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Using Captioned Video to Teach Listening Comprehension in a Spanish Classroom

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The goal of learning a foreign language is to gain proficiency in reading, writing, speaking and listening as interrelated skills that enable one to communicate with native speakers. According to the *American Council on the Teaching of Foreign Languages* (ACTFL) *Performance Descriptors for Language Learners (ACTFL, 2012a),* students acquire a second language (L2) through intentionally designed performance-based experiences provided for them in the classroom. Additionally, the ACTFL *World-Readiness Standards for Learning Languages (ACTFL, 2015)* state that the Communications Goal involves the use of interpersonal, presentational, and interpretive communication. Communication in the interpretive mode includes understanding, interpreting, and analyzing what students hear, read, or view (ACTFL, 2015). Developing the interpretive mode in a foreign language occurs through activities such as listening to, reading, or viewing materials in the target language (Garza, 1996). Language learners who are effective listeners use meta-cognitive strategies including elaborating, inferencing, predicting, and listening to familiar information to aid them in comprehension of unfamiliar material (Hinkel, 2006; Thompson, 1996; Vandergrift, 2004).

Literature Review

The use of authentic video as a context for communication is a common strategy in foreign language instruction. Because authentic video is made by native speakers for native speakers, this experience provides contexts for language learners that can connect content, language, and culture for real-life communication purposes (Garza, 1996; Shrum & Glisan, 2016). The use of authentic video can provide rich contexts for developing listening comprehension, an integral component of foreign language proficiency that is interrelated with speaking, reading, and writing. In order for authentic video to be effective in developing K-12 learners' language ability, it should contain linguistic material that meets the goals of instruction, match the theme being studied, and be interesting to the audience (Garza, 1996; Gilmore, 2007; Weyers, 1999). Adding target language captions to authentic video can help language learners

make connections between auditory and visual input. Captions add contextual support to make input comprehensible, thus helping students' listening comprehension and proficiency development in a foreign language. Watching video with captions exposes learners to visual, auditory, and textual input that can help them make necessary connections to prior knowledge in the manner that best meets their learning style (Matielo, D'Ely, & Baretta, 2015).

The use of pre-, while-, and post-viewing activities can be highly effective in helping students develop listening comprehension in a foreign language. Pre-viewing video content to be shown using visuals related to the context, and group or individual reading of narrative video scripts, can provide learners with valuable insight into new material about to be introduced in class (Ambard & Ambard, 2012). Moreover, graphic organizers designed specifically to guide students' comprehension for pre- and while-viewing can help them organize their thoughts and focus their attention on the topic which can lead to increased comprehension. Effective questioning strategies that activate students' schema before viewing the video can also prepare students to listen carefully, thus aiding their comprehension during the viewing process. While-viewing tasks might include guided instruction to focus on the topic, context, setting, and plot details (Sydorenko, 2010). Post-viewing tasks, such as summarizing the videos both in oral and written form, can also contribute to improved comprehension. The purpose of this study was to examine the use of instructional strategies with authentic video using same language captions to develop students' listening comprehension in a high school Spanish classroom.

Methodology

This study included 25 participants in a Spanish class of Levels IV/V in a public school in North Carolina. The study took place February 27-March 3, 2017 and included the use of instructional strategies and three data collection sets: student work, field notes, and a student survey. Based on the researcher's observations and input from the cooperating teacher, the researcher determined that the majority of the students were in the Intermediate range of Spanish proficiency. Students at this level should be able to understand words, phrases and formulaic language to get the meaning of the main idea from oral or written texts with visual support (ACTFL, 2012a). Instructional strategies at the Intermediate level focused on developing students' listening comprehension skills using three short videos in Spanish with captions in Spanish. Students viewed the videos on March 3, 2017, and their graphic organizers and survey were completed and collected during this same 90-minute class period.

