this data was used to respond to individual learning needs. In three out of the five studies the majority of the errors studied resulted in an improvement in student achievement after these errors were specifically addressed. Furthermore, in four out of the five studies there was a positive mean change in student achievement from Ticket Out items to Unit Test items. The error type that did not support improvement in either analysis was technical errors, which result from student inattention, basic math errors, or weakness in prerequisite skills; these cannot be remediated with concept-focused instruction. Additionally, because technical errors are student specific they are nearly impossible to address to a whole class, the feedback side of formative assessment appeared to be more effective with these types of errors. The other error type study that did not have a majority of the

errors result in improvement in student achievement after they were analyzed and addressed was errors resulting from misconceptions on previously learned material (previous units), these are hard to address with focused instruction in the confines on the time allotted for the current unit.

Therefore, the data suggests that although, in general, performance, or student achievement, did not improve from the Ticket Outs to the unit test, when specific errors made by individual students were specifically addressed and the formative assessment guided the instruction to remediate that particular misconception that specific student's achievement did improve.

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Using Homework to Improve Students' Abilities to Self-Regulate

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June, 2011

How does a student's ability to regulate nightly homework affect the performance and comprehension in mathematics? What can be done to improve a student's ability to self-regulate? Self-regulation is defined as grounding "your conscious experience of yourself as knower and actor" (Fox & Riconscente, 2008, p. 387). In the context of homework, how a student perceives his or her ability to learn through homework may affect his or her motivation on homework. This is particularly applicable to the Learning and Assessment Principles of the National Council of Teachers of Mathematics (2000). According to the NCTM, "Assessment should support the learning of important mathematics and furnish useful information to both teachers and students" (p. 2). Self-regulation may provide a way for students to learn more effectively and teachers to receive more from the most popular nightly assessment, homework.

Literature Review

In recent years, research findings consistently show a positive correlation between self-regulation and student performance across all fields, including mathematics. One such study, conducted by Malmivuori in 2006, found that "efficient self-regulation will empower students' mathematics learning" (p. 160). This research surveyed 346 female and 377 male seventh-grade students from 17 different public schools on several categories, two of which (persistence and preference for challenge) were used to measure self-regulation (Malmivuori, 2006). Scores in these categories produced positive correlations with math ability scores with correlation values of .20 and .30 respectively, where values above .15 were statistically significant (Malmivuori, 2006). Moreover, students that showed high self-regulatory tendencies were less likely to fear math class and have low self-esteem (Malmivuori, 2006). This means that an improvement in self-regulation ability is related to a corresponding improvement in attitude as well as performance.

In addition to showing that self-regulation and achievement are related, Perels, Dignath and Schmitz (2009) also provided an example of how self-regulation and mathematics can be effectively taught at the same time. The findings state that, "It is possible to support self-

regulation competencies and mathematical achievement by self-regulation intervention within regular mathematics lessons of 6th-grade students" (p. 17). In the experimental class, each lesson had two content areas, one mathematical and the other self-regulative. The self-regulation lesson content included attitude towards math, goal setting, goal pursuit, goal control, self-motivation, planning how to solve a problem, dealing with distractions, and handling mistakes.

As popular as self-regulation has been in research, homework and assessment have also been studied as frequently. Brown and Hirschfeld (2007) showed that a student is likely to perform better on a nightly homework assignment if he or she thinks that the assignment is designed for them and not for their teacher. A sample size of 162 students were used in the study that concluded that a student's belief that an assessment is used to hold a school accountable has almost no effect (partial regression weight of -.01) on mathematical achievement. In that same line of thinking, Ommundsen, Haugen and Lund (2005) found that if a student believes their work will improve their performance, they will be less likely to "self-handicap" (p. 467). Self-handicapping is defined as the theoretical opposite of self-regulation in that self-handicapping is how a student recognizes what about their surroundings allows them not to learn, and avoid taking responsibility by placing blame on these external circumstances. In order to promote self-regulation rather than self-handicapping, teachers must show their students that homework and assessments are built for their benefit (Ommundsen et al. 2005).

From these two substantial strands of research, the idea of using homework to self-regulate emerges. Brown and Hirschfeld (2007) found that the positive learning outcomes generated by assessment can be enhanced in students who are able to treat assessment in a self-regulating manner. By combining this result with those regarding performance, self-regulation and homework, it appears as though homework and self-regulation are strongly related. Homework can be used to teach effective self-regulation, but students are more likely to do their homework if they have higher ability to self-regulate. A study by Seo and Ilies (2009) of 118 stock brokers showed that goal level is positively related with self-efficacy and performance. Both Perels et al. (2009) and Seo and Ilies (2009), showed that having a goal leads to positive outcomes, regardless of the age and maturity of their subjects.

Overall, these related studies have shown the tightly woven relationship between homework and self-regulation. It is circular in nature, in that the more effectively a student completes their homework, the more effectively they self-regulate, and the more effectively a

student self-regulates, the more effectively they do their homework. As a result, self-regulation strategies may be stressed in the classroom to influence the way a student completes homework. Simultaneously, homework must be designed in a way to enhance a student's self-regulation strategy. This study will explore the instructional strategies that can be implemented through homework in order to improve a student's ability to self-regulate.

Methodology

The subjects of this research are students from two Pre-calculus classes in a large public high school with class sizes of 21 and 30 students. One class included activities to improve students' self-regulatory abilities within the curriculum, while the other did not include any changes to classroom instruction.

In addition to the Pre-Calculus curriculum, the treatment class students performed additional tasks with regards to their homework and studying habits. First, students were asked to set and track a goal related to their class work. Students reflected on this goal after each homework in addition to answering questions about their homework on a daily basis. These questions were designed not only to provide qualitative research data, but also to stimulate thoughts in the student about what they can do to help themselves learn.

At the beginning of the research period, all students from both classes answered items from the Dynamic and Active Learning Inventory (DALI) designed by Iran-Nejad & Chissom (1992) and found in Reeves (2009). The items taken from DALI were used to measure a student's abilities in self-regulation, and can be found in Appendix A.

Once all data was collected differences in self-regulation (DALI survey scores) for the treatment and control classes were statistically analyzed using analysis of covariance, with the pretest DALI score as covariate. Similarly, content achievement scores were compared for treatment and control groups using analysis of covariance, with the pre-content test scores as covariate. Daily reflections from the instructor regarding classroom behavior as well as observations regarding homework performance were coded and analyzed qualitatively.

