Culminating Experience Action Research Projects,

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Abstract

As a part of the teacher licensure program at the graduate level at The University of Tennessee at Chattanooga (UTC), the M.Ed. licensure candidate is required to complete an action research project during a 3-semester-hour course that coincides with the 9-semester-hour student teaching experience or with school employment. This course, Education 5900 Culminating Experience, requires the student to implement an action research plan designed through (a) the Education 5010 Methods of Educational Research course, (b) a required learning assessment required during student teaching, or (c) a newly-designed project. The course is, also, taken by elementary and secondary teachers who are, already, licensed to teach. The action research projects, from spring semester 2017, are presented. This Action Research Project includes: (1) Effect of Social Perspective Taking in Secondary Education Social Studies Classrooms (Leah Flowers); (2) A Comparison of Classroom Settings: Does Outdoor Education in Kindergarten Increase Student Growth in DIBELs? (Jason Hobbs); (3) Incorporating Technology in an Open-classroom Social Studies Lesson and its Impact on Likely Political Participation (Erica D. Kelley); (4) A Casual-Comparative/Ex Post Facto Study of STEM Education on College Readiness (Nathan McKinley Maples); and (5) The Relationship between Guided Reading and the Reading Abilities of Elementary Students (Rachel van de Bovenkamp). (Individual papers contain references and figures.)

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Effect of Social Perspective Taking in Secondary Education Social Studies Classrooms

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The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #17-079.

Introduction to the Problem

Various studies have been completed considering perspective taking in school classrooms. This study considers social perspective taking in secondary education social studies classrooms. This topic was selected for study because more research is needed to determine if social perspective taking is an effective practice for students to learn content material. This topic is far-reaching and can affect students locally, state-wide, and nationally. First, a literature review will show the trends in research, the limitations and strengths of existing research, and gaps and critiques of the research for each theme. Next, the purpose of this study and the research question will be stated. Then, the methodology associated with the study will be explained, with regard to school characteristics, the design of the study, the participants, the instruments and measures, and the materials and procedures. Finally, project results will be presented.

The goal associated with this study is to obtain results that show how students most effectively participate in social perspective taking and how that affects their ability to reason and their ability to achieve in the classroom. A high school classroom will be observed. How students respond to social perspective-taking activities will be evaluated using a constructive controversy activity, student questionnaire responses, and student seminar participation notes. The student seminar will be the culmination of the study because students will have the opportunity to put into practice any skill they have learned. Results show that student historical understanding and achievement increased as a result of teaching instruction promoting social perspective taking. The results show that the design of classroom instruction, and aspects such as textbook content and curriculum type, the formation of historical perspective and empathy, and constructive conversation about controversial issues, should be considered when promoting perspective taking.

Review of Literature

Teaching instruction that emphasizes social perspective taking has been shown to affect student growth and achievement. Social perspective taking is described as "discern[ing] the thoughts and emotions of others while assess[ing] others' perceptions of the situation" (Gehlbach et al., 2008, p. 900). Numerous studies have considered aspects of perspective taking with a focus on textbook content and curriculum type, historical perspective and empathy, and controversial issues. These aspects will be discussed because they are determining factors of whether social perspective taking is encouraged or prevented.

Textbook Content and Curriculum Type

Textbook characteristics will be considered because textbooks are often used as a main source to teach content. Content in a textbook can depend on the intentions of the publisher, and it should be noted that many textbook companies in the U.S. are based in either Texas or California. This is important to be aware of when choosing a textbook and considering social perspective taking because the teacher must pay attention to what historical perspective is considered in the textbook.

Berkeley et al. (2016) examined the extent to which textbooks have the potential to support or thwart comprehension. Four textbook companies of major middle-level social studies texts were included in the study and three randomly selected chapters were coded. The textbooks were considered in terms of both content and pedagogy. Their results showed that there was a lack of global coherence in contemporary textbooks, particularly in students' reading skills. Additionally, Berkeley et al. strongly suggested consideration of consistency in textbook selection and to choose books from the same publisher so students will likely have more success when trying to comprehend what they have read and can utilize the additional comprehension

features that the textbook provides. Berkeley et al. stated that specific attention should be paid to question labels in texts because the labels "do not always reflect the true cognitive demands of the task," and this is significant because students are not contemplating higher-order questions if the information is stated directly in the text (p. 267).

In Villano's (2005) study of alternative methods to activate schema in the intermediate classroom, she distinguished between letting the textbook guide the curriculum and letting it become the curriculum. She states that "one textbook does not necessarily fit all of our curricular goals or all of the students' academic needs" (p. 128). Villano recommended using diverse mediums to help students gain schematic knowledge and scaffold new information. Villano also explained that when students are exposed to complex material, they often need multiple opportunities to absorb the content and further their understanding. This is critical to consider because perspective taking can require complex thinking, and multiple forms of presentation of the topic are essential to teaching students various aspects of a concept.

The type of curriculum that is being used in a classroom can affect student ability to realize perspective. Benitez (2001) assessed the results of exposure to a globalized U.S. history curriculum versus a traditional, nationalistic U.S. history curriculum. The results showed that students in the experimental group became more internationalist after being taught with a global curriculum and the control group of students became more nationalistic after being taught with a traditional curriculum. The findings also showed that a globalized curriculum was a more effective socializing agent because it allowed students to have a more realistic perspective and have greater understanding with how to interact with other countries and cultures. Benitez's study provides evidence that the curriculum does affect the student's ability to take perspective.

Little et al. (2007) conducted a quasi-experimental study on curriculum effectiveness in social studies that was intended to show the effects on student performance and how an interdisciplinary curriculum raised student performance levels in all areas. On page 273, Little et al. (2007) aimed to answer the following questions: Do students exposed to a specific curriculum intervention in social studies outperform similar students not using the intervention on measures of conceptual and critical thinking and content learning? Are there differences in performance between students identified as gifted and students not identified? Do teachers implementing the project pedagogy show change over time in observed and self-reported behaviors supporting high-end learning? It was stated that more research should be done with consideration to a classroom with like-ability peers versus peers of varying abilities, but the study showed evident growth gains when using a curriculum intended for high-ability learners and an integrated framework aimed to develop higher-level thinking and concept development.

Myers (2006) conducted a case study that considered the implications of globalization for social studies curriculum and ways to expand democratic citizenship. He recognized that, in the U.S. educational realm, aspects of globalization are often ignored because the tradition has been a nationalist curriculum, and some educators are hesitant to approach controversial issues that might conflict with the national, singular perspective. Myers added that global citizenship is not likely to occur in classrooms across the nation until global perspective is consistently taught.

The Berkeley et al. (2016) and Villano (2005) studies have shown that supplemental instruction is often needed when using textbooks, but there could be further research done to show which other supplemental forms of instruction are most effective when promoting social perspective taking. This is one gap in the research that could help teachers practically be able to design lessons that include activities that promote higher-order thinking and the ability to think

beyond what they are reading in a text. The Benitez (2001) and Little et al. (2007) studies showed a need to consider the impact of teacher attitude and behavior. In the Benitez study, the author finds that teachers can affect student attitudes if they can evoke cognitive dissonance. The Little et al. study mentioned a limitation that has yet to be remedied concerning a way to monitor teacher classroom behavior since most teacher behavior information is self-reported. The Mangram and Watson (2011) and Myers (2006) studies both seem limited in the number of participants included in the studies. The Mangram and Watson study had three social studies teachers participating, and the Myers study had two teachers and eight students participating. The low number of participants does not invalidate the research, but a larger sample size would show more defined results.

Historical Perspective and Empathy

Being able to understand historical significance and empathy are critical to social perspective taking. Keedy et al. (1998) examined the extent to which students developed historically-grounded perspectives and engaged in moral debate about historical events and issues. The authors interpreted their analysis in two ways: the socio-political world in which teachers work and anti-intellectualism. Keedy et al. discussed the need for teachers to "teach for understanding" because "students who are passive recipients of decontextualized facts soon forget what they have learned; they are not partners in developing meaning" (p. 621). The authors described constructivism as the basis for developing perspective, and they stated that students must internally be able to evaluate the past and view history as the combination of self-constructed interpretations.

Keedy et al. (1998) found a teacher that used a three-question framework that provided an adequate classroom condition to test how people understand and perceive themselves and others

(p. 624). The three questions included: Why do you as a student think this way? What is your source of information? Is your source valid, give your classmates' perspectives? The authors used constant-comparative analysis and found that seven of the nine students recognized history as personally-constructed interpretations, but only one student's perspective was historically grounded. The other students' perspectives referenced contemporary issues, ideas, or values. Keedy et al. found that the teacher's classroom role perceived by students, students' preference for regurgitation, not interpretation of facts, and student classroom interactions are three reasons that contributed to the low number of results for historically-grounded perspectives and instances of moral debate. The authors described the impact of socialization with particular consideration to knowledge-transmission pedagogy and intense student competition, which is related to the socialized avoidance of classroom-inclusive debate. Keedy et al. explained the impact of the socio-political world when teachers feel "pressured to align themselves along ideological lines established informally by their communities" (p. 640). The authors also stated that anti-intellectualism has limited the development of intelligence in schools and that has reduced the desire for meaning making.

Brooks (2011) completed a study to expose the differences between the subjective and objective aspects of historical empathy. On page 167, Brooks aimed to ask: How does one secondary history teacher encourage or inhibit both the subjective and objective components of historical empathy through her instruction? How do the students of one secondary history class display the subjective and objective components of historical empathy over the course of a semester? Brooks stated that historical empathy is central to the construction of historical understanding. Brooks found that primary and secondary sources, along with discussion, promote greater historical empathy. The author also concluded that a caring environment is

essential for students to able to express their thoughts and learn to model a subjective relationship to the past, but it was noted that students still lacked empathy at times and showed responses that were similar to how students of a lower age would typically react. This brings about the concept of "default assumptions" in the sense that students revert back to assumptions about history in attempt to make sense of what is unfamiliar to them about the past.