The first data set included written graphic organizers used as students viewed each video in Spanish. The graphic organizers each included the same *¿Quién? ¿Qué? ¿Cuándo? ¿Dónde? y ¿Por qué?* (*Who? What? When? Where? and Why?)* prompt questions and focused students' attention on the main ideas and supporting details of the videos. The organizers also asked students to summarize and predict what might happen next in the story. The first video, *Leyenda el Conejo en la Luna (The Legend of the Rabbit in the Moon),* was an authentic Mexican legend about a rabbit in the moon and talked about the god Quetzalcoatl and a rabbit that helped him when he was hungry, consequently he put the rabbit's image in the moon to honor his sacrifice. The second video, *Leyenda de la Mujer Dormida (The Legend of the Sleeping Woman),* told the legend of two famous volcanoes in Mexico. The third video was *La Leyenda del Caleuche, el Barco Fantasma – Misterios del Mundo (The legend of Caleuche, the Ghost Ship – Mysteries of the World).* This video talked about a ghost ship often seen off the coast of Chile. Each video was shown first without target language captions and then a second time with target language captions. Before watching each video, the researcher used visuals of similar topics to discuss orally with students their knowledge of the subject matter found in the videos. After viewing each video, the class discussed what they understood from the video, and turned in their completed graphic organizers.

The second data set consisted of the researcher's field notes and video recording taken during instruction with the videos to document the effectiveness of the strategies being used and to make general observations about the progress of the study.

The third data set consisted of a teacher-created written survey given to all study participants. The first ten questions on the survey used a Likert scale from 1-5 wherein 1 meant "strongly disagree," 2 meant "disagree," 3 meant "agree somewhat," 4 meant "agree," and 5 meant "strongly agree." The last three open-ended questions gave students the opportunity to give feedback about the instructional strategies used to develop their listening comprehension and their opinions about whether the instruction encouraged them to watch more authentic videos in Spanish in the future. The survey was given on March 3, 2017 after students viewed the three videos and completed the graphic organizers. The researcher reviewed all of the graphic organizers and surveys completed by the students to analyze the data. She looked for themes and drew conclusions about the use of instructional strategies with authentic videos using captions in Spanish in developing students' listening comprehension ability.

Results and Discussion

The findings of the study were taken from three data sets that included graphic organizers, field notes, and a student survey. The data set consisting of student work reveals evidence that supports the effectiveness of the instructional strategies used with authentic videos to help students develop listening comprehension. In Data Set One, all participants were able to understand "main ideas and some supporting details on familiar topics from a variety of texts" (ACTFL, 2012a, p. 16), thus demonstrating their development of language function associated with the Intermediate range. Most students were able to provide a summary of the video, and some students were able to go a step further and predict what might happen next. Their level of comprehension also appeared to increase when the captions were added. For instance, while viewing the first video without captions, Student #3 answered five of the seven questions on the graphic organizer, and the answers consisted of just a few words each. This student did not summarize or predict what might happen next. Viewing the first video with captions, Student #3 produced more language and added both a summary and a prediction. In answering the question *¿quién*? *(who?)* while viewing the video without captions, this student wrote *"el dios y el conejo" (The god and the rabbit).* Upon the second viewing with captions, the student was able to add *"dios azteca y el conejo" (the Aztec god and the rabbit).* No summary was included on the viewing without captions, but on the viewing with captions Student #3 wrote *"Todos los humanos se recuerdaran del conejo por su noblesa" (All humans will remember the rabbit for its nobility*). This L2 example shows increased ability to provide more specific information, including unfamiliar names and details after viewing videos with captions.

In general, students' answers on the graphic organizers moved from a single word or two words during the first viewing of the video without captions to more complete phrases and more accurate answers during the viewing with the captions. The captions appear to have helped students fill in the gaps they might have with unfamiliar vocabulary. Students were also able to summarize and answer questions about the legends with greater accuracy while viewing the captioned videos.

Data Set Two consisted of the researcher's field notes and a videotape of instruction made during the viewing of the videos on March 3. The researcher made notes about the students' engagement and general participation during the instruction with the videos. After reviewing the video-recorded session, it appeared that all students remained focused and engaged

during the videos. While watching the videos with the captions, the researcher noticed that students were reading the captions by their eye movement. Students also participated well in the discussions both before and after viewing the videos.

For Data Set Three, students completed a survey with questions about their attitudes and opinions of the instructional strategies used in conjunction with the viewing of authentic Spanish video with target language captions and how these strategies may have influenced their listening comprehension. These findings indicated that students benefited from the instructional strategies used in this study. Students were able to gain ability in recognizing new vocabulary and in their overall understanding of the videos. The majority of students (18, 72%) agreed overall that the captions helped their comprehension of the videos. The data also indicates that the pre-viewing, while-viewing, and post-viewing strategies were beneficial. The graphic organizers helped most of the students identify the main ideas and supporting details in the videos. However, almost half of the students did not find the group discussion after viewing the videos to be particularly helpful in their comprehension. The oral and listening proficiency, or lack thereof, of individual students may have contributed to limited participation in the group discussions. In the end, the majority of students believed their listening comprehension could improve while watching videos with captions.