Results and Conclusions

The control class consisted of 21 students, and 17 of were eligible for the study. The treatment class consisted of 30 students, and 22 students completed enough of the required tasks to be included. The control group was made up of nine girls and eight boys. The treatment group

had 13 girls and nine boys. Information regarding socioeconomic and ethnic background was not gathered for this study.

Data was collected during the course of a 10-day unit covering systems of non-linear equations, and relationships between rectangular, parametric and polar graphing systems. After the treatment period, students took a post-test covering similar material. An analysis of covariance was done to measure treatment and control group differences on the posttest while controlling for initial differences on the pretest (Table 1). The ANCOVA showed that students improved significantly from pre-test to post-test and that the effect of the treatment was also significant.

Table 1: Analysis of Covariance. Content Post-test.

Source	Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Pre-test (Covariate)	.259	1	.259	4.562	.040*	.112
Treatment	.327	1	.327	5.761	.022*	.138
Total	20.188	39				

Note: *$p < .05$.

Students were also measured for their self-regulation ability both before and after the treatment period using ten items taken from the DALI. An analysis of covariance was performed on these two sets of data (Table 2). This test shows that not only did the students in the treatment class experience an increase in their ability to self-regulate, but that they were also more likely to do so than a student in the control group.

Table 2: Analysis of Covariance. Self-Regulation Post-survey.

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pre-survey (Covariate)	39.857	1	39.857	88.389	.000*	.711
Treatment	2.029	1	2.029	4.500	.041*	.111
Total	710.720	39				

Note: *$p < .05$.

Qualitative Data.

Students in the treatment class completed short questionnaires along with their homework assignments for the unit. These were meant to take a minimal amount of time and not add a taxing amount of work to the students' coursework. Several interesting trends emerged after coding the students' responses. Most notably, 15 out of the 22 treatment group students chose a goal of achieving 95 percent or higher on their unit test. The remaining seven students each had a goal of at least 89 percent. Of the 22 students, only five met or exceeded their goal.

Three students in particular were worth noting on their own, two in the treatment class, and one in the control class. Natalie (not her real name) was a student that had shown potential in class but tended to lack focus and good study skills. The student's goal had a positive effect on her attitude and work ethic, both in and out of class. Three days into the unit, Natalie decided to switch seats in order to move away from a student that was distracting her. This particular instance of a student self-regulating herself was impressive to see, as Perels et. al. (2009) included dealing with distractions in their self-regulation curriculum. Another interesting student from the treatment class is Lisa. For every homework assignment, the students were asked to list questions they had the most trouble on and questions that they believed to be most important to know. In Lisa's reflection on her studying for the test, she noted that she used the questions she had listed as being troublesome or important in previous homework as the practice problems for her studying. Ommundsen et al. (2005) and Brown and Hirschfeld (2007) found that the more beneficial students believe their homework to be, the more likely they will complete it in a meaningful way. Lisa's responses and academic progress portray the effect that the self-regulation treatment can have on a student's mentality regarding their homework. The last student that is particularly noteworthy is Rachel, of the control class. As hard working and studious as Rachel was, her mathematical performance did not reflect the amount of effort she expended in and out of class. It would have been interesting from a research standpoint to have been able to see how Rachel would have responded to the self-regulation class work.

Discussion.

Overall, the quantitative and qualitative results provided some promising conclusions. Both sets of data showed that the self-regulation treatment had a positive effect on the students' study habits and mathematical ability. Both pre-calculus content scores and self-regulation scores from DALI showed significant improvement from pre-test to post-test. The qualitative results

showed that students recognized the importance of their homework with regards to their success in attaining a goal that they set for themselves. Student responses to homework and study questionnaires revealed that the self-regulation treatment had begun to guide students in a positive direction in terms of how they approach their homework and test preparation. In terms of the original research questions, these results show that the students who received self-regulation treatment were significantly more likely to perform better in mathematics. This was the result of allowing the students to set a goal for themselves, in addition to providing thought-provoking, self-regulation based questions that corresponded with nightly homework assignments.

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The Use of Food as a Context to Develop Cultural Awareness in the High School Spanish Classroom

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Culture is complex in that it affects all aspects of life, from the minute details of daily behavior to overarching world views and perceptions. In an increasingly globalized society, culture plays a significant role. Because of better access to technology and greater ease of travel, people from different countries and cultures who may have never been exposed to one another now work together (Kiple, 2007). There are a broad range of job needs across the world for the workforce from "wealthy consultants to unskilled laborers" (National Geographic, 2010) and as people from all over the world interact and share ideas, they are also sharing their culture. Therefore, cultural awareness plays a vital role in an individual's ability to communicate effectively with others. Learning a second or foreign language ties deeply to developing one's cultural awareness and is therefore important to living in a global society.

Review of Literature

Culture can be defined as a way of life, and language and culture are inextricably linked (Crozet & Liddicoat, 1997; Kramsch, 1993; Kuo & Lai, 2006). The definition of culture is made concrete in the *Standards for Foreign Language Learning* developed by the American Council on the Teaching of Foreign Languages (ACTFL, 1996). The standards represent Cultures, one of the five goal areas, through three distinctions that pertain to all cultures: products, perspectives, and practices (ACTFL, 1996; Curtain & Dahlberg, 1998). Therefore, the process of learning a language is closely linked to developing a deep understanding of the culture in which the language is spoken (Savignon & Sysoyev, 2005).

Knowledge of linguistic structure alone does not provide special insight into the political, social, religious, or economic systems that are in place where a language is spoken (Seelye, 1998). Because culture is the most important context for language learning, it is necessary for foreign language teachers to plan instruction that purposefully incorporates language and culture and that makes strong connections between the two (Curtain & Dahlberg, 1998). The topic of

food can provide a cultural context for learning a language because it is an important dimension of culture that addresses social and familial relationships, traditions, and the arts (Abrate, 1997).

Food itself reveals cultural values. Historian John Super recognizes that food is not only tied to culture, but it shows many details about the culture itself. He discusses "the many and complex roles that food plays in human society… food is the ideal cultural symbol that… uncover[s] hidden levels of meaning in social relationships and arrive[s] at new understandings of the human experience (Super, 2002, p.165)". Where people get their food and with whom people eat reveals details about their culture. There are many forces of change to food, due to political or economic trends or popular fads, but certain diets persevere, like indigenous Mexican food over Spanish food in Mexico (Anderson, 2005).