Evaluation of the Keedy et al. (1998) study shows that it is critical to consider the impact of the socio-political and socio-intellectual foundations of the current education system since school-wide norms do not always encourage students to search for meaning making and consider multiple perspectives. The authors noted that a constructivist pedagogy, with support from colleagues, needs to be in place in order for students to have the same views of learning. In the Brooks (2011) study, the students showed different aspects of perspective recognition. The deviation could be caused by student interest in a specific content lesson, but this is important to consider when analyzing research. Also, while care was shown to have some positive implications, it can also inhibit perspective recognition due to presentism, which is the tendency to interpret past, historical events with a modern day mindset. This could greatly impact student perspective formation, and the impact of care should be examined further.

Controversial Issues

The ability to intellectually oppose and discuss controversial issues is a necessary component of perspective taking. The Byford et al. (2009) study examined teachers' attitudes while teaching controversial subject matter in the classroom. They found that teachers do see value in teaching controversial issues, but they are hesitant to teach matters when they are unsure if students can "handle" them and/or when they may not have the skills and knowledge to teach the material properly or effectively. They found that teachers do not want to engage in the

practice if it jeopardizes their careers. They mentioned that textbooks received an overwhelmingly negative response when considered as the medium to use when discussing controversial issues. Less than 12% of the teachers polled indicated that texts were an effective way to teach controversial material. The authors mentioned that many textbooks are not up to date on controversial issues, and there is student overreliance on the Internet to teach them about these issues. They stated that teachers must use a variety of teaching methods to meet the needs of individual students' learning styles, and discussion of controversial issues is expected to be done according to the National Council for the Social Studies.

Johnson and Johnson (2011) discussed constructive controversy, and the ability to listen to another's ideas or opinions when they are incompatible with your own, but there is still an effort to reach an agreement. The authors described a dual relationship between cooperation and conflict, and stated that controversy is most effective when it takes place in a cooperative context where there is skilled disagreement, rational argument, and active participation. They advised to place students into cooperative learning groups of four people, and then dividing the groups further into two pairs. Each pair should prepare to argue one side of the topic and then follow four steps.

Johnson and Johnson (2011) stated the following four steps for the instructional procedure for constructive controversy: (a) research and prepare a position, (b) present and advocate their position, (c) engage in an open discussion in which they refute the opposing position and rebut attacks on their own position, and (d) reverse perspectives. Constructive controversy in a cooperative learning format can allow students to challenge each other and consider perspective without creating a volatile environment. Johnson and Johnson provided a structure for teachers to follow so they are able to present issues that can be examined from multiple perspectives

while minimizing negative conflict. They also stated the importance of having a cooperative, not competitive, context for discussing controversy because the comfort of a safe and open-minded environment allows students to develop more refined conclusions. Overall, Johnson and Johnson gathered 45 years of research on constructive controversy, and showed that constructive controversy improved all of the following: achievement, retention, quality of decision making and problem solving, cognitive and moral reasoning, perspective taking, open-mindedness, creativity, task involvement, motivation to improve understanding, attitudes toward controversy, attitudes toward task, interpersonal attraction among participants, social support, self-esteem, psychological health, values, and the ability to engage in political discourse.

The authors in the Byford et al. (2009) study noted the school samples were not random, and there could be very different outcomes if schools from other regions were examined. This is one limitation from the study that could be examined further with more random sampling of diverse schools. Additionally, the authors concluded that teachers' perceived fears and consequences about not maintaining classroom control, parental backlash, and risking job security contributed to reluctance to teach controversial issues. The Johnson and Johnson (2011) article can help address some of the concerns mentioned in the Byford et al. study because Johnson and Johnson have developed guided steps for teachers to follow when addressing controversy that allows controversy to be constructive. The four steps, previously mentioned, should allow teachers to have confidence in their abilities to address competing ideas because teacher instruction is systematic and organized.

Framework

The previously discussed three themes, textbook content and curriculum type, historical perspective and empathy, and constructive controversy, relate to Gehlbach's (2004) study about social perspective taking. Gehlbach examined the relationship between social perspective taking and student achievement in three domains: conflict resolution, historical empathy, and social studies grades. The author found that social perspective taking aptitude is directly related to all three domains, and the relationship remains after considering demographic variables such as gender, ethnicity, age, and English fluency. Gehlbach mentions the lack of clarity in understanding social perspective taking and the lack of implemented measures to make perspective taking a practice in the classroom. He stated that "social studies teachers need to provide students with a nuanced understanding of historical conflict and equip them with resources to effectively resolve conflicts at a personal level" (Gehlbach, 2004, p. 40). Gehlbach mentioned the Johnson and Johnson (2011) study about constructive controversy, and the value of students learning to resolve conflicts in history and interpersonal conflicts during their schooling. Gehlbach concluded that social perspective taking has the potential to help students develop interpersonal skills, as well as advance academically. Gehlbach's study addressed the themes that emerged from the literature review, and provided a framework for defining the foundations for the study that was implemented.

Methodology

Research Question

The purpose of this study was to determine what components are important to include in instruction to emphasize social perspective taking. The original research question that prompted this study considers the following question: In secondary education social studies classrooms,

how is student understanding and achievement affected by social perspective taking, and what methods and conditions have been proven most effective to help students learn how to take perspective and understand history? As explained in the review of literature, three distinct themes emerged as components of perspective taking. Those components include: (a) the recognition of a globalized versus a nationalistic curriculum, (b) the development of a grounded historical perspective and the ability to have historical empathy, and (c) the ability to engage in constructive controversy. All of these components are necessary to examine in order to help students develop perspective in their understanding of the past and present world. The components helped inform the research question and the design of the study.

Method

To test the effectiveness and impact of social perspective taking in the classroom, a study that considers student understanding and achievement using social perspective taking in a history unit was conducted. Information related to textbook content and curriculum type, historical perspective and empathy, and controversial issues was noted. The study was completed during a student teaching placement in a high school U.S. History and Geography course.

School Characteristics

This public magnet school, is based on the Paideia philosophy that all children can learn and should be given the best educational opportunities possible. The curriculum is diverse, and emphasizes didactic instruction and Socratic seminar, which promotes critical thinking. The civil dialogue resulting from seminar prepares students to consider ideas and how to effect change as citizens. There is the opportunity to voice opinions, share concerns, and forge an independent mindset. Acceptance to the school is based on application, parental attendance to introductory meeting, name drawing through a lottery system, and parental participation in a

Socratic seminar. This is important to consider because social perspective taking is a critical aspect of Socratic seminar, and students that attend the school will learn the procedures of seminar participation. If this same study was completed at another school that did not emphasize perspective taking and seminar, the results and adherence to instruction in the classroom could be very different. The classroom teacher did not use textbooks in the U.S. History and Geography course, so the student teacher made note of this when considering the variables and bias that can result from using a textbook that might consider a singular perspective.

Instruments and Design

The design of the study was primarily qualitative, and included a pre-test, instruction for a constructive controversy procedure activity, a concluding class seminar, and a follow-up questionnaire and post-test. However, grading of the pre-test and post-test included quantitative measurement. For the first activity, the constructive controversy instructional procedure from the Johnson and Johnson (2011) article was followed. The students were expected to adhere to skilled disagreement list of 10 norms (Johnson & Johnson (2011). For the second activity, a class seminar was held which provided students the opportunity to put their learned skills into practice. For the third activity, the social perspective taking questionnaire was administered to the class after they finished the seminar. See Appendix A. The students also completed a pre-test and a post-test for the unit. See Appendix B. A qualitative case study was primarily chosen because it allows for the research design to encompass the interactive and reflective components that are essential to examining social perspective taking. However, the comparison of the pre-test and the post-test provided a quantitative measurement of grades and conceptual understanding. Students were also graded on the constructive controversy activity and the seminar, and student grades on those activities were based upon the rubric in Appendix C.

Participants

The participants were 21, 11th-grade students. In this class, there were 12 males and 9 females. Of the 21 students, 10 were African American, 10 were White/Non-Hispanic, and 1 was Asian. The school contains a mix of students from both urban and rural homes. The demographic variables related to urban and rural areas could further be considered as a part of the data analysis, but social perspective taking is a skill crucial to students from both urban and rural environments. While the home environment could very well have shaped the student's perspective, the school is the environment that will be primarily considered for how students can develop perspective taking in the classroom in this study.

Variables and Measures

The sample was randomly selected because the student teaching classroom assignment was random. Most of the units were primarily led by the classroom teacher, but the student teacher was responsible for teaching the Great Depression and New Deal unit for this study. The student teacher used the other units as control, as the constructive controversy activity, questionnaire, and concluding seminar were not implemented in those units. The unit the student teacher led provided the experimental scores.

The themes most relevant to this study that were measured were globalized or nationalistic student thinking, the consideration of historical empathy and an historical grounded perspective, and the ability to seminar, debate, and contribute in critical thinking exercises when there is intellectual opposition. Social perspective taking was considered the independent variable while student understanding and achievement were the possible dependent variables. These variables were measured by (a) student ability to prepare for, and advocate, a position during the

constructive controversy activity and ultimately during the seminar discussion' (b) the student questionnaire responses; and (c) comparison of the pre-test and post-test scores.

Materials and Procedure

In the constructive controversy activity, the student was responsible for reflecting on the historical event of study from multiple perspectives. Each student was instructed to consider each perspective represented in the history unit of study and follow the four steps presented by Johnson and Johnson (2011). Students prepared an argument, either supporting or opposing the New Deal programs, depending on what they would have believed if they lived during the Great Depression. The constructive controversy social perspective taking strategy helped students learn how to constructively present their arguments and analyze both the past and present impact of the New Deal. By asking students this question, and having them follow the constructive controversy instructional procedure listed in the article, students demonstrated their ability to take historical perspective, have empathy, and consider both sides of the issue.