After reviewing the data, the researcher found that through watching authentic Spanish videos and participating in the instructional activities, students showed a gradual increase in their level of comprehension. Their ability to listen and understand the main ideas and supporting details improved from the first viewing of each video without captions to the second viewing with captions. They were consistently able to increase the amount of detail they understood and summarize more of the story while viewing the videos with captions. The data seems to support the work of numerous researchers who have found that authentic video is a valuable instructional resource for developing listening comprehension and cultural knowledge, while also instilling confidence in generating target language output (Herron, Morris, Secules, & Curtis, 1995; Shrum & Glisan, 2012; Weyers, 1999). Student comments back up the research. For example, Student #14 said: "I believe that these activities do help comprehension because we have to pay close attention in order to understand what they are saying, then we get details from the captions."

Conclusion

The research on Second Language Acquisition points to the potential for authentic video resources to develop students' listening comprehension in a foreign language. Because the study was completed in one 90-minute period, it would be difficult to see evidence of substantial growth in the students' listening comprehension ability. Spreading out the study over several class periods to collect data over multiple points in time would have provided a better view of the extent of L2 development in listening comprehension, but judging by the statements of students on the survey and their ability to provide more details when viewing the captioned videos, there is evidence to support the research that target language captioned videos can improve listening comprehension.

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Multimodal Instruction: How Film Affects Interpretation of Literature

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Students' understandings of various texts often come from classroom discussions or lectures despite the importance of learning to claim their own interpretive lenses over a text. If educators desire for students to interpret the texts they read, and thus begin to find their own voices, students must present the texts in as many ways as possible. Milner, Milner, and Mitchell (2011) believe that "educators must recognize and heed the diverse ways students receive and process their worlds through multiple verbal, visual, [musical,] and digital modes" (p. 304). Film can facilitate learning through most of these means. However, while film is often used to facilitate learning and comprehension, the research on film, and its various components, as an avenue to facilitate interpretation has been lacking. With this gap in mind, this study explored the ways in which the components of film—visual, performative, and musical—contribute to students' interpretations of literature.

Review of Literature

Using a multimodal approach—which means including various mediums of text, media, and communication—is an important recourse for educators in the current academic climate if they intend to equip their students most effectively to contribute to their communities and societies at large. Furthermore, since knowledge construction has shifted away from the static, printed text to more dynamic mediums with visuals and sounds for many students, educators and students alike can benefit from incorporating students' out-of-school literacies to help access classroom content (Sewell & Denton, 2011). One means by which this facilitation can be accomplished is through the use of film in the English classroom.

One of the elements that contribute to various interpretations of both literary and visual texts is the omission or addition of details in a narrative, which Barton and Unsworth (2014) argue changes the interpretive possibilities. Jorgensen (2010) writes specifically about the differences between *The Lord of the Rings* books and the parallel movies, noting how the deletions affected his understanding of the novels. According to Dziedzic (2002), the same can

be true for students when encountering omissions and additions within the filmic narrative as compared to the written narrative.

One of the defining characteristics of film is its ability to portray narratives visually. According to Barton and Unsworth (2014), the context of events can help create meaning for the viewer. Barton and Unsworth also mention interactive meanings that are formed through relationships the viewer has with the material being viewed. Aspects of visuals that lend themselves to this type of meaning include camera angles. Barton and Unsworth specifically mention textual and compositional meanings, which deal with how the layout of images conveys information. Various factors, including color, can contribute to meaning, which direct how attention is focused on certain parts of an image. Another element mentioned by scholars that may commonly affect viewers' interpretation are the symbols within scenes (Hargrave, 2008).

Likewise, the way characters are portrayed within a film can directly influence how a viewer understands and interprets its characters. Actors' actions can affect viewers' interpretation, especially when it comes to translating internal dialogue to film. Hargrave (2008) says that body language can occur consciously or subconsciously. How the viewer understands the narrative depends on how the viewer interacts with the material presented. Similarly, Boltz (2001) explains that body language and action may be understood differently depending on context and one's schema of the world as built by the past experiences of the individual.