Food depicted in fine art works reveals details about cultures and societies. In the foreign language classroom, the use of visual arts can provide students an opportunity to explore the cultural context of food depicted in works of art, like historical and socio-economic details (Ortuño, 1994). Language also reflects meaning derived from the role of food in culture as found in proverbs (Glazer, 1987). Additionally, food also plays a role in literature because it strongly stimulates the senses of taste and smell; therefore, it can be a rich source and inspiration for stories that shed light on cultural information (Waxman, 2008).

From an instructional viewpoint, the topic of food can be used as a rich resource by utilizing art, proverbs, and literature that pertain to the topic of food to teach a foreign language and culture (Abrate, 1997). The purpose of this study was to investigate how the use of instructional strategies related to the topic of food can develop students' cultural awareness in the Spanish classroom.

Methodology

This action research study was conducted from February 25 through April 15, 2011, in a public high school in the western Piedmont region of North Carolina. It involved one Spanish IV class, consisting of 19 students. Permission, informed assent, and informed consent were obtained. In order to ensure confidentiality throughout the study, no students' names were used. Instead, the teacher-researcher assigned each participant a number, 1-19, which was used for data collection purposes and the teacher-researcher referred to all participants in the feminine form. Access to the research data was limited to the teacher-researcher's advisor and the teacher-researcher, and passwords to office and network computers, where some data samples were

stored, were protected. Upon completion of the study, all data, including videotapes, were stored in the office of the teacher-researcher's advisor.

The teacher-researcher used three data sets in this study, which focused on how participants develop cultural awareness and communication ability through the use of the context of food. Data Set One included participant work samples completed while the teacher-researcher was employing instructional strategies using artworks, proverbs, and literary selections pertaining to the topic of food. After Data Set One, the teacher-researcher examined the results of Data Set Two, the pre-and post-instructional surveys to compare participants' responses regarding their opinions, interests, and knowledge concerning food as a cultural context. The teacher-researcher also examined the findings of Data Set Three, which was comprised of field notes taken by the teacher-researcher on her instruction as well as the review of video recorded instruction. Through data analysis from the three data sets, the teacher-researcher looked for recurring themes regarding participants' development of cultural awareness pertaining to the topic of food.

Results

The first set of instructional strategies was employed using the painting, *La Molendera,* by Diego Rivera to teach participants about the cultural significance of corn in Mexico. By exposing participants to the historical and artistic significance of corn tortillas, the teacher-researcher was looking for evidence that they could explain orally and in writing at least one of these cultural aspects relating to corn tortillas. Each of the 19 participants was able to explain the cultural significance of corn in Mexico by describing its importance historically or artistically. As evidenced by the teacher-researcher's observation of participants' oral presentations of their description, 12 of 19 participants (63%) chose to describe the Aztec god of crops including corn, Aztec legends associated with corn, or the evolution of tortilla preparation methods throughout history. Seven (7) of 19 participants (37%) chose to describe Diego Rivera's painting style and that he painted authentic Mexican customs, which included food preparation. The teacher-researcher specifically asked participants to describe something new they had learned; therefore, students developed the awareness that corn is not just representative of a diet, but of other cultural aspects as well.

The second set of instructional strategies that were presented dealt with Spanish proverbs. The teacher-researcher led a discussion about Spanish proverbs in order to familiarize

participants with common sayings. Using a list of proverbs, participants discerned what foods are staples in the Spanish diet by counting the food references in the proverbs: olive oil, olives, bread, honey, and wine. While working in groups, students created their own stories that used a Spanish proverb as its last sentence. By analyzing the proverbs and creating their own context in which to use them, students developed the understanding that food is not just apparent in a culture's diet, but also in popular language and everyday communication.

In the third set of instructional strategies that were employed, participants learned about authentic tropical fruit, read a passage from the novel, *Cuando Era Puertorriqueña,* by Esmeralda Santiago, and then wrote their own narrative incorporating food. The teacher-researcher learned that participants' understanding of their own culture was reflected in their stories about experiences related to food. As shown in Table 1, participants chose the following themes:

Table 1

Cultural Experience Involving Food	**% of students (# of 19 students)**
Family and Friends Gathering	21% (4 of 19 students)
Holiday Celebrations	37% (7 of 19 students)
Memory of a single experience	37% (7 of 19 students)
Creative Story	5% (1 of 19 students)

The themes that students chose revealed that they understood their personal experiences with food are rich in cultural details. Specifically, the teacher-researcher observed that the participants recognized that food is a way to bring people together, that food represents heritage, and that food unites people with common interests. All of these ideas demonstrate that food is more than fuel for one's body, it is culturally relevant. The narratives showed that all participants could identify how food relates to their own culture, and as a result, they gained a deeper understanding about the relationship between food and culture.

Data Set Two consisted of a pre- and post-instructional survey. After analyzing the participants' responses on the pre- and post-instructional surveys, the teacher-researcher noted that they developed understanding that food represents more than a country's diet; it is also significant historically, socially, and artistically. The surveys also supported the finding from the first data set that food is also symbolic of cultural gatherings, memories, and rituals. Participants were able to explain why food is more than just a necessity for survival, an explanation that was

missing in the pre-instructional survey. The information the teacher-researcher gained from the two surveys further supports the observations from Data Set One that students developed the awareness that food is more than just fuel for the body; it also has cultural significance, as shown in Table 2.

Table 2

Percentage of Students Who Recognized Food as Being Related to Culture		
Pre-Instructional Survey	Post-Instructional Survey	Percent Change
21%	95%	74%

Data Set Three consisted of field notes from instruction as well as video recordings of the activities participants completed during instruction. Additionally, the teacher-researcher made journal entries about her observations during instruction. The results of the field notes show that by planning the cultural exploration of food, teachers can entice students to notice historical, social, economic, and artistic details of food and appreciate food as an important component of gatherings and rituals among people of all cultures. In the review of video recorded classes, the teacher-researcher noted that each lesson involving food contributed to a higher level of student engagement, which was demonstrated by the participants when they were feeling and describing the fruit, making their own tortillas, drawing on tortillas, or writing their own creative stories and personal narratives about food. These observations provide further support that food is a rich context for students to explore with the teacher guiding them through the process.