In the concluding seminar, the students were asked whether they would have supported the New Deal if they lived during the Great Depression era, and students were instructed to present their opinions while listening respectively to the opinions of others. The student teacher instructed students to adhere to the 10 norms presented by Johnson and Johnson (2011). The students were instructed to be able to validate their opinions with reasoning. The questionnaire was a critical component of qualitative measurement because it included questions that had students consider if and why taking perspective is important in history, and if the social perspective taking strategy helped the student develop perspective. Overall, from the various instruments of measurement, the student teacher collected data that showed whether students considered multiple perspectives and whether that benefited them in their learning in the unit.

Results

The data from the constructive controversy activity, concluding seminar, and questionnaire responses provided qualitative measurements, while comparison of student grades on the pre-test and post-test provided the quantitative measurement of student comprehension of unit subject matter. (See Figure 1.) The chart summarizes student learning for the entire class and shows the improvements students made from the beginning of the unit to the end of the unit for each set of state standards and learning objectives. The greatest improvements from the pre- to post-test were questions from Tennessee standards 46 (US.46 Describe the steps taken by President Hoover to combat the economic depression, including his philosophy of "rugged individualism," the Reconstruction Finance Corporation, and the response to the "Bonus Army") and 52 (US.52 Cite textual evidence, determine the central meaning, and evaluate different points of view by examining excerpts from the following texts: Herbert Hoover ("Rugged Individualism"), Franklin Roosevelt ("First Inaugural Address"), and John Steinbeck (The Grapes of Wrath)) and standards 50 (US.50 Analyze the effects of and the controversies arising from New Deal economic policies, including charges of socialism and FDR's "court packing" attempt) and 53 (US.53 Evaluate multiple sources of information presented in diverse formats and media as in the political cartoons about the New Deal). The improvement in understanding for these four standards was important because they were the most critical standards to understand in order to develop a strong position for the constructive controversy activity and seminar.

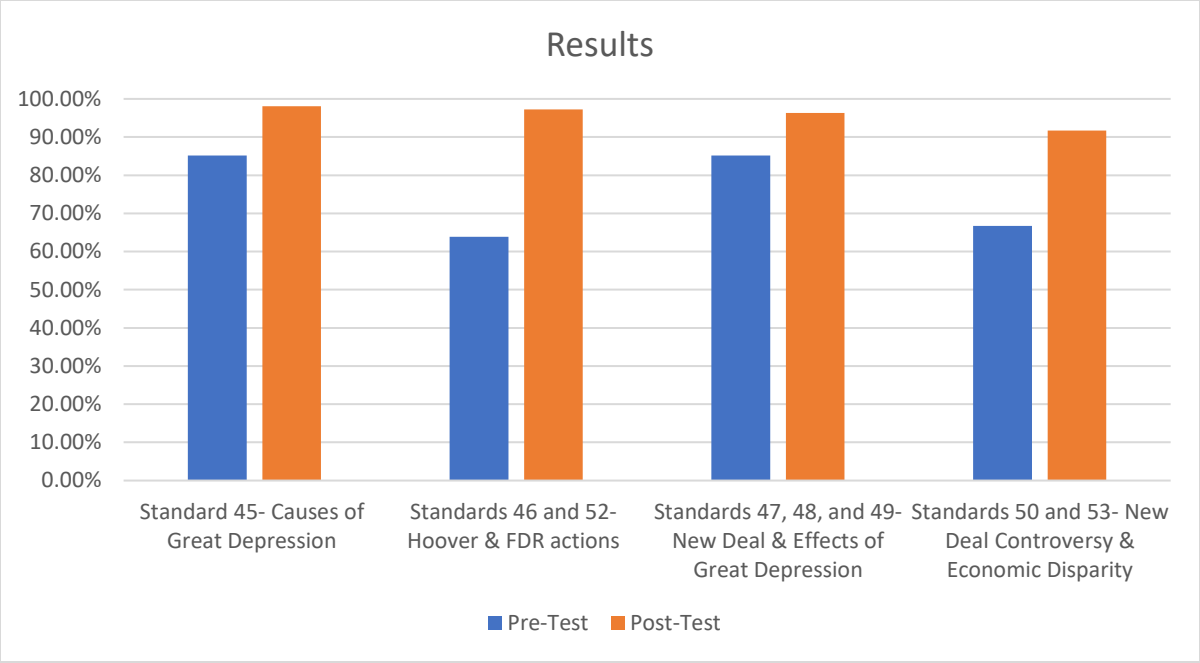

Figure 1. Pre-test and post-test results for selected standards are presented.

The class mean for the pre-test was 75.25%; the class mean for the post-test was 95.83%. A *t* test showed significant improvement from the pre-test to the post-test ($p<.05$). From the pre-test to the post-test, the whole class improved by 33.3% for standards 46 and 52 and improved by 25% for standards 50 and 53. Students improved by 12.9% for standard 45 and improved by 11.1% for standards 47, 48, and 49. (See Figure 2.) Students presented strong, informed arguments that considered social perspective during this unit since social perspective taking occurred between the pre-test and post-test. The Pearson correlation (r) value was 0.48 and showed a positive correlation between achievement on the pre-test and the post-test, after social perspective taking was considered.

	Pre-Test	Post-Test	% difference
Standard 45- Causes of Great Depression	85.20%	98.10%	12.9
Standards 46 and 52- Hoover & FDR actions	63.90%	97.20%	33.3
Standards 47, 48, and 49- New Deal & Effects of Great Depression	85.20%	96.30%	11.1
Standards 50 and 53- New Deal Controversy & Economic Disparity	66.70%	91.70%	25

Figure 2. Class averages for test items related to history standards are presented.

The qualitative component of this study is based on the questionnaire responses from students. The questionnaire provided responses directly related to social perspective taking and the constructive controversy activity. Eighteen of 21 students responded in the questionnaire that the constructive controversy activity helped them understand different perspectives in the unit. The three remaining students only responded differently because all three students stated that they already regularly consider taking perspective so this was not something new for them to consider. A rubric (see Appendix C) was used to evaluate students and assess the quality of student work. After completing the rubric for all students, only 4 of 21 students did not participate for the maximum number of three times in the seminar. This was the only occurrence where a student did not meet expectations for the lesson activities. Data from the questionnaire and rubric show that 80 percent of students met expectations and this shows that the majority of students expressed what they learned and showed evidence of social perspective taking.

Once the qualitative and quantitative data was collected, the data showed that there was a positive correlation between social perspective taking and student achievement. When the students considered perspective, they considered multiple views, historical empathy, and engaged in constructive controversy. This analysis confirmed that student understanding and achievement is affected by social perspective taking.

Conclusions and Recommendations

Certain generalizations can be made based on the results of the case study. Students develop greater understanding when they recognize how history is defined by multiple perspectives and when they engage in perspective taking. Findings from the literature review showed that the consensus from professional organizations is that social perspective taking positively benefits students and teachers alike. Students are more likely to become global citizens and consider multiple perspectives if they are taught with a globalized curriculum and consideration of multiple perspectives. Research has also shown that teachers must be aware of their own bias when teaching a curriculum that considers global perspectives because teachers cannot let their assumptions or adherence to ideologies influence their instruction or misinform their students. Perpetuating U.S. exceptionalism is one example of how ideologies can affect perspective. Recommendations should be made to teacher professional development groups to educate teachers on the importance of social perspective taking, and there should be exploration about grant money that could support teachers in their instruction of social perspective taking.

Results in this study showed that it is critical to consider how ideological forces continue to shape thinking and perceptions about the world, and, in order for students to develop a grounded historical perspective and be able to have empathy when considering the past, students need to explore the historical event through multiple sources. Students that are learning history should be instructed to examine both primary and secondary sources including interviews, newspaper articles, and commentaries since the historical event. It is important for students to be able to differentiate between how someone felt about the event while it was happening and how the event has been viewed since. The ability to distinguish how opinions change over time and recognize why decisions were made helps to eliminate presentism.

The learning environment is important when facilitating perspective taking. This could be a limitation if the environment is not conducive and students feel uncomfortable. The teacher needs to set clear instruction for creating an environment that supports perspective taking which is why the 10 norms for skilled disagreement from the Johnson and Johnson (2011) article were utilized in the study. The student teacher had to be prepared to adapt elements of the study to make sure the study was measuring what needs to be measured, but, also, to make sure that the study was completed in the time given.

The potential impact of this study is that teachers and students both could grow by learning how to effectively communicate when considering multiple perspectives. Teachers will need to be prepared to facilitate a discussion that allows students to critically think about the issues while being considerate. Students will need to be open to learning something new and respectfully expressing their positions. Further research can be done to expand this study and consider student perspective taking on a larger scale over a longer span of time which would provide more refined results.

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Appendix A
Social Perspective Taking Questionnaire

1. Is taking perspective important in history? Why or why not?

2. What different perspectives are involved in this New Deal historical unit?

3. Did the constructive controversy activity help you understand the different perspectives? If so, how?

4. If you were living during the Great Depression and learned about the New Deal, do you think you would have supported it or not have supported it?

   Why?

Appendix B

Pre-test and Post-test

Directions: Read the following statements and circle whether they are true or false.

1. The stock market crash marked the beginning of the Great Depression.

True False

2. Historians and economists agree on the main causes of the Great Depression.

True False

3. The United States was the only nation in the 1930's that had severe economic troubles.

True False

4. President Hoover made many efforts to end the Great Depression.

True False

5. Franklin D. Roosevelt inspired confidence in Americans with his proposal for the New Deal.

True False

6. All U. S. citizens showed full support for the New Deal to end the depression.

True False

7. First Lady Eleanor Roosevelt encouraged President Roosevelt to develop a second New Deal.

True False

8. The New Deal had no effect on labor and employment in the United States.

True False

9. The New Deal plan included efforts to conserve and protect natural resources.

True False

10. The Great Depression caused a complete halt in the active cultural life of the Roaring Twenties.

True False

Appendix C
Rubric

CATEGORY	Exceeds expectations	Meets expectations	Below expectations
Quality of Work	Provides work of the highest quality.	Provides quality work.	Provides no work
Presentation	Effectively presents information and is always ready to work.	Presents information and is ready to work.	Did not present information and was not ready to get to work.
Contributions of Participation	Routinely provides useful ideas when participating in the group and in classroom discussion. Participates not just the minimum number of times, but provides insightful and relevant information	Usually provides useful ideas when participating in the group and in classroom discussion. Participates the minimum number of 3 times expected.	Did not provide ideas when participating in the group and in classroom discussion. Refused to participate.
Completion of all Tasks	Completes all tasks with great effort.	Completes all tasks.	Completes no tasks.