Related to film, "research on the complex relationships between film music, the visual content of films, and the viewer has shown that music can significantly influence viewers' interpretations of film content" (Tan, Spackman, & Bezdek, 2007, p. 135). This relationship may ring true concerning the genre of music that accompanies specific scenes. Similar to body language, a viewer's culture and personal life experiences may inform how they understand musical meaning, which could also affect how they interpret narratives associated with the music. Finally, another way in which music can affect viewers' interpretation of text is through its presentation of tone. Many scholars agree that the effect of music on visual information is additive, in that, it adds to already established tones and emotions (Tan et al., 2007) .

Methods

The current study attempts to address how the various components of film —visual, performative, and musical—contribute to students' interpretation of literature, specifically by analyzing a text with its corresponding film component. This study took place during the spring

semester at a large, public high school in an urban district in the southeastern United States. The setting consisted of a standard English III class, a course that focuses primarily on American literature. Data comes from nineteen students who opted to participate in the study.

The goal of the teacher-researcher was to approach certain scenes within a literary text. The literary text used for this research study was F. Scott Fitzgerald's (2003) *The Great Gatsby,* and the teacher-researcher determined four scenes from this novel to which students would apply their own interpretive lenses to a parallel scene from the film adaptation of *The Great Gatsby* (Luhrmann, 2013) by completing formatted handouts provided by the researcher. The teacher-researcher named these scenes "Daisy and Jordan Introduced," "Myrtle's Hotel Room," "Gatsby's Party," and "Firing Servants." In the first viewing, the teacher-researcher played the muted film component of the specified scene with the participants focusing solely on the *visual* aspects of that scene. In the next phase, the teacher-researcher replayed the specified scene, telling the participants to observe the *performative* aspects of the scene. The last phase included the *musical* component as the researcher played the scene once more and asked participants to listen specifically to the music associated with the scene. The participants were asked to analyze whether the qualities of the music added or detracted from the scene, or if the music was the same or different from that which they would have expected in the written narrative.

For this research study, multiple data sources were collected for the sake of triangulation: student interpretive artifacts, a student inventory, and the researcher's observational notes. The teacher-researcher used constant comparative analysis for coding the accumulated data from the student interpretive artifacts. This analysis involved open, axial, and selective coding (Corbin & Strauss, 1990). Three themes emerged from this coding process in response to the research question: femininity/masculinity, modernity, and wealth.

Results

One of the major themes that emerged concerned the participants' understandings of, and feelings toward, femininity and masculinity. As a collective, the participants tended to associate positive descriptors toward anything typically deemed effeminate and attributed negative descriptors to anything typically deemed masculine. For example, the participants seemed to attribute positive descriptors to the smaller-framed, sweet-voiced Daisy and attribute negative descriptors to the larger-framed, deeper-voiced Jordan. As such, the participants seemed to hold negative perceptions of anything or anyone connected to descriptors typically deemed masculine,

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and they had more positive perceptions of anything or anyone connected to descriptors typically deemed feminine.

In addition to the theme of femininity and masculinity, the second major theme apparent therein was the focus on "Modernity." While there was no mention of modernity among the pre-viewing summaries of any scene analyzed, participants mentioned objects and music within the scenes looking, seeming, or sounding "new" or "modern" throughout the interpretive analysis of the components of the filmic narrative. For example, one participant, commenting on the "Gatsby's Party" scene, mentioned that the party was supposed to be an "old classical type of party," noting that the party was not what the participant anticipated.

The last theme apparent within the data collected from student artifacts was the theme of "Wealth." In every scene, participants were apt to mention objects or clothes they deemed were "expensive." For example, in "Daisy and Jordan Introduced," participants mentioned jewelry and clothes, qualifying the clothes as "fancy." These observations extended to the performative and musical aspects of film as well.