Conclusions

The teacher-researcher identified three main themes while conducting this research. First, it is important that the lessons are planned purposefully. Without taking the care to deliberately relate why the cultural details are significant, students may not realize their importance. Through this study, the teacher-researcher has come to agree with Abrate's research (1997) that it is important to explore even the smallest detail to help students develop their cultural awareness. Second, lessons that deal with food have the potential to help students gain deeper understanding about the relationship between language and culture. This study shows how rich the topic of food can be because the use of instructional strategies related to this topic increased student engagement while also developing their cultural awareness. Third, because food is an intriguing topic, students' interest can be increased. Discussions about food in school may be a novelty for students or they may not recognize the significance of food and all the roles it plays in society.

As a result of this study, the teacher-researcher believes that being intentional and deliberate in her planning and use of teaching strategies using the topic of food as a cultural context helped students to develop cultural awareness.

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Teaching High School Students to Identify Irony and its Effects

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In identifying important literary elements to emphasize in an English classroom, irony is always included. Irony can be easy to recognize, but if a student misses it or misinterprets its purpose, it can impair their comprehension of the piece or they can miss the ultimate point. Irony is thus an essential element in understanding certain works of literature and is a key part of the English I End of Course test. Consequently, it is necessary to investigate a strategy for the best way to teach this elusive element. Irony can be difficult to explain, and the effects of irony are even more subtle. Thus, the research question that guides this study is: Can students be taught to effectively identify irony and its effect in literature?

LITERATURE REVIEW

Since the passage of the No Child Left Behind Act in 2002, there has been extensive debate about the necessary content that teachers need to emphasize in schools (Popham, 2004). Because high school English is so focused on exposing students to great works of literature, it has suffered a great deal from "curricular reductionism" in order to ascertain better scores on high stakes tests (Popham, 2004, p. 65). For those literary theorists who support the reader response theory, in which the reader interprets a text based on their personal experiences, they feel that education has been "reshaped, inappropriately, by the pressures of the tests" (Probst, 1988, p. 222). Sheridan Blau, who also supports the reader response theory, believes that "teachers should rescue literature from the test makers" and criticizes the study of formal "elements [like] irony, theme, symbol, tone and so on" (Blau, 2003, p. 102).

However, we may be able to find some compromise between the demands of the almighty test and the beliefs of Probst and Blau in a theory put forth by Milner (1989). In a collection of essays on teaching, Milner contributes a chapter entitled, "A Developmental Approach to Literature Instruction" (Milner, 1989). In this chapter, he puts forth a theory based on the cognitive development of children that outlines a four-stage approach to encountering works of literature (Milner, 1989). The first stage aligns with the reader response theory, in which the student reads the work for its entertainment value, unmediated by their teacher

(Milner, 1989). The second stage asks the student to reflect on the reading in order to understand "basic questions of event, people, and meaning" (Milner, 1989, p. 107). The third stage requires the student to act as a critic in order to identify formal elements of the text such as "form, style, [and] intent" (Milner, 1989, p. 109). The final step broadens the scope of the text to view it through the lens of a branch of literary criticism in order to explore "context, text, [and] metatext" (Milner, 1989, p. 109). While Milner supports the reader response theory as a necessary step in the process, he insists that students must move past this stage into the subsequent stages of the process in order to fully grasp the work they are studying (Milner, 1989).

One formal element that is especially important for high school students to be able to recognize in literature is irony. While young children can identify irony very easily in the tone of voice of a speaker, even bright scholars are capable of missing irony when it is confined to literature and they must reconstruct it themselves (Milner et al., 1999; Smith, 1989). This begs the question whether there is a way to effectively teach students to recognize irony in works of literature. Smith (1989) undertook this challenge and attempted to use various types of instruction to teach the interpretation of irony in poetry. He used a direct method, which involved giving students specific reading strategies to detect irony, and a tacit method, which merely involved reading several pieces dealing with irony so that they could gain practice through repeatedly identifying the elements (Smith, 1989). Both of these strategies appeared to be vastly superior to no instruction, implying that irony can be identified with the proper teaching (Smith, 1989). Without any form of instruction, Milner et al. (1999) found that students were far superior in recognizing irony in a joke and a story rather than in a poem, and many who recognized it were unable to realize how crucial it was to the understanding of the piece and also were unable to label it. Milner uses these results to suggest a progressive strategy in teaching irony, by moving from more accessible irony (jokes) to complex irony (poems) in order to help students recognize irony and how it affects the meaning of the text (Milner et al., 1999).

One other implication that we can draw from Milner's results is the need to familiarize students with ways to label irony effectively. Due to the fact that irony is such a broad term, it may be helpful to students to not only learn to define irony, but also to differentiate between three common types of irony: verbal, situational, and dramatic irony. Harmon (1996) provides a useful definition of irony as "the recognition of a reality different from appearance" (p. 277). He

goes on to specify that verbal irony occurs when "actual intent is expressed in words that carry the opposite meaning", while dramatic irony refers to "knowledge held by the audience but hidden from the characters" (Harmon, 1996, p. 277-278). While Harmon does not address situational irony, Enright (1986) does, referring to it as a circumstance where although "nothing is spoken by anybody", there is still a discrepancy between what is expected to happen and what actually occurs (p. 26). Through the use of suggestions put forth by Smith (1989) and Milner et al. (1999) about type and progression of study as well as by utilizing the definitions provided by Harmon (1996) and Enright (1986), we will be able to effectively teach high school students to recognize irony.

METHODOLOGY

The students selected for this study were participants in a 9th grade English class at a local high school. This high school class was different from most other English classes in that it was an inclusion class. Therefore, over half of the students in the class had Individualized Educational Programs, with academic issues ranging from learning English as a second language to mild autism. In total, 25 students participated in the study.

Students were given a pretest to measure their base understanding of the concept of irony and its use in literature. The pretest consisted of a short story by Liam O'Flaherty called "The Sniper." On the first day of the unit, I read the entire story out loud to the class. Due to varying levels of reading ability, this seemed the best way to ensure that their performance on the questions accurately measured their understanding of irony rather than just their reading ability. Then, all students completed five multiple choice questions. The first three questions dealt with basic story comprehension. The fourth question dealt with being able to identify the irony in the story, and the fifth dealt with identifying what the effect of the irony was. When all students were finished with the pretest, we began a groupwork activity. Over the course of the unit I determined that I would move in succession from simpler ironic situations into more difficult works of literature. Consequently, their first groupwork activity dealt with jokes. Before they separated into groups I explained their task and provided an example. On the board I wrote 'What we would reasonably expect' on one side and 'What actually happens' on the other. With my example ironic situation, I had them identify as a class what each of these were, and then they split up into groups of two or three. Each group had an ironic joke or situation, and they had to identify what the expectation was and then how the actual result was different. Once they

completed this, each group presented their situation and explained the irony. As a result of this situation, they were able to brainstorm a definition of irony as 'What we would reasonably expect' is the opposite of 'What actually happens.'

