The Effects of Guided and Traditional note taking on Student Achievement in an Eighth Grade Social Studies Class

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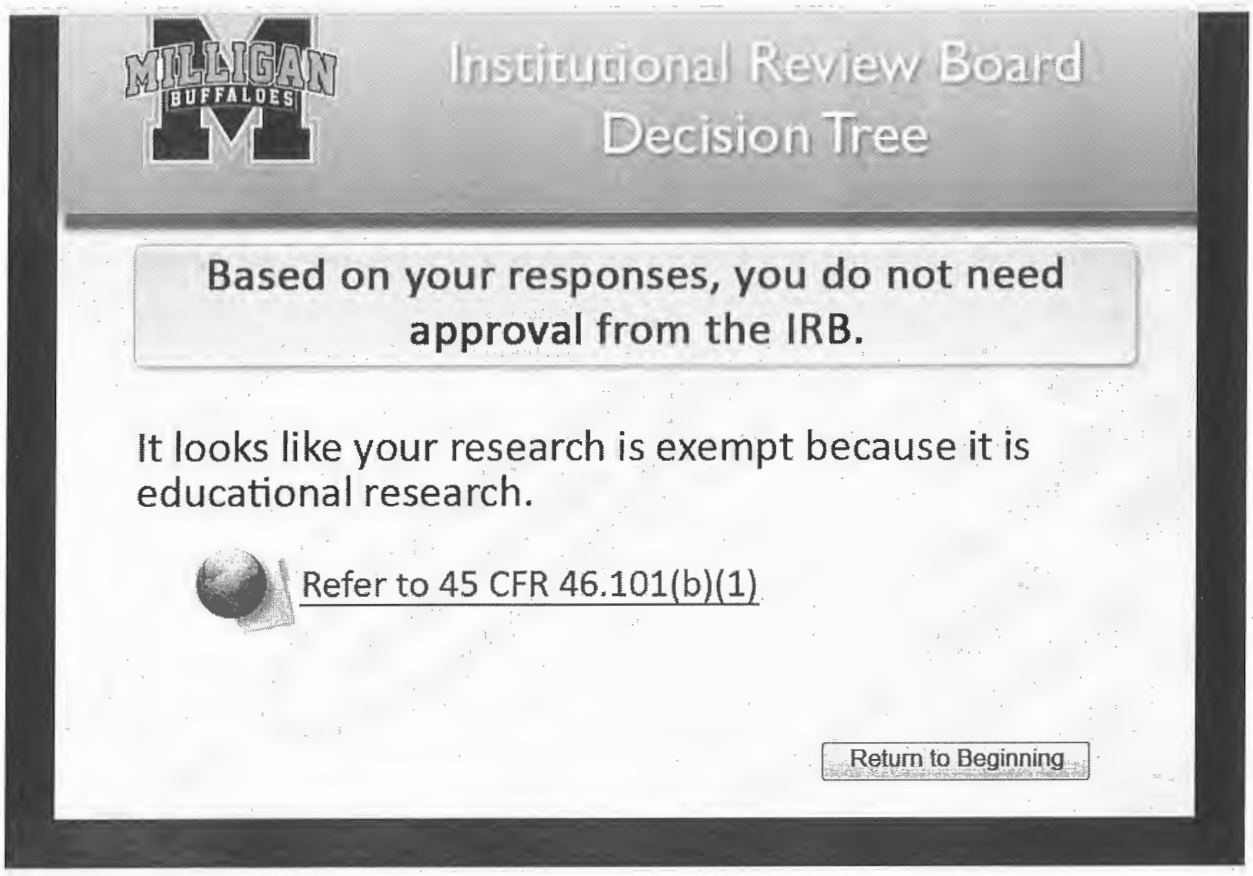
Abstract

The purpose of this study was to examine the effects of traditional notes and guided notes on student achievement in an eighth-grade social studies classroom. The sample consisted of 87 eighth grade students in an Eastern Tennessee middle school. The sample was used for both the control and experiment group. The students were taught a unit that was divided into two halves. The first half unit was taught using traditional note taking methods and at the end of this half unit students were administered a test on the materials covered. The second half unit, the students were taught using guided notes. At the end of the second half unit the students were assessed on the material covered. Each half unit was equal in difficulty and comprehension. Data were analyzed using a paired t-test and independent t-test. The results indicated a significant difference between guided notes and traditional notes ($t(86)=-17.84$. $P=.001$). There was no significant difference found between gender and academic achievement ($t(86)=-0.761$, $P=0.45$). The results suggest that guided note taking is an essential strategy in improving student's academic achievement.

Keywords: Guided notes, Traditional notes, Achievement, Middle school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APPROVAL FORM FOR RESEARCH PROPOSALS

REQUESTOR'S NAME Susan White

TITLE OF RESEARCH PROPOSAL The Effects of Standardized Testing on Student Achievement in an Eighth Grade Social Studies Class

STEP 1: RESEARCH REVIEW OF CURRICULUM DIVISION

___ We temporarily withhold approval of your proposal until you address the questions we have raised about it in the attached letter. (Include this form with re-submission of your proposal.)