Discussion

As previously mentioned, the themes that arose from participant data have potential connections to the experience of the participants' lives. As it relates to the theme of "Femininity/Masculinity," many of the participants made verbal comments throughout the unit concerning frustration with men in their lives, particularly absent fathers. There appears to be some animosity toward masculinity and endearment toward femininity for the participants in the data that may reflect prior life experiences. When looking at the data associated with the theme of "Modernity," the modern aspects of the film appeared to appeal more to modern sensibilities in ways that were not apparent in the data from the text. Likewise, the theme "Wealth" may have had connections to the participants' life experiences. Depending on participants' socioeconomic status, it may be more understandable as to why participants collectively focused on symbols of wealth: they may have been focusing on items that they either desire or lack the most.

As mentioned by Barton and Unsworth (2014), the interpretation of a narrative is affected by its translation from book to film as a result of the process of omission and addition. One participant in particular provided evidence as to how this interpretation occurred in *The Great Gatsby* when she mentioned that Jordan Baker was not "as muscular" in the film adaptation as in the novel (omission), yet she was much taller in the film adaptation than in the novel (addition).

Color can also affect the mood of scenes (Dallacqua, 2012). This idea was evidenced within the research data specific to the scene "Firing Servants." One participant mentioned that the film scene was different than the written scene in that the dark colors of the scene affected the mood. The research of Detenber, Simons, and Reiss (2000), which states that people recall more information when viewed in black and white, was also corroborated as part of this study.

Camera angles also appear to have an impact. According to the work of Dallacqua (2012) and Pantaleo (2015), camera angles can influence not only a viewer's mood but also the viewer's focus on a scene. This proved to be true within this current study, as characterization was more prevalent in close-up scenes whereas setting details were more prevalent in far-away scenes. Likewise, symbols also played a role in the data. Similar to findings from Hargrave (2008), one participant pointed out the presence of a Rolls Royce, which he tied to wealth.

Related to Tan et al.'s (2007) concept of "temporal congruence," it was apparent from participant statements that scenes accompanied by faster-paced music culminated more quickly, even though all the scenes took approximately the same length of time. As it pertains to the moods associated with particular scenes, Bolivar, Cohen, and Fentress's (1994) research supports the data from this study in that the scenes with faster-paced and/or higher-pitched music are commonly characterized as "happy."

Relatedly, the last portion of the previous literature corroborated by this study concerns the additive nature of music (Tan et al., 2007). While describing the visual elements of the scenes "Daisy and Jordan Introduced," "Gatsby's Party," and "Myrtle's Hotel Room," participants attributed a "happy" mood to each scene while also attributing a "happy" mood to the music. As such, the "happy" music only added to scenes the participants previously deemed "happy." Thus, the music acted as a means to relieve potential ambiguity in the scene by re-emphasizing what the film director wanted the viewer to experience.

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**Cultural Knowledge and Writing Ability in the Secondary Spanish Classroom
on the Topic of *Pura Vida* (Pure Life) in Costa Rican Culture**

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The need for students to develop intercultural competence in the PK-16 classroom is currently critical in American education. These skills are outlined by the Framework for 21st Century Skills (P21 Framework, 2004) and include key subject knowledge, life and career skills, information, media and technology skills, and learning and innovation skills: critical thinking, creativity, collaboration, and communication (National Education Association Policy and Practice Department, 2010; Partnership for 21st Century Skills, 2004). In conjunction with the P21 Framework, the *World-Readiness Standards for Learning Languages* provide the frameworks for instructional design that leads to proficiency development in a world language. These frameworks are subcategorized into five goals areas: Communication, Cultures, Connections, Comparisons, and Communities standards, and are the foundation for proficiency goals (ACTFL, 2014). The Standards align and support the ACTFL *Proficiency Guidelines,* which measure one's ability to use a world language (L2) in real-life spontaneous and unrehearsed situations with native speakers (ACTFL, 2012b). Successful communication requires applying ample cultural knowledge and rectifying miscommunication, referred to as Intercultural Communicative Competence (ICC) (ACTFL, 2014; Bennett, 2016; Byram, K., 2011; Byram, M. 1997; Deardorff, 2006; Fantini, 2009). Best practices currently being developed for ICC instruction align with current *World Readiness Standards*, and further engage students through relevant, performance-based tasks during which students investigate native products, practices, and perspectives (ACTFL, 2012a,b, 2014; Curtain & Dahlberg, 2016; Shrum & Glisan, 2016).