By the second day of the unit, I had observed from their pretest material that although the majority of students were able to identify irony, they had difficulty understanding the effect of the irony. Accordingly, for the first few minutes of class, we discussed the function of irony in literature: To create comedy, To create tragedy, or To make us think about a person/situation in a new way. After we discussed this, I worked through two short stories by James Thurber with them "The Little Girl and the Wolf" and "The Princess and the Tin Box". We discussed the events of the story, the irony of the story, and its effects as a class. Then, we progressed to a simple poem by Shel Silverstein, "Smart." I had them work individually to identify the irony and its effect, and then we discussed this as a class. Our final activity for the day was to begin watching a Disney clip of "Casey at the Bat."

On the third day of the unit, we began by reading through "Casey at the Bat." We went through stanza by stanza, identifying difficult vocabulary and discussing how the author sets up our expectations of Casey and what he is like. Then, when we reached the ironic ending, we discussed how the reality defied our expectations and determined the effect of the irony. After this, we finished "Casey at the Bat" and began watching Shirley Jackson's "The Lottery."

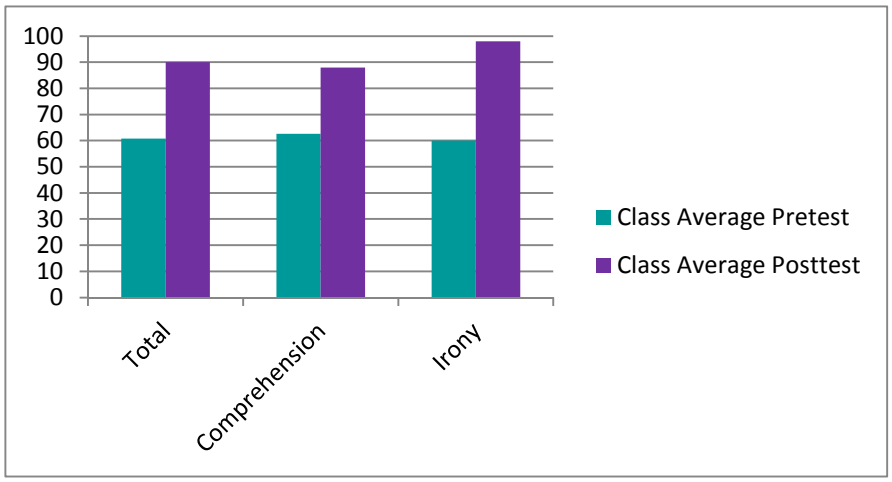
On day four, we finished "The Lottery" and discussed the irony of this piece and its effect in addition to the point that Shirley Jackson was trying to make with this story. From there, we moved on to a Learning Stations activity. We split the class into three large groups and assigned each group to a 'station' in one part of the room. Each student was given a packet of information that had questions accompanying the activity. At Station 1, students were required to watch a video of Johnny Cash's song "A Boy Named Sue" and answer the corresponding questions. At Station 2, students read Shel Silverstein's poem "Stupid Pencil Maker" and drew an illustration for the poem in addition to answering questions about irony and its effects. At Station 3, students read Gwendolyn Brooks' poem, "We Real Cool" and answered a series of questions relating to that work of literature.

On the final day of the unit, students finished up the Learning Stations and then we discussed them as a class, making sure to identify irony and its effects. Then, students took a posttest very similar in nature to the pretest that they took on Day 1. However, this posttest dealt

with a poem ("Richard Corey") instead of a short story. I read the poem out loud for the class, and then they had to answer five multiple choice questions: three dealing with comprehension, one dealing with irony, and one dealing with its effect.

RESULTS AND ANALYSIS

Overall, students made a great deal of progress between pre and posttest. The class average overall for the pretest was a 61. For the posttest, this was improved to an average score of a 90. In breaking down the questions between those that measured comprehension versus irony, there was also significant difference between pretest and posttest. The average score for comprehension on the pretest was a 63 and the average score for irony was a 60. However, on the posttest, the average score for comprehension was an 88 and the average score for irony was a 98. One implication that can be drawn from these improvements is that perhaps the irony in the posttest was easier to grasp because they were able to comprehend the material better. However, while the comprehension score only increased by 25 percentage points, the irony score increased by 38 points. Thus, even if the posttest was easier to understand, the recognition and understanding of irony still increased by a greater percentage, implying that the students actually did learn about irony and its effects as a class.



On an individual level, the majority of students showed growth in their scores. From the pretest to the posttest, 20 out of the 25 students in the class increased their score. Three students' scores decreased. Two students' scores remained the same from pre to posttest. For three of these five students, they had scored a 100 on the pretest, so their scores decreasing slightly or remaining constant was to be expected. In regards to irony growth, 17 out of the 25 students increased their irony scores from the pretest to the posttest. No students' irony scores decreased

from pretest to posttest. The remaining 8 students' irony scores remained constant, and for 7 of these 8 they had successfully answered both of the irony questions on the pretest correctly, so growth for them was impossible.

One limitation that arose in this study was the possibility that the posttest was slightly easier than the pretest. In the breakdown between questions that measure comprehension versus questions that measure irony, we can see that the comprehension scores on the posttest were significantly higher than on the pretest. Based on the study by Milner et al. (1999), an assumption that this study was based on was that it would be more difficult to interpret poetry rather than a short story. However, based on the comprehension scores, obviously this assumption was faulty, and it may have influenced the irony scores. One other complicating factor was that the students who were studied had already been taught the concept and types of irony earlier in the year. Due to the extended amount of time that had passed as well as the fact that their study of irony was not very in depth or prolonged, this research was judged to be still useful; however, their previous studies may have influenced their responses, especially in regards to the pretest.

The overall conclusion of this study is that irony and its effects can be taught effectively to high school students. The progressive approach advocated by Milner et al. (1999) was useful in allowing students to grasp the pieces of literature that were studied, and this progressive approach could even be useful in helping students grasp other literary concepts as well.