___ We conditionally approve your proposal and you may proceed with making contact with principal(s) of the appropriate school(s), but it is necessary for you to address the questions we have raised about your proposal in the attached letter.

X We approve your proposal. Proceed with obtaining approval of the principal(s) of the appropriate school(s).

Signature, Curriculum Division Reviewer — Date: 12-5-16

STEP 2: PRINCIPALS EVALUATION

___ I temporarily withhold approval of your proposed research being conducted in my school for reasons stated in the attached correspondence. (Include this form with the re-submission of your proposal.)

PRINCIPAL #1: _____ DATE: _____

PRINCIPAL #2 _____ DATE: _____

PRINCIPAL #3 _____ DATE: _____

___ I approve your proposal. Please forward this form to the General Office for approval of the Superintendent.

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STEP 3: SUPERINTENDENT'S EVALUATION

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Signature of Superintendent — Date: 12-9-16

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(Reference: Johnson City Board of Education Policy 4.600)

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Chapter 1

Introduction

As students progress in their educational careers, they are expected to take more ownership in their learning. Note taking emerges as the primary mode of recording information once students move to the secondary level. In many classrooms, the primary method of presenting information is by lecture to the whole class (Hamilton, Siebert, Gardener, Talbert-Johnson, 2000). During lecture, students are asked to take notes as they listen to the instructor, examine visually presented material, and synthesis the material. This method can be very confusing for students no matter where they are in their level of education. Hamilton, Siebert, Gardener, and Talbert-Johnson (2000) state that note taking is not a skill that is developed by educators, students vary in what they consider important information, and information is missed while students are recording what the instructor previously said. This can lead to frustration, and students will disengage from the learning process and cease taking notes (Hamilton et al., 2000). In order for this popular teaching method to be truly effective, educators must cultivate note taking techniques to ensure students have the skills necessary to succeed. This cultivation takes place as students become engaged in the lesson and material. Engagement encompasses more than just note taking skills; it helps the learner grow in other areas as well.

Larwin and Larwin (2013) claim "students who are actively engaged in the learning process experience greater learning, more personal growth, and increased satisfaction" (p.47). The higher the levels of engagement, the more likely the knowledge will be retained. Because a higher level of engagement is capable of long lasting effects, teachers search for methods to keep students engaged throughout a lesson. If a teacher is unable to maintain engagement, concerns

arise quickly for both student and teacher. The atmosphere of education has become more focused on achievement scores to measure educators' effectiveness. According to the Tennessee Department of Education (2016), thirty-five percent of a Tennessee educator's effectiveness score is derived from how much their class "grows" academically (www.tn.gov).As Lawrin and Larwin (2013) state, engagement is key in increasing such "growth" (p.47). If students are disengaged, it becomes necessary for educators to intervene. Disengagement, according to Hamilton, Siebert, Gardener, and Talbert-Johnson (2000), can take the forms of "doodling, daydreaming, and personal notes" (p.134).

To counteract disengagement, educators implement many different strategies and interventions to increase levels of engagement. One method that is often used is guided note taking. According to Lawrin and Larwin (2000) guided notes are "teacher-prepared handouts that 'guide' a student through a lecture with standard cues and prepared space in which to write key facts, concepts, and/or relationships" (p.47). Lawrin and Lawrin (2013) state that "Post-secondary students are notoriously poor note takers" and only "record only about 50% of the main ideas being presented during lectures" (p.47). Full lecture notes discourage students from engaging in the class (Lawrin & Lawrin, 2013). However, guided notes promote higher levels of engagement and a forty-percent increase in correct information recorded (Larwin & Lawrin, 2013). According to Larwin and Larwin (2013), "guided notes can facilitate increased student focus and engagement in lectures" (p. 47). Hamilton, Siebert, Gardener and Talbert-Johnson (2000) state "Students who take accurate notes during class lecture are more likely to perform better on subsequent tests covering the information" (p.133). This fact emphasizes the importance of students being engaged and recording the correct information as lecture takes

place. Another reason many districts employ guided notes is the cost effectiveness and low tech implementation (Lawrin & Lawrin, 20013).

Statement of the Problem

While there have been multiple studies on the guided note method and its effect on achievement, the focus has been primarily on the effect on students with learning disabilities. There is limited research at the middle school level on the effects that guided notes have on students at any level of performance. It is during middle school that note taking becomes the primary method of recording information. More research needs to be conducted at the middle school level to assess the effectiveness of guided notes. Considering this, the problem of this study is to determine the effect of guided and traditional note taking on achievement in an eighth grade social studies class.

Purpose of the Study

The purpose of this study was to examine the effects of guided and traditional note taking on the achievement of eighth grade students in a social studies classroom.

Significance of the Study

The study added to the discussion of how student engagement can be increased through guided notes. This study looked specifically at the effect of guided notes at the middle school level. This research has opened the door to further study of the effects of guided notes in social studies classes at different grade levels, along with multiple disciplines. As more research

is compiled, both researchers and educators can assess what are considered best practices in the classroom.