Literature Review

Language must be understood and appropriate for the sociocultural context to be meaningful, thus language and culture are inherently fused. In one's native language (L1)

classroom, one develops external and internal cultural contexts. External context is shared societal values, and internal context is one's personal experiences and beliefs (Gudykunst & Kim, 1992). Successful L2 communication prioritizes meaning above linguistic form, as does L1 communication, and promotes students to focus more on sharing ideas than grammar (ACTFL, 2014; Byram, 2011; Byram, 1997).

ICC development requires recognizing behavioral traits and beliefs as cultural, not universal, and this awareness allows for intercultural sensitivity. Bennett's (2016) Developmental Model of Intercultural Sensitivity explains how students may shift from an ethnocentric to ethnorelative (interculturally sensitive) mindset, progressing from 1) denial of difference, to 2) defense against difference, to 3) minimization of difference, to 4) acceptance of difference, to 5) adaptation to difference, and ultimately to 6) integration of difference. Effective world language specialists draw upon and challenge students' current level of intercultural sensitivity, language proficiency, and cultural knowledge. Progress occurs by examining and analyzing the relationships between languages and their cultures (Bennett, 2016; Byram, 1997; Byram, Gribkova, & Starkey, 2002).

To support intercultural sensitivity, ICC scaffolded instruction should incorporate frequent spontaneous interpersonal communication such as group discussions, listening and reading interpretive tasks, and presentational speaking and writing tasks (ACTFL, 2012a,b; 2014; 2015). Using the L2, students should be able to 1) deliberate events and documents from one's own and another culture, and decipher meaning from various viewpoints, 2) identify and evaluate stereotypes, as they study how social groups function, 3) analyze the social lens that determines political behavior, 4) demonstrate accurate sociocultural conceptions, and 5) demonstrate adequate cultural knowledge and language proficiency (Byram, 1997).

Students' L2 and ICC developmental level must be measured frequently in order to best adapt instruction. Intentionally designed formal formative and summative proficiency assessments with specific teacher feedback are important in monitoring students' progress in language development and cultural competence. Informal formative assessment provides the educator with feedback on instructional strategies by gauging how students are learning and reacting to content material. Contextualized formal assessment can guide students to demonstrate

mastery of the content objectives through written responses and oral discussions (Deardorff, 2006; Fantini, 2009).

Connecting culturally focused L2 content to other disciplines helps engage students and develop their literacy skills (reading and writing), which refines language control (ACTFL, 2014, 2015; Curtain & Dahlberg, 2016; Schrum & Glisan, 2016). Through practicing literacy skills that authentically explore L2 cultures, students can better develop ICC. This study investigated how instructional strategies affected high school Spanish learners' intercultural communicative ability, through cultural knowledge and presentational writing ability on the topic of *pura vida* (pure life) in Costa Rican culture.

Methodology

This action research project involved 15 participants in a Level 3 Honors Spanish class in a North Carolina public high school and was conducted from April 24 - 28, 2017. Participating students were all under the age of 18 and signed informed assent letters and their parents/guardians signed consent letters. Data were collected during normal class time from in-class activities and assignments. After completion of the study, all collected data were stored in a password-protected computer and retained in a locked cabinet accessible only to the teacher-researcher and her adviser. The first data set compiled student work completed and collected during three consecutive classes on April 24, 26 and 28, 2017.

Students were asked to formulate written responses to two written questions that pertained to the upcoming information of the lesson, which the teacher-researcher reviewed to gauge students' pre-instruction understanding of the topic. The teacher-researcher guided students through discussions and completion of daily graphic organizers from the guiding oral and written questions as they examined authentic videos and texts. At the end of each day's instruction, students wrote responses to the teacher-researcher's questions regarding content knowledge from the lesson. This process was completed three times, and three pre- and post-instruction written reflections were collected. The theme of the first written reflection inquired about the meaning and origin of *pura vida* in the Costa Rican culture. The second focused on the significance of *pura vida* as it applies to mindfulness, gratefulness, and adaptability of the Costa Rican people. The third theme requested comparing aspects of one's own culture with *pura vida* culture, and describing how both cultural perspectives manifest.

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The second data set comprised the researcher's field notes and observations made from video recordings and personal reflection regarding instructional reflection. The third data set included student responses to a written survey of 20 Likert-scale and three short answer questions that the teacher-researcher administered and collected on April 28, 2017. Participants self-evaluated how instructional strategies from this study affected their cultural knowledge and interest, and their writing ability. Participants were also asked to evaluate the task expectation clarity, accommodations for learning styles, and engagement level of activities.