A Comparison of Classroom Settings: Does Outdoor Education in Kindergarten Increase Student Growth in DIBELs?

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Education 5900, Spring 2017

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #17-080.

Introduction to the Problem

Schools in the Chattanooga area have been developing outdoor kindergarten classrooms for the last 2 years. A kindergarten outdoor classroom consists of students being outside for a majority of the school day, which could be up to 3 hours per day. The students are provided weather gear to ensure the outdoor educational time goals are accomplished each day.

The outdoor kindergarten setting is new to the United States, but studies have shown environment can affect student performance. Research suggests that redesigning the classroom can help facilitate more effective interactive instruction if instructors are willing to change practice accordingly (Knaub et al., 2016). Classroom environment characteristics play an important role in shaping teaching practices and supporting research-based instructional strategies (Knaub et al., 2016).

Whether playing outdoors or working on the farm, rural children acquire science and engineering skills throughout their daily lives (Avery, 2013). When students experience differences in classroom settings, students are more engaged in learning, which may lead to academic growth for students.

Does outdoor education impact the student's academic growth? Most of the studies that have been conducted on outdoor education focus on the field of science, or with students above the age of 8 years old. Unfortunately, there were no studies found on whether outdoor education had an affect on student performance in earlier grades. If this study could determines if an outdoor setting improves student growth, then this approach would need to be studied in other grade levels for validation. Hence, this study was conducted to determine whether an outdoor kindergarten setting could affects student growth.

Review of Literature

Outdoor education is a new innovative concept that is changing how school systems educate students. Beyond improving student outcomes, these classrooms have additional benefits for institutions that include transforming instructor approaches to teaching and symbolizing the institution's commitment to quality teaching (Knaub et al., 2016).

Educational professionals are constantly looking for better methods to engage students to promote learning. Therefore, the design of the physical classroom space plays an important role in shaping the learning environment (Knaub et al., 2016). School systems around the Chattanooga area have implemented outdoor kindergarten classrooms to give students an authentic approach to education, one in which the authentic environment will ensure that students are engaged and stay connected to the academic instruction. The research literature on active learning environments documents positive impacts of these spaces on attitudes and performance (Knaub et al., 2016).

The environment with which students interact can affect how motivated the students are in the learning environment. Students engage with their surroundings and explore environmental issues that impact their community, which spurs their learning of science, technology, engineering, and mathematics (STEM) content while employing their learning, rural, and knowing skills (Avery, 2013). In order for this outdoor approach of learning to be successful, the community must be open to a new classroom environment of educating students, and, in turn, students will make connections through outdoor experiences. The students could have a possibility of entering fields related to environment, thus the need for better communication between educational institutions. Dialogue should be fostered between students, teachers,

families, community members, and organizations so pipelines to STEM higher education and career pathways remain open to students (Avery, 2013).

Major concerns that need to be addressed, regarding an outdoor educational classroom setting, depend on the perception of the teacher with the task of implementation. This lack of time and expertise may help explain why many elementary teachers fail to include environmental education in their classrooms, despite their intentions to do so (Carrier et al., 2014). With support from the school administration, the development of an outdoor classroom would have a better opportunity to be effective for students. In addition to teacher beliefs about science teaching and environmental education, school cultures (as shaped in part by administrators and parents) can influence the type and quantity of science instruction available to the students (Carrier et al., 2014). Teachers must have a deep understanding of the content objectives of their grade-level in order to integrate content standards across subjects.

Overall, pre-test and post-test results for all students revealed growth in science knowledge (Carrier et al., 2014). Most teachers expressed concern regarding a change in proven methods of educating students. Challenges included testing pressures, limited resources including time to teach science, and teacher self-efficacy in teaching science (Carrier et al., 2014). With the implementation of state mandatory testing, one could understand teacher concerns when changing classroom the environments of students. The principals acknowledged pressure from the district for each school's students to perform well on the tested subjects of literacy and mathematics throughout the grade levels, contributing to the challenges teachers described when trying to fit science into their very full school days (Carrier et al., 2014). Teachers must be careful on how students perceive outdoor learning activities; these outdoor activities must be connected to core subject concepts of learning to ensure student growth and understanding.

Students in schools attended outdoor field trips and participated in some schoolyard experiences (e.g., collecting materials for indoor microhabitats or observing landforms), but they failed to identify those experiences during interviews as school science and rather saw them as separate from organized science learning (Carrier et al., 2014).

Given the importance of STEM education to the future of national economies, communities, and individual lives, and given the significant challenges that face K-12 STEM education, new approaches are needed in evaluation, research, and measurement (Saxton et al., 2014). Without having a better understanding of how to prepare students for the future, how can teachers not implement and evaluate new methods of educating students to ensure the educational field is not stagnant? Until the student achievement tests are adapted to be in better alignment with the new national standards for college and career readiness in mathematics and science, the education community has few other options aside from these measures that are used on a broad scale across the K-12 education sector; therefore, connections to student achievement are included in this analysis (Saxton et al., 2014).

An outdoor classroom environment can positively affect literacy among students. It is clear that there is considerable potential for experiential methods, such as community-based and/or outdoor pedagogy, to make a significant contribution to developing sustainability-literate graduates (Lugg, 2007). Students are most likely to retain knowledge or skills if the knowledge or skills are connected to an authentic experience. Outdoor education, unlike many other forms of "indoor education" is in a unique position to offer experiences that may create awareness and understanding of human connectedness to other forms of nature (Lugg, 2007).

Gustafsson et al. (2011) found that outdoor educational environments positively affected males more than females, which suggests the importance of introducing an outdoor

environmental classroom in the kindergarten setting. This evaluation of an outdoor education intervention demonstrates trait-treatment interactions represented by moderate positive overall mental health effects for boys with small to moderately positive effects on specific mental health dimensions, but an inconclusive effect for girls (Gustafsson et al., 2011). Allowing females to be introduced to an outdoor educational classroom for kindergarten would give a better understanding of how environment can affect students at an early age. Therefore, gender is an important aspect to consider when studying the mental health impact of outdoor education (Gustafsson et al., 2011). An outdoor educational classroom will give students an opportunity to understand learning concepts with real-world examples and application (Zink & Burrows, 2008).

Data Collections and Results

Data Collection

Subjects. When comparing an outdoor kindergarten classroom to a traditional kindergarten classroom, one school in Georgia was selected as the sample. This sample included one outdoor kindergarten classroom and one traditional classroom, with 16 outdoor kindergarten students and 17 traditional students. The samples were chosen with similar demographics, with regard to race and socioeconomic status.

Instruments. The students were tested and given the Dynamic Indicators of Basic Early Literacy Skills (DIBELs; Good, & Kaminski, 2007) assessment before and after the implementation of the outdoor classroom setting or the traditional classroom setting. The results of the DIBELs assessments would determine whether the classroom environment setting had impacted student growth at the kindergarten level.

Methodology. The apparent educational assumption being stated is that an outdoor education classroom setting will improve student growth, without regard to the student's age. If

students between upper elementary and high school have typically shown growth with the outdoor classroom setting, then one may assume it would also be beneficial for school children between the ages of 5 and 6. These results could vary, depending on the location of the schools or the environment of the school surroundings, in other studies.

Procedure. With an educational literacy test being administered to all of the students in kindergarten at the school, this study was quantitative with the elements of the literacy test. The DIBELs assessment was administered by the classroom teachers of the traditional classroom setting and the outdoor classroom setting, which occurred at the beginning and at the end of the school year. Teachers were required to complete this literacy assessment to determine literacy levels of all of their students. The DIBELs literacy assessment is used all over the U.S. and has been used in this school district's schools for many years. Once the teachers completed the DIBELs assessment, the data was be gathered to determine if the research hypothesis was proven.

Results

The de-identified data was provided by the school administration. The first set of data was the First Sound Fluency assessment. "The examiner presents four pictures to the child, names each picture, and then asks the child to identify (i.e., point to or say) the picture that begins with the sound produced orally by the examiner" (Good & Kaminski, 2007, p. 10). The mean for the indoor kindergarten students was 18.17 percent; the mean for the outdoor kindergarten students was 21.68 percent. The outdoor kindergarten students began the school year with a higher mean than the indoor kindergarten students. During the middle of the school year, First Sound Fluency is assessed for a second time. The mean for the indoor kindergarten students was 30.88 percent; the mean for the outdoor kindergarten students was 34.18 percent. This showed an average

indoor student increase of 12.71 percent and an average outdoor student increase of 12.5 percent. This is a slightly higher increase in assessment score for the indoor kindergarten classroom students.

The second set of data was the Letter Naming Fluency assessment. "Students are presented with a page of upper- and lower-case letters arranged in a random order and are asked to name as many letters as they can" (Good & Kaminski, 2007, p. 6). The mean for the indoor kindergarten students was 22 percent; the mean for the outdoor kindergarten students was 23.87 percent. The outdoor kindergarten students began the school year with a slightly higher mean than the indoor kindergarten students. At the end of the school year, Letter Naming Fluency is assessed for the last time. The mean for the indoor kindergarten students was 41.87 percent; the mean for the outdoor kindergarten students was 47.31 percent. This showed an average indoor student increase of 19.88 percent and an average outdoor student increase of 23.45 percent. This is a larger increase in assessment score for the outdoor kindergarten students.