Limitations

The following limitations were encountered during the study:

1. The sample for this study was not randomly selected and therefore cannot be generalized to the whole population.
2. The instruments uses to collect data were not tested for reliability and validity.

Definitions of terms

The following were important operational definitions used in this study.

1. Guided notes: According to Lawrin and Larwin (2000) guided notes are "teacher-prepared handouts that 'guide' a student through a lecture with standard cues and prepared space in which to write key facts, concepts, and/or relationships" (p.47).
2. Level of achievement: The level of achievement is based on individual scores on student assessments. These assessments include daily quizzes, excerpt quizzes, and summative assessments. A score of eighty-five percent is considered mastery of the material.
3. Traditional note taking: This method is where students record information on their own as the teacher lectures on the content. Students must determine what information is important and should be recorded.

Overview

This study includes five chapters. Chapter one gives an introduction to the study, a statement of the problem, purpose of the study, significance of the study, limitations of the study, operational definitions, and the overview of the chapter. Chapter two consists of the literature review. Chapter three states the population, sample, data collection instruments, procedures and the research questions and related hypotheses. Chapter four is the data analysis, which is comprised of the collection of data and the research questions and hypotheses. Chapter five concludes this study with a summary of findings, conclusions, recommendations and implications.

Chapter 2

Review of Literature

As students progress in their educational careers, they are required to record information in a much more rigorous way. Students in the early grades practice and obtain skills through drill, but once they arrive in middle school, they are more likely to be required to take notes on the information presented. They must then use these notes to supplement what they heard during the lecture. Boyle (2010) states that "because memory is limited in terms of how much information it can store, notes serve as an extension of memory" (p. 52). The notes guide what the student is able to retain outside of their own memory and can impact how well they perform on assessments. According to Boyle (2010), lecture is used in the majority of the time in content area subjects. Over 79 percent of surveyed teachers were using lecture as the primary method for information transfer (Boyle, 2010). This demonstrates how important note taking is to the success of the student. Not only will the student rely on this skill beginning in middle school, it will become essential as they progress into post-secondary education (Boyle, 2010; Quintus, Borr, Duffield, Napoleon, & Welch, 2012). This fact was first presented in Lazarus's study that found over forty-seven percent of secondary classes were spent listening to lecture (Lazarus, 1992). According to more recent research from Achen and Lumpkin (2015), the amount of time listening to lecture has increased to 75 percent. This is a twenty-six percent increase in amount of time students will be taking notes in class and demonstrates how vital note-taking skills are to students.

One could assume that because students are exposed to such a large amount of lecture, they will have automatically gained the skills necessary to accurately and efficiently record notes for later use. Studies show, however, that this is not the case. According to multiple researchers, students are deficient in their ability to correctly record and utilize notes from lecture (Austin, 2004; Boyle, 2010; Quintus, Borr, Duffield, Napoleon, & Welch, 2012; Haydon, Mancil, Kroeger, McLeskley, & Lin, 2011). This is alarming when you consider how much time is spent in lecture. If students are deficient in recording information from lectures, how much are they missing?

Austin (2004) found that students "often fail to record even half of the critical points from a lecture" (p.314). This failure to record the necessary information will lead to gaps in the student's learning. These gaps can put the student at risk for falling behind their peers. Quintus, Borr, Duffield, Napoleon, & Welch explain that, due to the sort term retention of memory, it is crucial that students record the information on a physical copy (Quintus et al., 2012). These external copies become important as you consider the demands on the student to connect this information. According to Quintus, Borr, Duffield, Napoleon, & Welch (2012), students must match "the new information to previous knowledge" and synthesize "new material with old" (p.31). Boyle suggests that the inability to take and use notes has negative effects on test scores and grades of students (Boyle, 2010). Having quality notes that capture the important concepts can be instrumental in helping students achieve matching and synthesizing. If their notes are missing half of the important concepts, as Austin suggested, how can the student correctly process the information? If this skill of note taking is so vital, why do students struggle so much?

Failure to record notes

There are multiple factors in why students are poor note takers. Note taking requires student to incorporate various skills simultaneously. They must listen, comprehend, identify important details, and then record these details as a physical copy (Haydon et al., 2011). Listening can be the first hurdle many students face when attempting to record notes. Researchers note that due to distractions in the classroom, students fail to actively listen to the material being presented (Haydon et al., 2011; Konrad, Joseph, & Eveliegh, 2009; Quintus et al., 2012). Because students are unable to actively listen they miss important concepts, incorrectly record the information, incorrectly synthesize the material, or they record unnecessary information. Some students may harbor the misconception that anything that is presented on the board or slide is important information. They may attempt to record all of the displayed information and fail to listen to what the lecturer is presenting (Quintus et al., 2012). This misguided focus becomes a barrier to their learning.