Results and Discussion

The student work samples were analyzed according to the following language control features adapted from the Intermediate Low (IL) presentational writing *Performance Descriptors* (ACTFL, 2012): task completion, exclusive use of Spanish, response clarity, language control, and evidence of adequate cultural knowledge. Linguistic elements analyzed for language control were: subject-verb agreement in present and preterite tense of the indicative mood, prepositions, and gender and number agreement between articles, nouns, adjectives and adverbs. All participants demonstrated presentational writing development of the language control features, increased response length, clarity, and complexity, and expression of adequate cultural knowledge. Pre-instruction written responses revealed that none of the students had any previous cultural knowledge. All post-instruction written responses exhibited significant development and expression of thematic cultural knowledge about (day one) how the term *pura vida* originated and is used in Costa Rican culture, (day two) *Pura Vida* cultural qualities that contribute to Costa Rica being repeatedly named the happiest country and Costa Rica's low ecological footprint, and (day three) typical attire, meals, social norms, and celebrations.

Discoveries from the video recordings and observational field notes revealed that students were highly engaged during the videos, discussions, graphic organizers, and group work, and less engaged during reading tasks on day one. Findings from day one caused the teacher-researcher to adapt instructional strategies. She segmented the text for day two and three into numbered paragraphs of three to six lines with bolded key words, and matched the number of the reading comprehensions questions with the numbered paragraphs. Most participation and demonstrated learning occurred when students: 1) watched a video-clip with Spanish subtitles, 2) read the first paragraph from the authentic text that reiterated the video information, 3) answered

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the corresponding reading comprehensions questions in small groups, 4) watched the video-clip again without subtitles, then discussed questions and ideas, 5) repeated steps 1-4 for the remaining paragraphs, and 5) completed a class graphic organizer of the most important information.

Scaffolded teacher discourse and small group collaborative tasks proved essential for student involvement with material above students' comfort zone. Students showed genuine curiosity and excitement to learn about the Costa Rican culture, and they continued to say "*pura vida*" during and after class to appropriately replace saying please, thank you, hello, goodbye, and to express positive emotional states. The teacher-researcher observed that interest level directly corresponds with engagement and development of language and cultural knowledge; therefore, it is highly important to select authentic materials relevant and appropriate for students' maturity and experience level.

Overall, the survey results support the findings from the student work and the field notes in the effectiveness of the instructional strategies in their development of cultural knowledge and writing ability. All participants stated their interest in learning another language and in developing ICC skills increased. All participants indicated they believed that their writing ability improved from the instructional strategies used during the study.

Given the time constraints of the study, the teacher-researcher recommends further instruction and data collection over an extended time period to enhance the validity of the research findings that support the efficacy of the instructional strategies implemented. The initial findings from this study indicate that the implemented instructional strategies develop language control, reading comprehension, and increase written response clarity, complexity, and expression of cultural knowledge. Students showed progress in their ability to derive meaning from the context and linguistic features of the authentic texts and videos, as exhibited in their responses to comprehension questions and their remarks during discussions. Students expressed written understanding of the main ideas and some supporting details from the texts they read, which is expected for Intermediate Low learners (ACTFL, 2012a). The findings support the use of purposeful pre-, while-, and post-reading activities to develop and express cultural knowledge.

Conclusion

Contextualized communicative tasks based on relevant authentic resources increases interest and engagement, and helps learners experience the products, practices, and perspectives of the culture. These instructional strategies develop L2 literacy, listening, and speaking skills and cultural knowledge, which are foundational for ICC. Scaffolded learning with on-going feedback intentionally guides students to make continual L2 progress to become interculturally competent. Purposeful teacher discourse and graphic organizers paired with authentic videos and segmented authentic texts enhance reading comprehension, engagement, and self-evaluated reading ability and language comprehension. The research findings highlight a relationship between self-perceived L2 reading ability and confidence and willingness to communicate in the L2. The teacher-researcher plans to further investigate this relationship while implementing best practices for ICC development.