The third set of data was the Phoneme Segmentation Fluency (PSF) assessment. "The PSF measure assesses a student's ability to segment three- and four-phoneme words into their individual phonemes fluently" Good & Kaminski, 2007, p. 17). At the end of the school year, Phoneme Segmentation Fluency is assessed. The mean for the indoor kindergarten students was 36.76 percent; the mean for the outdoor kindergarten students was 50.93 percent. There is a 14.17 percent difference in the means, with the outdoor kindergarten students having the higher mean.

The fourth set of data was the Nonsense Word Fluency Correct Letter Sound (CLS) assessment. "The student is presented an 8.5" x 11" sheet of paper with randomly ordered VC and CVC nonsense words (e.g., sig, rav, ov) and asked to produce verbally the individual letter

sound of each letter or verbally produce, or read, the whole nonsense word" (Good & Kaminski, 2007, p. 18). At the end of the school year, Nonsense Word Fluency CLS is assessed. The mean for the indoor kindergarten students was 32 percent; the mean for the outdoor kindergarten students was 32.56 percent. There is a 0.56 percent difference in the means, with the outdoor kindergarten students having the higher mean.

The fifth set of data was the Nonsense Word Fluency Whole Words Read (WWR) assessment. At the end of the school year, Nonsense Word Fluency WWR is assessed. The mean for the indoor kindergarten students was 3 percent; the mean for the outdoor kindergarten students was 7.06 percent. There is a 4.06 percent difference in the means, with the outdoor kindergarten students having the higher mean.

Conclusions and Recommendations

Conclusions

Overall, the results of the kindergarten DIBEL's assessments for indoor kindergarten students and outdoor kindergarten showed favor to the hypothesis of this study. The beginning of the year's First Sound Fluency data shows that the indoor kindergarten students started at a lower level than the outdoor kindergarten students, and, by the end of the school year, the indoor kindergarten students were able to achieve a 0.2 percent higher mean. On the other four assessments, the outdoor kindergarten students outperformed the indoor kindergarten students. The data showed a trend for a larger increase in literacy skill growth for students in an outdoor kindergarten classroom environment.

Recommendations

Given the need for promoting critical thinking skills that are lacking among students in today's society, administrators and teachers should consider implementing outdoor kindergarten

settings for their students. Environment can greatly influence the academic growth of students, and affording students the opportunity to make these connections is a new way of educating students. Therefore, most educators believe that, if students are given the opportunity to choose their educational environment, whether indoor or outdoor, an increase in student academic growth should be seen. With successful collaboration and professional development focused on outdoor learning, schools could implement a successful outdoor kindergarten program. If there is interest to further this research, it would be valuable for a researcher to track the growth of outdoor kindergarten programs to determine if learning gains are sustainable.

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Incorporating Technology in an Open-classroom Social Studies Lesson and its Impact on Likely Political Participation

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The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #17-084.

Introduction to the Problem

The founding fathers of the United States understood that education would play a key role in developing and maintaining the new republic. Early schools were envisioned as institutions that would aid in shaping citizens, not just scholars. As Thomas Jefferson wrote to James Madison in 1787:

> And say, finally, whether peace is best preserved by giving energy to the government or information to the people. This last is the most certain and the most legitimate engine of government. Educate and inform the whole mass of the people. Enable them to see that it is their interest to preserve peace and order, and they will preserve them. And it requires no very high degree of education to convince them of this. They are the only sure reliance for the preservation of our liberty (Washington, 1853. p. 332).

The founders saw educating youth about their government, and their roles in it, as a central feature of schools. Unfortunately, social studies and civics education are being sacrificed for a number of reasons, not the least of which are new Common Core Standards and pressure to increase mathematics and science scores on standardized tests (Singer, 2014).

Civics and government education, once intended to create a sense of civic responsibility in young people, has become ineffective in achieving that goal. Although it may not be feasible to increase the time spent on civics education, there are promising options for methods that may increase students' responses to it. As opposed to the traditional model of civics classroom instruction, which adheres strongly to textbook and lecture learning, options such as digital learning and open classroom and discussion exist (Bennett et al., 2009; Campbell, 2008; Kahne et al., 2013; Martens & Gainous, 2013).

As civic education has taken a lesser role in education, there has been a marked decline in civic interest and participation. Civic engagement has been on the decline among young people over the last several decades, particularly in terms of voter turnout (Bos et al., 2007; Galston, 2004; Hart, 2008). There has been a direct correlation made between poor civics education and lower voter participation among young people (Bos et al, 2007; Galston, 2004). Significantly, there is, also, evidence that increased time spent on civics education, particularly in an open discussion environment, directly results in increased voter turnout (Bachner, 2010; Kahne et al., 2013). Increasing students' knowledge about their government and politics, while encouraging them to engage in open discussion, results in increased confidence in the political system, less voter apathy, and reduced mistrust of government institutions (Campbell, 2008). Bennett et al. (2009) observe that, because of modern students' immersion in digital culture, it is necessary to re-envision how information is relayed to students, arguing that civics education would be enhanced with the addition of digital learning.

Statement of the Research Problem

The last 4 decades in the United States have witnessed a steady decline in participation by young people in the political process. The youth vote (18 to 29 years of age) has declined from, approximately, one-half to one-third in presidential elections since the 1970s (Galston, 2004). According to the Center for Information and Research on Civic Learning and Engagement (CIRCLE), the 2014 mid-term elections witnessed the lowest level of youth turnout on record, at just 19.9 percent. In the 2016 general election, roughly, 50 percent of registered voters between 18 and 29 years of age voted, according to CIRCLE (2016).

While once considered a cornerstone of American democracy, civics and government education has been ineffective at conveying both knowledge and a sense of civic duty to

students. Studies have found that, while high school students are generally required to take at least one civics course, their actual learning and retention of material is quite poor, with only one-fourth of students scoring at the level of proficient or better (Coley, 2012). Moreover, there is little consistency in how civics is taught, but there is growing consensus that traditional lecture-textbook methods, alone, are ineffective at communicating the real-world implications and importance of civic knowledge, responsibility, and engagement (Martens & Gainous, 2012). Compounding the problem, there has been a dearth of scholarship on political engagement, especially as it relates to civics education (Bachner, 2010; Campbell, 2008). Augmenting traditional civics and social studies education, with technology-rich, open-classroom methods focused on civic responsibility, may increase the likelihood of voter registration and participation among students approaching voting age.

Review of Literature

Data indicates that a stunning 21 percentage-point gap exists between voters under 24 years of age and those over age 24 (Bachner, 2010). More alarming, the trend is toward diminished civic activity among young people. Compared to the early 1970s, in which half of 18- to 29-year-olds voted in presidential elections, barely over one-quarter voted by 2000. (Galston, 2004).

There is an established correlation between voting and attained levels of education. In other words, the more education one has, the more likely he or she is to vote. Sondheimer and Green call the relationship between education and voter turnout one of the "most extensively documented correlations in American survey research" (2010, p. 174). Starting with a null hypothesis that voting is not influenced by education levels, they analyzed two randomized experiments and one quasi-experiment that go on to disprove their hypothesis. They determined that increased levels of education do, in fact, positively influence the likelihood of voting

(Sondheimer & Green, 2010). However, there is also a phenomenon called the "paradox of participation," which refers to the fact that, despite higher overall levels of education, voter turnout continues to fall (Campbell, 2004, p. 3).

There is not only an overall decline in voter participation, but a significant decline in the desire of young people to follow politics, much less become active participants in the democratic system. A UCLA study, ongoing since the mid-1960s, has been tracking indicators of political attitudes of matriculating freshmen. The study, which has involved over a quarter million students, finds, while 60 percent of freshmen thought that keeping up with politics was important in 1966, by 2004, that number had dropped to 34 percent (Galston, 2004). While it was common until the 1960s for students to take three courses in civics, government, and democracy, the curriculum now barely requires one (Galston, 2004). National Assessment of Educational Progress (NAEP) scores in 2010 indicated that only 22 percent of 8th graders and 24 percent of 12th graders were at or above proficient. Only 72 percent of 8th graders and 64 percent of 12th graders were at or above a basic level (National Center for Education Statistics, 2011).

The lack of civics content knowledge and application has resulted in lackluster citizenship among young people in the United States. That is not to say that they are necessarily less compassionate or involved in humanitarian volunteerism, as Galston points out, but they suffer from a lack of core values associated with being a part of the American democratic process (2004). These values include political participation, valuing self-government, tolerance, appreciation of commonality, participation in public life, appreciation of immigrants, and consistency (Galston, 2004).

Even when civic knowledge and content is present, Bos et al. suggest that civics education is still too often focused on individual rights, rather than civic obligations (2007). They found

that a focus on support for civic obligations increases students' intent to vote, while an endorsement of rights negatively impacts political participation (Bos et al, 2007). Students must understand that they do, indeed, possess the rights of U.S. citizens, but that with those rights, also, come responsibilities. Understanding the need for participation goes hand-in-hand with an understanding of how and why to participate.

With the understanding that there are two intertwined issues at play (poor voter turnout among young people and poor civics education), there has been recent research into viable options to improve both (Bachner, 2010; Hart, 2008; Martens & Gainous, 2013).

Researchers have hypothesized that lack of adult experiences, such as home ownership and marriage, contribute to this large gap. Bachner finds the idea that young people's lack of political knowledge, identity, and efficacy more compelling, however, and argues that civic education has the potential to close the gap in turnout based on age (2010). While there has been significant research on the efficacy of different strategies targeting low voter turnout, in general, research on civic education as a tool for increasing turnout is "exceedingly rare" (Bachner 2010, p.3; Campbell, 2008).