Another important factor of quality notes is the differentiated transcribing skills of students in the classroom. Some students may write very slowly. This not only affects that particular student, but also forces the entire class to reduce their learning pace (Quintus et al., 2012). Because the United States government passed laws such as No Child Left Behind and Individuals with Disabilities Education Act (IDEA), educators are tasked with making sure students are on pace with their peers, including students with disabilities. While this was much needed legislation, it adds to the need of the educator to adjust pacing. If an educator continues to move through the lesson, students who struggle with pace will miss out on large sections of information. Research has also found that even recorded notes may be of little use to students

who struggle with keeping pace. Lawrin, Dawson, Erickson, & Lawrin (2012) state students with disabilities "are frequently unable to make sense of their notes after the lecture mostly because their notes are illegible" (p.110). Again, this leads to incomplete notes and creates gaps in the student's knowledge. If the educator moves at too slow or quick of a pace, they risk other students disengaging from the material. Disengagement, according to Hamilton, Siebert, Gardener, and Talbert-Johnson (2000), can take the forms of "doodling, daydreaming, and personal notes" (p.134). This may then affect how well they are able to synthesize the material and connect it with prior knowledge. Due to the differing levels of skill in the classroom, educators must look for the balance so that all students may be successful.

Another area where educators may be impacting student notes is through poor prompting. Austin (2004) stated "classroom environment does not consistently prompt the behaviors necessary to produce a complete and accurate set of notes" (p.314). If the educator is failing to provide these visual and auditory clues to the importance of information, students may fail to realize the significance of the information. This may play a role in what information the student records. Also, the educator may move off topic when relaying information. Students may not realize that the example is for reinforcement and place more focus on the example than the concept. This can manifest in missing information in the notes. Educators must consider all of these factors as they implement lecture style instruction to the classroom.

Quality Notes

As educators become more successful in managing pacing, distractions, and prompting, students become more successful in creating quality notes. According to Boyle, notes should contain clusters of important information and lecture points (Boyle, 2010). Quintus,

Borr, Duffield, Napoleon, & Welch (2012) state for these notes to be effective they must "record the information material in an ordered manner, as comprehensibly as possible" (p.30). These should result in a set of detailed notes that will assist the student in study and retention of the material. Higher quality notes correlates with increased student success (Quintus et al., 2012). These higher quality notes lead to higher levels of comprehension and improved quality in reviewing the notes (Quintus et al., 2012). When misinformation is minimized and all of the critical points are recorded, the student has a document they may visit at any time. This document serves as a physical copy of thoughts and information that can be referred back to as students add new information (Herbert, Gillespie, & Graham, 2012). This increases how well the students will retain the information and how they will connect it to previous and future information.

Along with hearing the information, physically recording the information plays a role in solidifying the information to the student. As quoted by Lazarus (1992), "students who record and review notes earn higher test scores than students who only read assignment or listen to lectures" (p. 272). Students who engage in taking notes use sight, sound, and touch (Quintus et al., 2012). Because students are using multiple senses to process the information, stronger connections are made. The use of these three senses allows the student to engage the material in all three learning styles. Seeing the information on the board engages visual learning. Hearing the material engages the auditory learning style, and the student engages kinesthetically by physically writing the information. All three of these steps allow the learner to reinforce the material they are acquiring. The lecture-note taking method is very effective due to the multi-faceted engagement process.

Engagement and Notes

Engaging students has become a focal point of education over the last few years (Connor & Pope, 2013). Educators are beginning to realize that the more the student is involved with the material the better the student will perform. Educators are moving away from boring material regurgitation and focusing more on how to engage the student. Student engagement has benefits beyond just grades. Higher levels of engagement correlate with reduced chances of alcoholism, drug abuse, and depression (Connor and Pope, 2013). Due to the strong correlation between academic and nonacademic outcomes, policy makers and educators are looking to reform some of the current strategies (Connor & Pope, 2013). This is an example of how the field of education is continuing to evolve and adapt to the needs of the students it serves.

This research of Connor and Pope is further confirmation of Albert Bandura's theory of self-efficacy. In his theory, Bandura claims that self-efficacy is the belief in one's own ability and knowledge (Bandura, 1977). If students begin to feel successful, they translate their confidence into other areas of life. This is why we see a correlation of non-academic success with the increase of academic success. Poorthuis, Juvonen, Thomaes, and Denissen also found in their study that higher levels of engagement in a student's early education translated into higher levels of success into high school (Poorthuis, Juvonen, Thomaes, & Denissen, 2014). If this is true of engagement, educators must invest in ways to increase this type of engagement.

A method educators can use is note taking. Piolat, Olive, and Kellogg (2005) define note taking

> as short condensations of a source material that are generated by writing them down while simultaneously listening, studying, or observing. Their function

is to gather information distributed in a lecture, a book or in any other situation that needs to be remembered. (p. 292)

Note taking is a tool that can help educators achieve higher levels of engagement. As suggested by multiple research studies, notes engage the students through all three of the learning styles (Haydon et al., 2011; Quintus et al., 2012). This method allows students to really interact with the material while transcribing to a hard copy. By using this method, students are exposed to the information through three different avenues of learning. Each step allows another level of reinforcement of the material. This method also provides the students an opportunity to further their learning (Quintus et al., 2012). Notes that include details along with the main concept increase student recall, allowing them to connect previous information much more efficiently and effectively (Austin, 2004; Blackwell and McLaughlin, 2005; Piolat, Olive, and Kellogg, 2014; Quintus et al., 2012). As the material is presented, it builds on previous recorded notes, creating connections and pathways for learning. This is why the method of lecture to notes is an effective medium for educators to transfer large amounts of information.