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Recasts, Elicitation, and Praise:
Tools for Oral Language Production in the High School Spanish Class

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June, 2011

Today's global society is an unavoidable phenomenon, and due to this fact, producing students who can speak a foreign language is of utmost priority. With the world becoming increasingly interconnected, the ability to communicate in multiple languages is critical. Ideas about what it means to *know* a language have shifted much over the past century. In the last few decades, the movement has focused on how a language is used for communication (Liskin-Gasparro, 1984).

Literature Review

The ability to communicate ably in a foreign language requires use of language for authentic communication situations and needs. As Higgs and Clifford (1982) pointed out, the level of proficiency needed to survive as a tourist is not the same as that needed to work in diplomacy. As a result, in 1986, the American Council on the Teaching of Foreign Languages (ACTFL) standardized the definition of oral proficiency by developing speaking guidelines that addressed the various competencies needed to communicate, using three categories: context, accuracy, and functions (Hadley, 2001). The levels of proficiency describe what a person can do in the language as compared with a native speaker: Novice, Intermediate, Advanced, Superior (ACTFL 1999).

Students in grades K-12 develop their ability to use a language in a very different manner from an adult learner, as they are growing and maturing, during their academic experience. In order to help foreign language teachers know best how to guide learners to develop proficiency, in 1996, the American Council on the Teaching of Foreign Languages developed the *Standards for Foreign Language Learning* (ACTFL, 1996). The standards represent the content knowledge that students should possess upon completion of study of a foreign language in grades K-12. The standards represent five goal areas, the Five C's, which are interrelated in the development of a student's language ability: Communication, Cultures, Connections, Communities, and Comparisons. The Communication goal includes three modes of communication: interpersonal, interpretive, and presentational. In light of the need for variation in instruction and the difference

between proficiency levels for a child as compared to an adult, ACTFL, in 1998 published the *ACTFL Performance Guidelines for K-12 Learners* which is a measurement gauge of a student's progress in developing the content knowledge.. A significant part of guiding a student's ability to gain oral proficiency using these performance guidelines includes strategies to correct errors within these three modes.

To be comprehensible to a native speaker is a major goal of studying a different language. This is a lengthy process that best occurs in a long uninterrupted sequence in grades K-12 (Cohen 1975). When moving from the first language to a foreign one, problems in language production, or errors, will often arise. Error correction is the process of calling attention to a mistake that a student has made and through the use of various strategies, moving him from the incorrect utterance to a correct one. Cohen (1975) explains that by paying attention to the types of errors that students make, and by being intentional in how they are dealt with, the foreign language teacher can shift time spent on improper correction, towards instruction needed to help students develop more proficiency.

It is very important to consider *how* error correction is performed. Two approaches to providing feedback, both implicit and explicit, are the primary ways to address errors in foreign language communication. The absence of a marker indicating an error while providing feedback to a speaker is known as implicit feedback (Ellis, 2006). When the teacher refers to the error, it is an example of explicit correction. Of the two, research shows that there is more uptake from explicit feedback than implicit feedback (Leeman, 2003; Lyster, 2004; Rosa, 2004;).

According to Lyster and Ranta (1997) there are six major types of error correction feedback: elicitation, clarification requests, metalinguistic feedback, repetition, explicit correction, and recasts. However, research has shown that the most effective form of feedback is elicitation (Leeman, 2003; Lyster, 2004; Rosa, 2004).

Elicitation, a form of explicit feedback, is the direct request from the teacher for the correct answer by asking questions or by having the student reformulate his/her response (Lyster & Ranta, 1997). According to Swain (1985), this is an effective feedback tool because it forces the speaker to notice that an error has occurred and then requires him to correct the answer from what he knows already. On the other hand, there has been much debate surrounding recasts, and according to Lyster and Ranta (1997), it is the most frequently used form of correction but the one least likely to lead the student to recall of the information.

While error correction is one strategy for moving students toward proficiency, positive reinforcement, or praise is also useful in helping students increase their speaking ability. The use of praise that is congruent with a student's need for affirmation and achievement can increase motivation (Stringer & Hurt, 1981). During the process of foreign language instruction, when a student is affirmed that his utterance is well formed or that he sounds like a native speaker, the student can be encouraged to continue production. This means that there is a dual benefit of the extrinsic value of being understood by a speaker of the language and an intrinsic value of having produced, or achieved, the intended goal. The use of praise to this end should be consistent and specific to the situation.

Taking into account the importance of guiding students toward proficiency, one can ask the question: What should a foreign language teacher do with an incorrect utterance produced by a student? To explore this, the purpose of this study was to examine the question, "how will the use of error correction strategies and praise help students develop oral language ability in Spanish?"

Methodology

The participants in this study were 17 students in one section of Spanish I in which the researcher was assigned to student teach at a high school in the Piedmont Triad area of North Carolina. The study took place from February through April, 2011. The study was multi-part including three data collection sets that examined the use of elicitation and recasts as error correction strategies as well as explicit use of praise and feedback. Data Set One included a pre- and a post-instructional survey (administered on February 24, 2011, and April 21, 2011 respectively) that examined seven categories related to speaking Spanish: commitment and confidence, self-correction and the desire to be corrected, recognition of recasts, recall of recasts, elicitation recognition, elicitation recall, and praise. Data Set Two included three video and audio recorded activities: an introduction of the participant in the present tense (March 7, 2011), a description of a room, and an oral presentation of that description (between April 18 and 22). In these activities the researcher used error correction and praise strategies, and the participants demonstrated their ability to apply the feedback in an oral capacity by producing oral monologues while self-correcting the errors they had previously committed during instructional time.

Results and Conclusions

The pre-instructional survey examined how the participants viewed their development in learning Spanish at the beginning of the study. Overall, participants showed a strong desire to be corrected and to correct themselves if they knew the way that they had committed an error. When participants were asked about whether they recognized the strategy of recasts and if it helped them to recall the information, there were a variety of answers that showed no clear trend. However, participants showed that they recognized recasts more than they did elicitation, even if they felt they recalled more from elicitation. And finally, with respect to praise, the participants indicated that they desired praise, though it did not seem to impact their level of confidence.

The second data set consisted of classroom instruction with the researcher focusing on the use of two error correction strategies - elicitation and recasts - and the consistent use of praise. During the course of the study the researcher recorded several portions of instructional class time. In each of the three video clips there was a trend that showed that after a question was answered correctly and completely the researcher praised students immediately. Often the researcher used the expression “muy bien” which is considered both explicit and specific because it is clearly and verbally stated and refers to what the student has done rather than indicating that the answer itself is the correct form.