Bachner hypothesizes that increased civics coursework will increase turnout, and the increase will be greatest among students whose parents are not highly politicized. She bases her model on the National Education Longitudinal Studies (NELS) data from a set of surveys of the same sample students from 1988- to 2006 that measured their likelihood of voting as eighth graders and their actual voting. She cross-analyzed the NELS data with students' coursework and found that the "only course category that consistently exerts a positive, statistically significant effect on voting behavior is American Government/Civics" (Bachner, 2010, p. 19). Further, she found that, among students whose parents are not highly politicized, the turnout

percentages were even higher. Bachner suggests that this indicates that civic education can help compensate for lack of political socialization at home (2010).

In an effort to combat students' political illiteracy and apathy, teachers and activists have been experimenting with different curricula, most based on the idea that students learn better in a constructivist classroom. Hart created the Growing Voters curriculum project in 2004 to encourage greater political participation (Hart, 2008). The Growing Voters website provides several teaching tools to augment, not only, social studies classrooms, but mathematics and science classrooms, as well. Based on the research linking civics education to greater propensity to be active voters, the question then becomes what methods might be best employed in classroom instruction to better communicate principles of democracy and citizenship. Echoing Bachner's observation that there is relatively little research on civics education as a means of improving voter turnout (2010), Martens and Gainous indicate that, while "we know what teachers should be teaching and how often," there is little practical research about how teachers should actually teach their curriculum (2013, p. 958).

Martens and Gainous conducted a study of ninth-grade social studies classrooms to determine what methods, or combination of methods, most effectively enhanced students' democratic capacity. They define democratic capacity as "political knowledge, political efficacy and intent to vote" (2013, p. 956). They identify four teaching approaches taken by teachers: traditional teaching, active learning, video teaching, and maintenance of an open-classroom climate. They conclude that an open classroom, combined with traditional teaching, yields the best results. There is some consensus that augmenting classroom learning with open discussion directly impacts student participation and civic behavior (Martens & Gainous, 2013). A study, commissioned by CIRCLE, found that test scores and propensity to become civically engaged

outside the classroom increased with the addition of both open discussion and volunteer requirements (Keeter, Zukin, Andolina, & Jenkins, 2002).

Political activity may take several forms, what Kahne et al. describe as “big P” and “little p” politics. “Big P” politics encompasses the election process and political institutions, while “little p” politics includes community involvement and self-expression (2013). They studied school systems in California and Chicago to determine which teaching methods had a greater impact on students’ engagement with “Big P” and “little p” politics. They found that different civic learning opportunities promote different types of civic engagement. Since young people have a higher tendency to mistrust institutions and find the political process corrupt and/or irrelevant to their lives, Kahne et al. determined that open discussion about the formal political process and societal issues that impacted voting was the most effective method for increasing direct participation and voting among surveyed students. They found that methods focused on service learning opportunities also increased the likelihood of participatory citizenship, but more directly in “little p” politics (Kahne et al, 2013).

An open-classroom environment has the effect of inspiring students to become better informed, and, as a result, increases the propensity of their engagement in, not only, civic activities, in general, but, voting, in particular., Open classrooms, where the discussion of, and debate on, political issues is encouraged, introduced students to the “lifeblood of participatory democracy” (Campbell, 2008, p. 40). Campbell argues that discussion of basic civics content, without the addition of more culturally-relevant material, itself, will be a source for spirited discussion in an open-classroom environment. Exposure to political conflict will, Campbell observes, increase the appreciation students have for the conflict present in the democratic

system. Students will see themselves as more informed and educated voters as a result of their exposure to open-classroom discussions (Campbell, 2008).

Not only does research suggest that open-classroom environments increase the likelihood of students engaging politically, the lack of open discussion and more regimented classrooms actually decrease students' sense of political empowerment and confidence in their political acumen (Bennett et al., 2009). Bennett et al. observe that students immersed in digital culture learn differently than students did in the past. In particular, they prefer collective, collaborative problem-solving to more individualized approaches. Instead of being passive learners, they respond better to active participation in lessons (Bennett et al., 2009). Digital immersion has changed, not only, the way students learn, but it has changed the very way students envision themselves and citizenship. Bennett et al. highlight the advantages of online activities to augment traditional civics classrooms to improve civics learning (2009).

A predominate theme in the existing research on methods seems to be that more research needs to be undertaken because of the relative dearth of it over the last several decades. Many authors note the lack of empirical evidence into civic education as a problem (Bachner, 2010; Campbell, 2008). Moreover, there has been little empirical research on how different methods of civics education impact student political engagement (Martens & Gainous, 2013).

Statement of Purpose

The purpose of this research project is to determine the effect of an open-classroom environment with digital content on the likelihood of political participation among middle school social studies students.

Research Question

The research question for this project is: Does an open-classroom environment augmented with digital content learning have a higher or lower impact on students' intent to vote and/or students' perceptions of political knowledge when compared to a traditional closed-classroom environment?

Methodology

Research Participants

Participants were students in two middle school social studies classes. One class was instructed using traditional teaching methods; one class received instruction in an open classroom, with class discussions and digital content. Participants were sixth-grade students at a Tennessee charter school. They were U.S. citizens eligible to vote upon turning 18 years of age.

Instruments

One questionnaire was administered at the beginning of the lesson on Day 1 and at the end of the following week. This allowed for 1 week of the controlled lesson plus 1 week to pass before testing responses. The questionnaire was designed to test students' social engagement with politics, self-assessed knowledge of politics, likelihood of registering to vote, and likelihood of becoming an active voter. Questions about social engagement were included to learn how much, if at all, students are interested in politics. Questions about political knowledge were included because, based on prior research, likelihood to vote is increased when potential voters feel more confident about their knowledge. The study was intended to measure whether students in the class with augmented teaching methods had a measurable increase in their perceptions of their political knowledge. Questions were created based on questionnaire wording in Kahne et al. (2013) and Campbell (2008), and were intended to measure whether open-classroom

discussion and digital learning would impact the students' perceptions of their political acumen. The questions were, also, intended to measure whether, if students perceived themselves as more knowledgeable, it increased their likelihood of voting.

Research Design

The project was a field experiment in which the independent variable was the teaching method and the dependent variables were student perception of political knowledge and intent to vote. The manipulation of the independent variable followed the presence vs. absence method. It employed the pretest-posttest, control group design, except that the students could not be randomly assigned to either the control group or the experimental group. Though students could not be randomly assigned to groups, a coin flip determined which class was the experimental group and which class was the control group.

Procedures

This project was administered while the classes were fulfilling requirement 6.63 of the Tennessee state curriculum for sixth-grade social studies. The sample consisted of students in two social studies classes. The control group classroom contained 13 students; the experimental group classroom contained 11 students. The classes were conducted during the same week. The project was conducted over a 1-week period, with students in each class answering the questionnaire at the beginning of Day 1 and at the end of the following week.

In the control group classroom, instruction was in a traditional classroom environment with lectures and a textbook.

In the experimental group classroom, students had access to their textbooks. On Day 1, there was a brief, 15-minute lecture followed by groups of four students accessing the following websites on class computers: www.vote-smart.org, commoncause.org, and elect.hamiltontn.gov.

Project Vote Smart is a non-profit, non-partisan research organization that collects and distributes information on local, state, and federal candidates. Common Cause upholds core values of American democracy. The public website for the Hamilton County, TN Election Commission is elect.hamiltontn.gov. This project can be replicated in other school districts by substituting the relevant city/county election website.

Each student had a worksheet to complete. Students researched how to register, where their polling locations were, who their local and state elected officials were, and how to determine issue positions and finances of elected officials. They compared issues and scorecards of two federal elected officials with their campaign finances. During the last 5 minutes of class, students were asked to think about what they were either impressed or disappointed by, while researching candidates. They made notes on their worksheets, which they turned in at the end of class. On Day 2, during the first 30 minutes, the same groups used class computers to compose one email message to one of the officials they researched on Day 1. The message had to address at least two issues the students thought their elected official should address. It also included one direct question. Students saved their messages as drafts, which were sent later, after teacher review. Discussion followed, beginning with the first two groups sharing their messages with the class. Students were encouraged to interact with each other and discuss how issues they researched impacted their lives. On Days 3 and 4, class proceeded with standard lesson plans, but included at least 20 minutes of open discussion, with the remaining groups presenting their messages, to spark discussion. On Day 5, the class opened with 20 minutes of open discussion about why (or why not) it is important for citizens to be involved in the political process. At the end of Day 5, students were thanked for their participation.

Data Analysis and Results

Data Analysis

Data was analyzed using *t* tests for independent samples. The responses for each item were based on a 5-point Likert scale. First, the pretests and posttests for the control group were compared to determine whether there was a statistically significant increase or decrease in mean responses. Second, the pretest and posttests for the experimental group were compared to determine whether there was a statistically significant increase or decrease in mean responses. Third, the mean results from the control group were compared to the mean results from the experimental group to determine whether the independent variable resulted in a statistically significant difference in responses between the two groups.

Results

After administration of the questionnaires, the only significant increases for the control group occurred in their likelihood of registering to vote upon turning 18 ($p<.05$) and becoming an active vote ($p<.05$). Their participation in in-school and outside-of-school political conversations were not statistically significant, nor were their interest in following politics, knowledge of political issues, or familiarity with elected representatives. The experimental group had statistically significant increases in importance of following politics, engagement in both outside-of-school and in-school political discussion, knowledge of political issues, familiarity with elected officials, and likelihood of becoming an active voter ($p<.05$, for six items). The only item that did not yield a significant difference was likelihood of registering to vote at 18 years of age.

Conclusions and Recommendations

Conclusions

The students who participated in this study began with limited background knowledge of political participation. With the recent 2016 election year, however, both the control and experimental groups had been exposed to electoral politics as a result of media, class discussion, and external influences. During the electoral season, there were a number of students in both groups who expressed interest in learning how the voting process works, how they might participate as adults, and how to discover information about candidates and sitting elected officials. The results demonstrate how best to satisfy student interest in the voting process and what teaching methods best increase student understanding and likelihood of participating in that process.