Though these notes can be effective in increasing student engagement, it does not correlate directly to student success. If notes are incomplete or include misinformation, they may be more detrimental to student success. Austin notes that without proper prompting, many students will exclude needed information (Austin, 2004). If the student is missing information, they may risk creating incorrect connections. These inaccurate connections can negatively affect how well the student performs on future assessments. It also risks the student misapplying the content as they progress throughout their educational career. Students may also deal with gaps in their learning where they have missed large portions of concepts that are vital to understanding

overall connections. Conditions addressed earlier also impact the effectiveness of notes. If the student becomes fixated on recording information only, they risk missing further information presented verbally (Herbert, Gillespie, and Graham, 2012; Quintus et al., 2012). Students may also become fixated on visuals and cease to record information for periods of time (Quintus et al., 2012). If they become frustrated, they risk disengaging from the material altogether. Notes can become useless if students' penmanship is poor. They risk creating an illegible set of notes that hinder recall (Quintus et al., 2012). This demonstrates that even if notes are an effective method to record the information and engage students, they must still be properly implemented.

Guided notes

To assist in proper implementation educators have turned to a method referred to as "guided notes". Konrad, Joseph, and Eveleigh (2009) define guided notes as "an alternative to traditional note taking and preprinted notes by providing an outline of a lecture with blanks inserted where key concepts and examples from the lesson should be recorded" (p.422). These blanks should focus on the "most salient concepts that students need to master" (Konrad, Joseph, & Eveleigh, p.440, 2009). This process takes place as an educator lectures. Students are given an outline that omits certain concepts and information. As the lecture takes place, they are prompted or cued by the lecturer to record the needed information into the provided space (Haydon et al., 2011). This type of note structure can be easily incorporated into traditional lecture styles and requires minimal added effort from the lecturer (Williams, Wiel, & Porter, 2012).

Benefits of Guided Notes

Not only are guided notes an effective way to increase student engagement, they address many of the shortcomings of note taking in the classroom. Guided notes only require

that the student writes down a small portion of the notes after being cued. Students must listen to the lecture and be ready to respond as the information needs to be recorded. This process allows the student to omit some of the strain of recording the notes. Students are able to freely listen and engage with the material without the worry of making sure they write. Because of the information they have, they can focus on big ideas and main concepts. This can be very beneficial to the student by creating more time for the student to connect the material to previously learned concepts. Guided Notes also keep students from becoming fixated on recording the information (Quintus et al., 2012). The short bursts of recording give way to times where there is no need to record any information. This brings the student back into the conversation and releases them from the stress of attempting to record every little thing the educator presents.

Another effect of the guided notes is clarity. Notes can become illegible as the student rushes to record the information being presented (Quintus et al., 2012). Because students only have to write the information in small sections, they are not rushed to copy the information as quickly as they can. This can improve the clarity in which the students do record their information. Guided notes offer a structure to the notes, which helps the students keep the material in an orderly fashion. They allow the educator to dictate how the information will be matched with prior information throughout the lesson. Guided notes keep a student from mismatching information or misplacing the information. This can be very beneficial in subjects such as history and math because these subjects must have information built upon in a certain manner. Connecting new material to the proper prior knowledge is a key to student success

(Piaget, 1985; Nokes, 2008). If the information is incorrectly recorded, it can be detrimental to the future success of the student.

Guided notes can be instrumental in making sure the student records all of the needed information. Because of the structure, students can quickly assess if they have recorded all of the needed information. If a student has blanks left after lecture they can ask a peer or the teacher to help fill in the information. This helps to ensure that all students are recording the same information. Guided notes should be nearly identical for all students at the end of a lecture. This ensures that all students have access to the same material and are not being penalized for things outside of their control. Once completed the guided notes also provide complete summary for the student (Blackwell & McLaughlin, 2005). This summary can be revisited at any time. The student builds a cache of information as new sets of guided notes are added. In essence, the student has created a library of information that can be accessed externally as needed by the student (Herbert, Gillespie, & Graham, 2012).

Another benefit guided notes provides is reducing students' disengagement that results from being overwhelmed. During traditional lecture information can be given at a very rapid pace. A student may find they are falling behind in recording the information and just give up on taking notes (Konrad, Joseph, & Eveleigh, 2009; Larwin, Erickson, & Larwin, 2012). Guided notes reduce the amount of information the student must record and reduce the probability they will become overwhelmed. Students may also engage in note taking because they perceive guided notes as less work (Konrad, Joseph, & Eveleigh, p.440, 2009). Taking notes becomes less of a daunting task when partial information is already provided.