In one video clip the researcher asked a student who wrote an answer on the board “¿Qué verbo necesitas?” (What verb do you need?) This explicit form of elicitation clearly indicates that there is an error in the answer and gives a marker to what it actually is (a marker is an indicator that an error has occurred). When correction was required in order to prevent barriers to comprehension in communication, the researcher most often pushed the students to self-correct. When the researcher did not indicate explicitly that they had made an error, they did not seem to understand what the error was or even that a correction had been made.

At the end of the instructional portion of the study, the participants were asked to complete a post-instructional survey.. From the time the pre-instructional survey was administered at the beginning of the study to time the second survey was given, each category reviewed on the surveys remained consistent except for two, elicitation recognition and recall. In these two areas students as a whole increased in their range of responses showing that following the use of instructional strategies, students recognized when they made an error more often when the researcher used the elicitation method of correcting them. Also students that showed a higher

level of confidence also prefered the error correction strategy of elicitation. One student stated explicitly “I like when you make me think about the right way to say it rather than just telling me” (5).

Throughout the course of the study the researcher observed the participants’ oral language development through instructional time. The participants responded to these error correction strategies in two distinct ways. When a recast was put forth, participants generally repeated the correction and moved on. However, when the same question or a similar one was asked again, the students often committed the same error showing an absence of recall. When an elicitation was used, the participants were forced to discover the answer for themselves. Thus, when they were asked to use the corrected form again in their recordings, students tended to use the form correctly, demonstrating appropriate recall. Also, when the participants where consistently praised, they tended to try to answer future questions more confidently based on their initiation of answering questions, raising their hands, or shouting out the answers with greater fluency and accuracy.

Over the course of the study participants recorded two oral monologues. The researcher used these recordings to observe the oral language development of the participants. Both of the audio recordings where assessed using the Fairfax County Public Schools’ Performance Assessment for Language Students (PALS) (Fairfax County, 2008) which are aligned with the *Standards for Foreign Language Learning* (ACTFL 1996). After the participants recorded their second monologue, the description of a room, they then presented it to the class. As students spent time learning the material and making an effort to apply it in these recordings, they showed an increase in their confidence level as shown by the researcher’s observations of their excited participation in class and desire to answer questions during the instructional time. Comparing the scores from each participant’s PALS assessment using its rubric, one could see that all students except for one increased in the quality of their oral language production.

The field notes from the audio recordings yielded several trends as well. Participants exhibited less inhibition in language production and did not commit as many errors in vocabulary usage and language control. These results show a marked increase in the quality and the amount of oral language production.

The results from this study have shown that intentionality in how a foreign language teacher corrects and praises students can have an impact on their confidence. This confidence in

turn may allow students to try to speak more boldly, and as they are encouraged with more feedback, their oral language production may increase. Having students participate in their own correction and then validating them for that effort may cause them to remember the material more and therefore develop intrinsic motivation to produce the language.

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Music and Culture in the High School Spanish Classroom

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June, 2011

As a ubiquitous part of the human experience, music is inextricably intertwined with both language and culture. Music therefore has many useful applications in the foreign language classroom. Educating foreign language students about the culture of their target language is an important component of the language curriculum; the American Council on the Teaching of Foreign Languages (ACTFL) identifies Cultures as one of the five goal areas of foreign language education, and interweaves culture as a context in other goal areas (ACTFL, 1999). Appropriately representing the target culture may be a challenge in the foreign language classroom. Authentic songs, or songs that are produced by native speakers of a language for native speakers of the language, contain culture in their music, lyrics, and the cultural context in which they are embedded, and can therefore be used to bring the target culture into the classroom while also supporting other language education purposes (Failoni, 1993).

REVIEW OF LITERATURE

There is evidence that music is not merely a product of human culture and interaction: it is "part of our biological endowment" (Baines, 2008; Weinberger, 1998, p.1). The melody of language itself is a significant part of human communication (Fonseca Mora, 2000; Jolly, 1975; Mehler and Dupoux, 1994). The human brain is built to handle music; music, in turn, also influences the brain by affecting neurons, emotions, and memory. When music is included in the classroom, areas of the brain in both hemispheres are activated, which can enhance learning (Baines, 2008; Jensen, 2001; Zatorre, 1984).

Music also has a place in the classroom as a way to address students' diverse learning styles and needs. Robert Griffin (1977) cites the need for individualization and democratization of instruction: making all information equally available to all students according to their learning styles. However, it is not realistic to expect a teacher to tailor instructional strategies to the learning styles and preferences of each and every student (Baines, 2008). Using music builds toward a multisensory classroom experience, which may improve student learning and attitudes (Baines, 2008).

When foreign language students experience high levels of anxiety, or a high "affective filter," they are less able to learn (Krashen, 1982). Music has been identified as a way to lower the affective filter and make students more comfortable in the classroom. In the foreign language classroom, music "creates a relaxed, informal atmosphere and provides a high interest, non-threatening atmosphere for learning" (Claerr, 1984, p. 31; Leith, 1979). Music has also been used in the classroom as part of establishing ritual, which can help with stress, classroom management, and learning (Sprenger, 2010).

In addition to being closely connected to learning and the human brain, music is intertwined with language and culture as well. The texts of authentic songs are rich representations of culture. Authentic songs, as a tangible creation of a society, are a product of that culture, and as such they can convey a great deal about that culture's perspectives—the meanings, attitudes, values, and ideas that are important to it (ACTFL, 1996; Failoni, 1993). The lyrical text and musical fabric of authentic songs have cultural significance. These elements may also help differentiate between subcultures, and demonstrate the immense diversity of cultures within a language (Heusinkveld, 2001). Songs carry another dimension of culture in their context, which can sometimes be seen through their text and music, but is also something more, something wider. For its culture of origin, "a song signals a collective memory; a few notes often suffice to evoke a generation's preoccupations and experiences, an event in the past, a favorite film or operetta" (Kem, 2008, p. 487).

These rich reflections of culture in authentic songs will likely go untapped without deliberate action on the foreign language teacher's part. When songs reflect cultural phenomena, the teacher often needs to explain these so that students can understand the meaning behind the song (Abrate, 1992; Kem, 2008). It is also important to avoid the confirmation of cultural stereotypes, and the perspective of contemporary cultures as "simply American culture in poncho and sombrero," in the case of the Spanish classroom (Griffin, 1977, p. 943).