The researcher concludes that, while both groups had exposure to textbook and generalized information about voter participation, the experimental group expressed greater interest in, and knowledge of, the electoral process throughout the course of the experiment. Of particular note is the response to item 6, regarding registering to vote, with the control group having a statistically significant increase in score, and the experimental group showing no statistical change. On item 7, regarding the likelihood of becoming an active voter, both groups showed a significant increase in score. In the control group, items 6 and 7 were the only items with statistically significant results. In the experimental group, all items, except item 6, showed statistically significant results.

Of additional and, perhaps, more important note are experimental group responses to items regarding engagement with political discussions, familiarity with knowledge of political issues, and familiarity with elected officials. The experimental group had a significant increase in their

responses to these items. The students in the experimental group were able to research who their elected officials are, how those officials are ranked by various interest groups, and conduct a comparison between major financial donors and those rankings. The researcher concludes that, because of connections that the student participants were able to make between finances, political issues, and associated discussions thereof, the experimental group became more well-versed in how to evaluate their eventual political participation. Participants in the experimental group were able to increase their engagement with politics in school, their familiarity with elected officials, and their knowledge of political issues.

While political participation is at an all-time low among young voters, the researcher found that potential voters among her sample were interested in both the voting process, in general, and ways in which they might become more educated voters, in particular. The study participants who were simply exposed to textbook material and limited discussion (control group) illustrated an increased likelihood of voter registration and participation. Moreover, with access to digital content and class discussion, the experimental group showed an even greater desire to involve themselves in the voting process. Ultimately, the researcher concludes that any access to information about voting and politics increases a student's eventual likelihood of participation; the likelihood of informed participation is even further increased with dynamic, digital material and an open-classroom environment in which to discuss both politics and politicians.

Recommendations

Based on the results of this limited study, the researcher recommends, first, that social studies classes include civics instruction that includes specific information on the importance of voting, and, second, that social studies classes on civics education be conducted in an open-classroom environment augmented with digital content. This study might be expanded or

replicated in different settings, especially in high school classes in which students are closer to voting age. Educators who desire to be best equipped to address expanding students' understanding of the voting process would be well-served with professional development sessions regarding the varied digital resources available, among those being Project Vote Smart, Common Cause, and their local election board websites, as well as myriad more digital resources designed to improve access to information for both students and young voters. While participation in this study was limited to a small number of middle school students, the enthusiasm the students demonstrated, and their clear increases in knowledge and desire to participate in the voting process, indicate that students in other social studies classrooms would benefit from similar, content-driven experiences.

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Appendix A

In-class Activity

Directions for in-class computer activity

1. You may choose one designee in the group to type in all information into computer or take turns, but each student should fill out his or her own worksheet to be turned in at the end of class.
2. Go to elect.hamiltontn.gov and commoncause.org. Using these websites, answer questions 1-3 on your worksheets.
3. Go to vote-smart.org. Type in your zip codes and find your (2) U.S. Senators and (1) U.S. House of Representatives member. Using this information, explore the website information (especially the “Positions,” “Ratings,” and “Funding” folders) for each of your 3 members of Congress. Answer questions 4-6 on your worksheets.
4. Think about what issues you agree with or disagree with for your representatives. What issues affect your life the most? Jot down your thoughts in the “notes” section of your worksheet.

Appendix B

In-class Worksheet

Worksheet for in-class computer activity

1. How do I register to vote?
2. Where is my polling location?
3. Who are my local and state elected officials?
    - State Senator:
    - State House Representative:
    - County Commissioner:
    - City Councilperson:
    - School Board Member:
4. Who are my federal elected officials:
    - Senator:
    - Senator:
    - U.S. House of Representatives member:
5. What groups are the major backers of each member? What groups give each member the highest ratings? Do you think one influences the other?
6. Review the issues and votes sections for at least two of the candidates. You do not have to look at each and every issue or vote, but find two or three that strike you as important. Do you agree with the member on most things? Nothing? Some things but not others?

Use the following section to take notes:

Appendix C

Questionnaire

1. How important is following politics to you?
    - Very important
    - Somewhat important
    - Not very important
    - Not important at all
2. How often do you engage in political discussion outside of school?
    - Multiple times a day
    - At least daily
    - 1-6 times per week
    - Never
3. How often do you engage in political discussion while in school?
    - Multiple times a day
    - At least daily
    - 1-6 times per week
    - Never
4. How would you characterize your knowledge of political issues?
    - Very knowledgeable
    - Somewhat knowledgeable
    - Not very knowledgeable
    - Not knowledgeable at all

5. How would you characterize your familiarity of your elected representatives?
    - Very knowledgeable
    - Somewhat knowledgeable
    - Not very knowledgeable
    - Not knowledgeable at all
    - Don’t know
6. What is the likelihood of you registering to vote when you turn 18?
    - Definitely will
    - Probably will
    - Probably will not
    - Definitely will not
    - Don’t know
7. What is the likelihood of you becoming an active voter?
    - Definitely will
    - Probably will sometimes
    - Probably will not often
    - Definitely will not
    - Don’t know

A Casual-Comparative/Ex Post Facto Study of STEM Education on College Readiness

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Education 5900, Spring 2017

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #17-082.

Introduction to the Problem

This proposed study will examine the effects of STEM education on high school students' college readiness. This study will focus on the effectiveness STEM education has on producing students who pursue degrees and advanced degrees in STEM fields. The importance of this study is derived from working at a STEM center while completing my 2-year graduate assistantship.

Review of Literature

In recent years past, there has been a major push in STEM (Science Technology Engineering and Mathematics) education, STEM-seeking employers, and STEM-seeking career paths in the United States. More and more, schools are trying to attain STEM teachers, and, at the same time, produce STEM students seeking careers in STEM-related fields. The United States Department of Educational has been pushing states, schools, and teachers to generate more college- and career-ready students capable of taking on the demand for STEM career paths in the workforce, and generating students with STEM majors. Increasing the quality of STEM education, the number of STEM-focused schools, and access for students has become a national priority (Ferrini-Mundy, 2013). According to a study by Castellano et al. (2003), there is an increasing concern that there are not enough U.S. graduates to supply STEM jobs. Looking at the education system from a holistic, K-16 perspective, policy makers need to better understood the barriers and boost student entrance into STEM fields (Wang, 2013).

Several studies have been conducted that analyze the various factors that contribute to accessing a STEM education, success of STEM education, and the reasons why students choose STEM-related fields. A study was conducted by Rogers-Chapman (2012) on the different advantages dissimilar populations of students have when accessing a STEM education. This

study looked at different neighborhoods, schools, and school districts in search of which students had the most opportunities to attend STEM schools. It was found that minority groups are underrepresented in admission to STEM schools. One way this can be increased is by providing underserved populations with adequate preparation in STEM fields (Means et al., 2008). Access to STEM schools is determined, primarily, by socioeconomic status, race, and geographic location (Rogers-Chapman, 2012). Students have more access to STEM schools when they are male, younger, financially dependent on family, Asian/Pacific, foreign, or English speaking (Chen & Weko, 2009). Another study looked at the factors that influence Black males' preparation for college and success in STEM fields. This study showed that Black males, when confident in their abilities to perform well in their academic tasks, are more likely to look for majors in STEM fields, or try and attain jobs in STEM fields (Strayhorn, 2015).

Another study focused research on the different STEM-focused schools, the availability of accessing these schools, and the opportunities these STEM schools offer. The study, also, looked at the educational reform structure the U.S. is taking in producing more effective STEM programs. Their research showed that the schools in the study were trying to provide better STEM education for low-income students, not only by providing more opportunities for the student, but, also, by attaining highly-qualified teachers to teach those STEM courses (Eisenhart et al., 2015). The study showed that the efforts put in place to establish a set rubric to turn struggling schools into productive institutions are, too often, based on schools with higher income student bodies, and, thus, one cannot model a struggling STEM school after successful STEM schools.

Determining what classifies students as "college ready" has proved to be a daunting task. According to a study conducted on college preparation and readiness, the researchers state,

"college readiness is determined by students' ability to bypass remedial or developmental education and place directly into college-level courses based on normative ways of determining students' academic readiness" (Bragg & Taylor, 2014, p. 995). This means that students graduating from high school are on the same level with first-year college course work and do not need to be taught high school content. Reports from the National Postsecondary Aid Study showed that 20% of first-year undergraduate students participated in remedial coursework during the 2007-2008 academic year (Sparks & Malkus, 2013).

Among many college students, grade point average and ACT scores are indicators of how well they will perform during their first couple of years in postsecondary educational courses. This study will analyze those two factors, along with the first semester grades from freshman and sophomore education college students, and look at the different effects of STEM education. This study will also attempt to identify the factors that contribute to students seeking STEM majors or STEM-related careers.

Methodology

Subjects

The sample chosen for this research project included freshman and sophomore education students taking an introductory-level education course at The University of Tennessee at Chattanooga during spring semester of 2017. These students have chosen to study education, and, ideally, will become educators in the near future on completion of a 4-year degree program. The students are believed to be of appropriate age and maturity level to determine their own college readiness.

Procedure

The survey was administered during the first 5-8 minutes of the subjects' regularly-scheduled class time. Students were not notified ahead of time. They were asked to participate in the research project, gave consent, and completed the survey. Only first- and second-year students could participate. Once all students had completed the survey, the papers were gathered them from the front table or from the professor.

Survey

The research design used for this study was a survey research design. This type of design met all the needs for my study to be carried out, and allowed the subjects to self-report. The survey is presented in Appendix A.

The students were given a six-question survey in their usual classroom setting. The survey was developed using, primarily, a dichotomous questioning technique. One item requested an ACT or SAT score. The students were asked if they had received STEM education, and if they felt the STEM education they received adequately prepared them for college coursework. The students were then asked if they attended the public school system in the United States, what the grades of their first semester of college were, and if they planned on furthering their education after they received their 4-year degrees.