Guided notes can also be a tool used by the educator to demonstrate to students how to take notes. Research points out that many students are deficient when it comes to note taking (Haydon et al., 2011; Konrad, Joseph, & Eveliegh, 2009; Quintus et al., 2012). This is a result of students never being exposed to how they should record proper notes. Using guided notes allows students to practice how to recognize when material needs to be recorded. Because the notes are given along with cues, students begin to practice the skill of listening for these cues. This can scaffold the learning of the individual by providing them a safe framework to practice their skill (Vygotsky, 1978). As the student progresses in ability, the scaffolding can be removed. Konrad, Joseph, and Eveliegh (2009) state that "Theoretically, educators can use guided notes as a way to teach students to take accurate and comprehensive notes and then fade their use over time until students are observed to take accurate and complete notes on their own" (p.442). Adding this skill for a student can be extremely beneficial as they progress in their education and careers (Boyle, 2010).

A risk associated with using guided notes is students not completing them and later gathering from a peer. Educators can combat this through multiple methods. One way to address this is through random note checks throughout the unit (Konrad, Joseph, & Eveleigh, 2009). Using this method, an educator would randomly collect guided notes. These notes would be assessed for completion. If the guided notes are complete the student may receive extra bonus points or it can be used for a participation grade. A second method that can be employed is open note quizzes (Konrad, Joseph, & Eveleigh, 2009). These can be given at the end of a lesson or administered in the middle of a lesson. The educator needs only to make sure what is being tested matched what has been covered in the notes. If the student has failed to record the

information during lecture, they will most likely be unable to answer correctly. This ensures that the students are continually adding to their guided notes as the lecture progresses. Another method is allowing completed guided notes to be turned in with tests for extra bonus points (Konrad, Joseph, & Eveleigh, 2009). This entices the students to make sure their notes are complete. To ensure that any of these methods are effective, the educator must keep an "unpredictable collection schedule" (Konrad, Joseph, & Eveleigh, p. 441, 2009). Keeping the collection methods random helps the student to remain engaged because they never know when the notes will be assessed.

Guided notes and achievement

Multiple researchers have found that accurate notes correlate with higher achievement (Boyle, 2010; Larwin, Erickson, & Larwin, 2012; Lawson, Bodle, & McDonough, 2007; Quintus et al., 2012; Williams, Weil, & Porter, 2012). Multiple studies have also found a forty percent increase in the amount of correct notes taken during lecture (Boyle, 2010; Lawrin & Lawrin, 2013). Lawrin, Erickson, and Lawrin found in their study that accuracy increased to ninety-nine percent (Lawrin, Erickson, & Lawrin, 2012). This exemplifies how effective guided notes can be in increasing the accuracy of the material recorded. Williams, Weil, and Porter quantify the effect of guided notes on achievement. They state that the use of guided notes "results in nearly a full grade advantage" (Williams, Weil, & Porter, p.14, 2012). This is valuable for students who are falling into mid and low range grades. If a student is at a mid C and the effects of guided notes holds true, the student should improve into the mid to upper B range. This extra achievement is a huge boost to both the student and the educator.

Guided notes in middle school

Middle school is a transition for all students in the education system. Students are beginning to move from a single classroom teacher into content classes with multiple teachers. The structure becomes more focused on lecture with students taking notes. This many times is the first experience students have with the process of taking notes. Note taking becomes very important considering how widely it is used in middle school (Quintus et al., 2012). An investigation by Boyle (2010) found that seventy-nine percent of middle school teachers "regularly use or mostly use lectures during their teaching (p.94). This is a significant percentage of classes. If a student is a poor note taker, they may find themselves lagging behind their peers. If their deficiencies are not corrected, they will continue to struggle as they progress into postsecondary education and into their career. It is during this crucial period that educators can impact the current and future success of their students. If educators are able to create the proper skills for note taking during middle school, students will have less of a need for interventions into high school and college.

Because this is the first time many students are being exposed to note taking, it is important that educators cultivate that skill. Introducing guided notes at this stage can help scaffold the students' learning. Introduction at this time may also impact the students' perception of how well they can succeed in school. It allows for greater levels of engagement with the material, which results in "greater learning, more personal growth, and increased satisfaction" (Lawrin &Lawrin, p.47, 2012). This growth and satisfaction can be building blocks for greater success later in the students' careers. It is during the middle school period that guided notes can have the greatest impact on both current and future achievement.

Conclusion

This review of literature demonstrates how important note taking is to the success of students. The research exposes how prevalent note taking is in our current education system. Boyle's findings show that seventy-nine percent of classes use lecture in middle school (Boyle, 2010). With classes so infused with lecture-note style, it is imperative that students record accurate notes. These notes serve as the students' extension of memory (Herbert, Gillespie, & Graham, 2012; Quintus et al., 2012). The accuracy of these notes correlates to the students' success as they progress through their education (Quintus et al., 2012).

Guided notes meet the needs that the lecture-note style presents. They are able to provide the students with clear, legible notes which can be revisited at any time. When using guided notes students are provided a summary of the lecture that contains all of the correct information (Blackwell & McLaughlin, 2005). They also provide teacher a tool to increase engagement throughout the lectures. This is accomplished through random note collection, the perception that there is less effort needed to record notes, and a reduction in frustration from being overwhelmed (Konrad, Joseph, & Eveleigh, 2009). These guided notes also teach students how to become better note takers (Konrad, Joseph, & Eveleigh, 2009).