The purpose of this action research study was to learn about the development of students' cultural awareness in high school Spanish classes while working with authentic music.

METHODOLOGY

The study took place between April 4th and 27th, 2011. Subjects were 37 high school students of Spanish, Level II, in a public high school located in a central North Carolina school district. Subjects were selected based on their participation in Spanish classes taught by the

teacher-researcher during the student teaching internship. Data collection for this study occurred during normal instructional delivery as part of in-class assignments completed by all students. All personal data collected from surveys, journals, and projects was kept confidential. This means that, while subjects' identities potentially could be determined from the information given, steps were taken to ensure that participants would not be identified. Subjects' names were coded according to numbers on all study materials. Confidential research data was kept on the teacher-researcher's password-locked computer.

The teacher-researcher obtained school permission, parental consent, and subject consent or assent with IRB-approved consent and assent forms. Then the teacher-researcher conducted a multi-part study. There were three data sets involved in the study.

As part of their normal class sessions, the subjects participated in classroom activities in which they explored the connections between Spanish-speaking cultures and authentic music. These activities included background music, songs to learn about the Spanish language, journaling, cultural discussions, and a culminating project. The teacher-researcher used responses and information obtained from subjects in these activities to learn about the development of subjects' cultural awareness while working with authentic music.

The teacher-researcher took field notes during the study to note subjects' expressed cultural perceptions and awareness. The teacher-researcher videorecorded several class sessions in order to observe student engagement during instruction when music was used, as well as to support observation of cultural perceptions and awareness, and took field notes on these observations as well. The teacher-researcher used these observations to reflect on the development of subjects' cultural awareness over the course of the study by looking for examples of cultural awareness, such as insight into music's cultural origins, self-awareness of cultural perceptions, and cultural insensitivity.

Before the study began, the teacher-researcher administered a 10-question, self-designed, pre-instructional survey to ask about subjects' views about the use of music in their Spanish classroom, as well as their perceptions of their own familiarity with Spanish-speaking cultures and music. Then, following the use of instructional strategies, the teacher-researcher administered a 10-question, self-designed, post-instructional survey to ask for subjects' thoughts about the inclusion of authentic music in their class and the ways it may have helped them learn more about Spanish-speaking cultures.

RESULTS

The teacher-researcher analyzed the data collected from the videotaped observations and field notes, instructional activities and projects, and surveys. The teacher-researcher looked for recurring themes to provide information about how the instructional strategies using authentic music influenced the development of subjects' cultural awareness.

According to the pre-instructional survey, subjects entered the study as moderately accustomed to music use in the classroom, and having had exposure to some of the activities involving music in the study. They were less accustomed to and familiar with authentic music.

The background music activity did not inherently allow for the deliberate unfolding of cultural context that Bellver (2008) held as necessary, so subjects' cultural understanding of the music used in this activity was not as deep as it could have been. However, it provided breadth of exposure to a wide variety of cultures. On the post-instructional survey, subjects also reported highly enjoying this activity.

Songs to learn about the Spanish language were not an inherently useful way to teach culture. However, the inclusion of the songs themselves, as well as the deliberate work on the teacher-researcher's part to unfold the cultural context of each song, did provide a way for a language-learning activity to peripherally provide cultural instruction as well. This activity provided exposure to authentic language through the lyrics of the songs, and produced a sporadic increase in student engagement.

Journaling was useful to the teacher-researcher in providing insight into the development of subjects' cultural perceptions, but was not ultimately useful in teaching subjects about culture or helping them develop their cultural awareness. By providing insight into subjects' cultural awareness and perceptions, this activity provided the opportunity to tailor instruction to this development. The content of the journals themselves affirmed prior research: some subjects had enough prior experience to properly contextualize the music themselves, but could not unfold the full and correct cultural context of the music on their own (Abrate, 1992; Bellver, 2008; Kem, 2008; Robinson, 1981).

Cultural discussions were useful in furthering the development of subjects' cultural awareness. The results of this activity, in conjunction with the results of the journaling activity, supported assertions in prior research that the teacher must assist subjects in unfolding the cultural context of music (Abrate, 1992; Bellver, 2008; Kem, 2008; Robinson, 1981).

The culminating project encouraged subjects to explore other cultures while supporting language learning. Subjects were not asked to explicitly make connections between their artist's music and their artist's culture, but some subjects still did, which indicated developing cultural awareness to the teacher-researcher. The presentation format of this project provided increased incidental cultural exposure as subjects shared their findings with others. This activity did seem to increase student engagement due to personal interest in the artists, but some subjects found it stressful for reasons unrelated to the music-related nature of the project.

On the post-instructional survey, 94% of subjects at least somewhat agreed that they were more familiar with music from Spanish-speaking musicians, while 84% at least somewhat agreed they were more familiar with Spanish-speaking cultures. 94% acknowledged a link between culture and music.

CONCLUSION

In terms of supporting development of subjects' cultural awareness, none of the activities on its own was a "silver bullet," in that no single activity alone helped develop subjects' cultural awareness while simultaneously giving feedback to the teacher-researcher on the state of subjects' cultural awareness. However, when the activities were used in conjunction as they were in this study, the teacher-researcher received both feedback and the opportunity to develop subjects' cultural awareness.

This study also highlights the value of the deliberate unfolding of cultural context. Before the teacher-researcher helped subjects explore the cultural context and connections of songs, subjects formed their own assumptions about these songs. Although some subjects did show a remarkable degree of insight into the origin and meaning of songs, and others had prior experience that they were excited to share, many subjects could not unfold this cultural context without help. This affirmed prior research (Abrate, 1992; Bellver, 2008; Kem, 2008; Robinson, 1981).

In order to tap into some of the benefits of music identified in prior research, activities would likely have to be designed differently from those in this study. The activities in this study were built around music, but mostly involved encountering the music through established means common to instruction that does not involve music, such as written activities and oral discussion. To access these peripheral benefits of using music in the classroom, other activities that relied

more heavily on listening to or producing music, such as cloze-type activities or singing songs as a class, may be more useful.

Overall, the teacher-researcher was surprised by both the ease of including music and the wide variety of purposes that was accomplished by doing so. The music fit neatly into the curriculum and was an enjoyable addition to it rather than an intrusion. The teacher-researcher will carry these lessons forward as an example of the cultural benefits to be gained from mindful inclusions of music, no matter how small, in the Spanish classroom.

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