Results

For this study, a Pearson correlation was used to determine the relationship between STEM and non-STEM students' ACT scores and the four specific grades (Math, Statistics, Science, and Engineering). A correlation was completed to determine if the STEM and non-STEM students' ACT scores were correlated to the GPA of the newly admitted college students. Of the 100 students surveyed, their mean GPA was 3.17, with STEM students' GPA being 3.32 and non-

STEM students' GPA being 3.03. Of those STEM students, 51% reported having a GPA higher than 3.5. Of the non-STEM students, only 40.8% reported having a GPA higher than 3.5. This data shows that, with STEM education, students tend to have a slightly higher GPA. The primary question this study is focusing on is whether STEM education makes students more college ready. Although STEM students' post-secondary GPA was higher, that question could not be answered with only that data. A Pearson correlation for the STEM students' subject specific grades showed there was a weak positive correlation (*r*=.281) between the students' ACT score and math grade. For the non-STEM students', there was, also, a weak positive correlation (*r*=.323) between ACT score and math grade. The STEM students showed strong positive correlations between ACT score and statistics grade (*r*=.718), science grade (*r*=.691), and engineering grade (*r*=.871). The non-STEM students showed a weak correlation between ACT score and science grade (*r*=.207) and engineering grade (*r*=-.354). The STEM students showed that there was moderate correlation between ACT score and overall GPA (*r*=.500). The non-STEM students showed almost no correlation (*r*=.085) and a weak correlation between ACT score and overall GPA (*r*=.241). This data is presented in Figure 1.

STEM Group	Correlation (*r*)	
ACT-Math	0.281	Weak
ACT-Statistics	0.718	Strong
ACT-Science	0.691	Strong
ACT-Engineering	0.871	Strong
ACT-GPA	0.500	Moderate
Non-STEM Group		
ACT-Math	0.323	Weak
ACT-Statistics	0.085	Almost no correlation
ACT-Science	0.207	Weak
ACT-Engineering	-0.354	Weak
ACT-GPA	0.241	Weak

Figure 1. Correlations for the STEM and non-STEM groups are presented for student ACT score and college grades.

Conclusions and Recommendations

Conclusions

To answer the initial research question , as the whether STEM education assists students to be more college ready, the data shows that the correlations between STEM students' and non-STEM students' GPA and ACT scores is somewhere between weak and moderate. For STEM students, the correlation was moderate; for non-STEM the correlation was weak. The correlation between STEM students' ACT score and STEM related subjects were higher than for the non-STEM students. Based on the data gathered, it appears that STEM education better prepares students for college, and makes them more college-ready.

Recommendations

Following the completion of this study, there appear to be numerous implications for future studies. The first change could be the sample. In this study, data was gathered from 100 freshman and sophomore students enrolled in several sections of an introductory education course. That was very narrow. The sample could be widened to include students further into degree programs and students from different courses. By widening the sample size, data would be more diversified. The effect on the correlation would be determined. A second change could be analysis of data based on gender. That information was not requested in this study. In future studies, correlations, by gender, could be studied.

The third change could be the collection of ages of the participants. Although students were classified as freshman and sophomores, that did not provide specific ages. Some students are starting post-secondary school directly from high school; some students are returning to college after taking some time to work. Data could be analyzed by age, or traditional versus nontraditional student status. The fourth change for future studies would be the procedure for

data collection. The professor could administer the survey and ask the students to turn in the survey at the conclusion of the class period. Students may be more comfortable with their professor, and not feel compelled to do extra work for someone not associated with the class.

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Appendix A
Survey

A Casual-Comparative/Ex Post Facto Study of STEM Education on College Readiness

Please select one response for each question, as applicable.

1. Did you receive STEM (Science, Technology, Engineering, and Mathematics) education or participate in a STEM program during high school?

   Yes ___ No ___

2. If yes, do you feel that the STEM education you received prepared you adequately for college/university?

   Yes ___ No ___

3. Did you attend public school in the United States?

   Yes ___ No ___

4. What was your ACT or SAT score when entering into your first year of college/university?

   ACT score _____ SAT score _____

5. What were your first semester of college/university final grades?

   Math: A B C D F

   Statistics: A B C D F

   Science: A B C D F

   Engineering: A B C D F

6. Do you plan to further your education after a four-year degree?

   Yes ___ No ___

The Relationship between Guided Reading and the Reading Abilities of Elementary Students

Rachel van de Bovenkamp

Education 5900, Spring 2017

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #17-081.

Introduction to the Problem

The effect of reading instruction on elementary achievement scores has been examined through uncountable studies throughout the years of education reform. Teachers, administrators, professors, and parents continuously look for the best strategies and programs to teach reading as schools across the nation race to raise their reading scores. The Hamilton County Department of Education, in Tennessee, has turned to the "Jan Richardson Approach" (Richardson, 2009) to boost reading levels and set a base for literacy instruction. This study compares the reading achievement levels of students receiving Tier 1 and Tier 2 instructions through guided reading. This study was chosen to investigate whether the amount of guided reading instruction affects achievement levels, since it is being used as a county-wide approach to reading intervention.

Review of Literature

Results from different studies show the benefits of specific reading programs and lack of growth from others. Results from Reutzel et al. (2012), studying achievement scores after students participated in *Reading Acceleration Programs* and *Reading Plus*, show a significant rise in reading achievement from the programs. Another study examining the results of early reading intervention (ERI) and Tier 2 interventions show countering results. Students who received ERI and Tier 2 interventions did not show any more growth in reading achievement scores than the students who did not receive interventions, but did succeed in sound matching, nonsense word fluency, oral reading fluency, and written spelling (Little et al., 2012). Other studies show a different program of reading support, Individualized Student Instruction (ISI), and the clear gains students made because of it (Conner et al., 2011).

A comparable study agreed with ISI and confirmed that students receiving differentiated instruction were less likely to repeat a grade in elementary school (Dombek & Connor 2012).

All of the studies explored specific reading programs and most show gains in reading achievement as compared to their respective control group.

A study by Hatcher et al. (2004) explored the use of explicit phoneme training with phonics instruction for at-risk students. Although students who received the additional training did make more progress in learning to read, the improvements did not translate into improvements in literacy skills. PALS, an early literacy program focused on phonological and reading fluency skills benefited predominantly Hispanic elementary students in a study of grades K-3. The study's results, also, concluded that focusing on explicit instruction, phonemic awareness, and phonics to teach word recognition is beneficial for all students (Calhoun et al., 2006). Morris et al. (2003) showed contrasting results from their study. The high-readiness and low-readiness groups in their study followed a consistent pattern where the low-readiness group lagged behind, even with literacy interventions.

Researchers have long studied the influence of reading interventions on reading achievement but encounter problems that question the validity of the results. One of the major problems in many studies is the sample size being examined. Smaller sample sizes result in limited data points to form concrete evidence. Every study has independent factors affecting the results such as the location of the study, socioeconomic status of students and families, bi-lingual status, race, gender, reading program, and teacher.

The research in this study will address the effect of guided reading on reading achievement of elementary students. The study will examine a specific guided reading program and other types of differentiated instruction on low-readiness students. The study will group students with similar needs to develop the most reliable results.

Data Collection and Results

Data Collection

All students in the study received Jan Richardson's Guided Reading approach. This approach identifies and outlines the essential components of an effective reading lesson. It offers assessments, data analysis, and specific strategies students need to succeed. The program also supports guided writing through all grades. For use with K-8, this guided reading program provides detailed lessons for readers at all levels.

Students in the control group (Tier 1) received Guided Reading three times per week. Students in the experimental group (Tier 2) receive Guided Reading six per week (double the time of the control group).

Methodology

The data was collected individually with each student at the beginning of the study in January and, again, at the end of the study in April. Data was collected one-on-one because it is the standard procedure to assess reading levels in Hamilton County.

Subjects

The students in the study attend a Title 1 school in Hamilton County, Tennessee. Sixty-five percent of the students are eligible for free lunch, while 9 percent are eligible for reduced-cost lunch. The elementary school serves 485 students in Grades Pre-K-5. Of the 485 students, 3 percent are Asian, 18 percent are Hispanic, 25 percent are Black, and 54 percent are White. The school serves about 70 English Language Learners and has a growing Hispanic population.

Results

The Tier 1 group learned an average of 16 new words during the instruction period and moved 1.83 levels forward. This was a significant gain in knowledge ($p<.01$). The Tier 2 group

learned average of 16 new words during the instructional period and moved 2.45 reading levels forward. This was a significant gain in knowledge ($p<.01$). The groups learned the same amount of words over 3 months. Tier 2 student moved 0.62 more levels than Tier 1 students. There was no significant difference in the gain of the two groups.

There were a number of problems the study encountered that affected the validity of the results. The most prominent problem was the extremely small sample size studied. This sample size limited the number of data points and may not have provided enough evidence to draw generalizable conclusions for the population.

Conclusions and Recommendations

Conclusions

There are several generalizations that can be deduced, based on the results of the sample. The first generalization is that the "guided reading" approach is a method that produces reading achievement in most students. Its effectiveness is shown in the evidence of growth in the study. All students, in Tier 1 and Tier 2, made progress in reading through word study and reading levels. This approach was the majority of reading instruction students received during the 3-month study.

Another generalization is that students who participate in additional guided reading practice will make slightly more progress than students who receive an average amount of guided reading practice. The same does not occur in word knowledge. Both the experimental and control groups made the same progress in word knowledge.

Based on the study, guided reading should continue to be taught in schools. It has been proven to benefit young children who are learning to read. Also, students on all levels of reading

proficiency could benefit from receiving additional guided reading practice. This is based on the results from the Tier 2 (experimental) group.

Recommendations

As schools continue to work toward developing reading proficiency in students, it is recommended that teachers continue to be trained in the guided reading approach, and use it daily in classrooms. The school district provides various county-wide professional development programs for guided reading, and teachers will benefit from learning from these sessions. Although guided reading occurs in small groups of students with the teacher, it can be supported through computer programs that work with the student on their independent level to support reading growth.

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