This review of literature also reveals that middle school is a prime time to begin to implement the use of guided notes. It is during this stage that many students are being exposed to the note taking method for the first time. If guided notes are properly implemented we will see success increase for students in the classroom and personally (Lawrin & Lawrin, 2012). It is crucial that students learn this process during this time because it will reduce the need for further

interventions in high school and college. This is why the present study looks to address the effects of guided notes in a middle school classroom.

Chapter 3

Methodology and Procedures

Considering the review of literature, it is clear that more research must be conducted to better inform the practice of guided notes. The research took place in a Northeast Tennessee public middle school. Effect of guided notes versus traditional notes in an eighth grade social studies classroom was investigated. The sample was used as both the experimental and control group. This section contains five sections: population, sample, data collection, procedures, and research questions.

Population

The population of the study came from a Northeast Tennessee public middle school. The school had 1,141 students. Of these students, 19 were English Language Learners, and 157 were students with disabilities. The demographics of the student population were 76.4% Caucasian, 13.4% Black or African American, 6.7% Hispanic or Latino, and less than 1% Asian. Of the total population, 45.9% were considered economically disadvantaged.

Sample

The sample consisted of an intact eighth grade social studies class. This sample was not randomly selected but was assigned by administration at the beginning of the 2016-17 school year. The sample was eighty-seven students. Of these students, forty-four (51.0%) were female and forty three (49.0%) were male. The demographics of the sample included sixty-one Caucasian students (69.1%) an twenty-size minority students (29.9 %). The students' ages ranged between thirteen and fourteen years old.

Data Collection Tools

Data were collected using teacher made test. The students were taught a unit that was divided into two halves. The first half unit was taught using traditional note taking methods and at the end of this half unit students were administered a test on the materials covered. The second half unit, the students were taught using guided notes. At the end of the second half unit the students were assessed on the material covered. When all of the data was collected, they were analyzed to determine the similarities and differences.

Procedure

To begin this research process, I obtained Institutional Review Board (I.R.B.) approvals from Milligan College and Johnson City Schools. When all permission was granted, a sample was selected. The sample came from an eighth grade social studies class. After determining the sample, the study was implemented.

To determine which unit was to be used in the experiment, I consulted with the classroom teacher to determine which unit would be best suited to be broken into two half-units. We then broke the selected unit into two half-units to make sure each had similar difficulty levels and interest for the students. The first half unit was taught using traditional note taking methods and at the end of this half unit students were administered a test on the materials covered. The second half unit, the students were taught using guided notes. At the end of the second half unit the students were assessed on the material covered. When all of the data was collected they were analyzed to determine the similarities and differences.

Research Questions and Related Hypothesis

Research Question #1: Is there a difference in students' scores when they are taught using traditional note taking methods and when they are taught using guided note methods?

Research Hypothesis #1: There is a difference in students' scores when they are taught using traditional note taking methods and when they are taught using guided note methods.

Null Hypothesis #1: There is no difference in students' scores when they are taught using traditional note taking methods and when they are taught using guided note methods.

Research Question #2: Is there a difference between gender on scores when they are taught using guided note methods?

Research Hypothesis #2: There is a difference between gender on scores when they are taught using guided note methods.

Null Hypothesis #2: There is no difference between gender on scores when they are taught using traditional note taking methods and when they are taught using guided note methods.

Chapter 4

Data Analysis

As students advance in education, note taking becomes the predominant method of gathering information from lectures. Note taking has two primary forms: traditional and guided notes. Both forms can be effective methods, but educators need to understand which method is the most effective. The purpose of this study was to determine the effect of traditional note taking and guided note taking on achievement in an eight-grade social studies classroom. The data from this study added to the conversation about which method should be utilized in the classroom.

Data Collection

The data were collected from a Northeast Tennessee middle school. The sample was used for both the experimental and control group. The demographic profile of the subjects is displayed in Table 1. The students were taught a unit that was divided into two halves. The first half unit was taught using traditional note taking methods, and at the end of this half unit students were administered a test on the materials covered. For second half unit, the students were taught using guided notes. At the end of the second half unit, the students were assessed on the material covered. Both half units were equal in difficulty and comprehension. The test given at the end of each half unit were teacher generated.

Table 1

Demographics of Participants

Gender	Frequency (f)	Percentage (%)
Male	43	49.00
Female	44	51.00
Totals	87	100.00

Research Questions and Related Hypotheses

To guide the analysis of the data analysis for this study, two research questions were considered. Each question is followed by the related research hypothesis and the null hypothesis. All data were analyzed using the .05 level of significance.

Research Question #1: Is there a difference in students' scores when they are taught using traditional note taking methods and when they are taught using guided note methods?

In order to answer research question one, the mean of the scores was compared from the traditional notes and the guided notes. The mean score for the traditional notes portion was 26.9. the mean score for the guided notes portion was 70.34.

Research Hypothesis #1: There is a difference in students' scores when they are taught using traditional note taking methods and when they are taught using guided note methods.

Null Hypothesis #1: There is no difference in students' scores when they are taught using traditional note taking methods and when they are taught using guided note methods.

To determine whether the means were significantly different a Paired T-Test was conducted. There was found to be a significant difference in the means of the two groups (t(86)=-17.84. P=.001). The mean for traditional note taking (M= 26.9, sd= 14.003) was significantly lower than the mean for guided note taking (M=70.34, sd=21.045). Therefore, the null hypothesis was rejected. The results are displayed in Table 2.

Table 2

Paired t-test for traditional and guided learning

Test Scores	M	SD	Df	t-value	Sig.
Traditional Note Taking Scores	26.90	14.003	86	-17.843	.001
Guided Note Taking Score	-70.34	21.045			

Research Question #2: Is there a difference between gender on scores when they are taught using guided note methods?

In order to answer research question #2, the mean scores of male and female guided note taking were computed. The male mean score was 68.60 and the female mean score was 72.05.

Research Hypothesis #2: There is a difference between gender on scores when they are taught using guided note methods.

Null Hypothesis #2: There is no difference between gender on scores when they are taught using guided note methods.

To determine if mean differences were significantly different independent samples test was conducted. A Levine's test indicated that the variances were not assumed equal (F=.02). The results indicated no significant difference between male and

female. The male mean score (M=68.60, sd=24.357) was no different than the female mean score (M=72.05, sd=17.331). Therefore, the null hypothesis was retained. The results are displayed in Table 3.

Table 3

Independent t-test on Gender and Guided Note Taking

Gender	M	SD	Df	t-value	Sig.
Male	68.60	21.35	85	-.761	.45
Female	72.05	17.35			

Chapter 5

Purpose of Study

The purpose of this study was to determine the effect of traditional note taking and guided note taking on achievement in an eight-grade social studies classroom. The data from this study added to the conversation about which method should be utilized in the classroom. The results were examined using Paired T-Tests and Independent Samples Tests. This chapter contains a summary of the findings, conclusion, recommendations, and implications from the study.

Summary of Findings

Research Question #1: Is there a difference in students' scores when they are taught using traditional note taking methods and when they are taught using guided note methods?

A Paired T-Test was conducted to determine the impact on achievement for traditional and guided notes in an eighth grade social studies classroom. There was found to be a significant difference in the means of the two groups. The mean for traditional note taking (M= 26.9, sd= 14.003) was significantly lower than the mean for guided note taking (M=70.34, sd=21.045). These results are consistent with past research, which is discussed in chapter 2 of this study.

The findings suggest that student academic achievement increases as they utilize guided notes during lecture. The guided notes provided a clear path and tool for students to record the pertinent information from the lecture. This reduced the amount of inaccurate or missing notes, thus increasing student achievement. This is consistent with Hamilton, Siebert, Gardner, and Talbert-Johnson's (2000) findings suggesting that the more accurate the students' notes the

higher levels of achievement. During traditional note taking, students were easily distracted and failed to record the needed information. This left many students with incomplete notes which negatively affected their performance on the post tests.

Guided notes are many times considered an accommodation to students with special needs. This study also suggests that, especially during middle school, guided notes should be implemented as part of classroom instruction because they are shown to improve achievement across the sample. This demonstrated that all ability levels responded positively to the use of guided notes.

Research Question #2: Is there a difference between gender on scores when they are taught using guided note methods?

To answer the research question #2, an independent samples test was conducted. When using guided notes, there was found to be a significant difference between male and female. The male mean score (M=68.60, sd=24.357) was lower than the female mean score (M=72.05, sd=17.331). Therefore, the null hypothesis was rejected.

These findings suggest that females responded better to guided notes than did their male peers. The data showed that, overall, females scored on average 3.55 points higher. This allows us to understand if female students are struggling, guided notes will be effective in increasing their levels of achievement. While guided notes were effective to both sexes, according to the data, males may need more support to achieve the same levels as females.

Conclusion

The purpose of this study was to examine the effects of traditional notes and guided notes on student achievement in an eighth-grade social studies classroom. More specifically, this study looked to add to the conversation of which note taking methods should be utilized in a middle school classroom. The results of this study indicated that guided notes are more effective than traditional notes in increasing student achievement. The study also suggested that females perform better than males when using guided notes. These findings lead to both null hypotheses being rejected.

Recommendations

The following are recommendations for this study.

1. Future research should look at the effectiveness of guided notes in other disciplines in middle school.
2. Future research should look at the effectiveness of guided notes in both earlier and later grades.
3. Future research should look at the effect of guided notes in teaching note taking skills as students enter post-secondary institutions.

Implications

1. Teachers should continue to use guided notes because they increase student achievement in subjects that are heavy with note taking.

2. Students should be encouraged to learn to take notes using guided notes strategy because it provides a way for student to collect and organize information to revisit as they prepare for exams.
3. Parents should be encouraged to use guided notes at home in order to reduce the amount of missed or incorrect information creating quality notes.

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