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Instruction Driven by Usage of Digital Primary Sources and Its Effects on Student Achievement

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Introduction

Access to primary sources have grown in availability because of the Internet but, digital primary source documents have not typically been included in instruction in a way that matches the exponential increase of access. Literature supports the use of these documents through research that examines the effects of primary source documents. Hutton and Hembacher (2012) state that this skill develops as students begin to practice historical thinking. With pedagogy that includes digital primary source documents, students' achievement of sound fundamentals that allow for them to think about issues of the past and present while being critical of perspectives. To make every student in the classroom conscious of societal needs, digital primary source documents will be used as a guide to increase students' ability to work with meta concepts and construct their own perspectives about the world they live in.

Student Achievement

Standards-based testing currently dominates the educational system, but differs from inquiry based learning. The popular argument is that the method of assessing inquiry based learning using summative measures is difficult to measure. Hicks and van Hover (2014) flush out the servitude to standards that employed teachers of Virginia take on in everyday instruction. The instruction of new teachers to teach to the test on standards to present evidence of student success in obtaining objectives add to the opposition of inquiry based instruction because of a need to pass standardized tests (Hicks et al, 2014). Friedman (2006) explains that historical understanding is a deeper skill than standard centered test can cover. Vansledright (2002) states that the skills necessary to reach historical understanding are complex, but digital primary source documents can prepare students for a standard based test, and allow students to investigate

higher order thinking skills to develop understanding. Friedman and Heafner (2007) find that inquiry based learning with technology can provide students with no less content knowledge than what is required for students to be successful on multiple choice test.

Methodology

Participants

Participants included 36 student volunteers from a high school in a southeastern state. These volunteers included seven students from second period, 17 students from third period, and 12 students from fourth period. These students were very diverse in terms of socio-economic status, race and ethnicity, and cognitive ability. Four participants are diagnosed as autistic while seven participants had documented Individualized Education Plan accommodations. Two participants were classified as English Language Learners. I tracked the progress of six participants from fourth period closely.

Instruction and Post- Instruction

Unit Test. One goal of the study was to manipulate the implementation of action research within classroom instruction in a seamless manner. To accomplish this goal for 2nd and 4th period classes, instruction began with using digital primary source documents. Students were exposed to a more traditional style of lecture and experience with material following lecture for individual skill building and practice. Students were required to complete paragraphs within notes packets using the recommended course textbook. Instruction included using google Chromebooks to investigate secondary sources related to George Washington's presidency. Students were exposed to using the Chromebooks to help aid in facilitation of using digital primary source documents later during instruction. Students were required to complete their notes as formative assessments. Their notes packets included graphic organizers to help them organize the information from the limited digital primary source documents used. Students had exposure to digital primary source documents in this unit to see how they fared with instruction that included digital primary source documents. This unit's test was made up of 20 multiple choice questions and one essay graded on a scale out of 5. Of the 20 multiple choice questions, six of them were directly related to the primary source documents.

Results

Achievement. Class averages followed a similar trend for all three courses. Classes had an increase in achievement in terms of test score for unit four, unit six, unit seven, and unit eight. For the unit five test, all three grade levels experienced a drop-in average between 15 and 19 points. This unit was the content laden unit. Following unit five, all classes experienced growth in average test scores. Fourth period experienced the greatest growth increasing from a 51.98 class average to a 76.4 class average. Second period experienced a 19-point growth while third period increased average test scores by approximately 22 points.

Historical Literacy. The second part of the study focused on literacy. Data were collected to ascertain if students grew in terms of literacy and historical literacy. Participants demonstrated growth in their ability to write and reflect on topics concerning themselves and related to standards. The six fourth period students demonstrated growth on their unit test essay questions. These essay questions were directly related to portions of lessons that used digital primary source documents to facilitate student mastery of objectives. These essays asked students to identify and explain an issue and then evaluate and take a stance about those issues. Students were made familiar of two possible essay questions prior to the test.

Discussion

During this study, students experienced instruction that was driven by primary source documents. Students were exposed to pictures and text using digital mediums to enhance instruction for students in American History I. This introductory course to American history has a lot of content that presents itself as a challenge for children to understand. Digital primary sources help alleviate the burden of fact based lessons centered around rote memorization of details in the social studies classroom. In this study, multiple intelligences were represented by the participants. Students from a wide range of cognitive abilities were present in three courses.

Conclusion

The process for this study was extensive in terms of planning and implementation. It began with identifying a fixable issue. Student literacy and their ability to think critically about controversial

topics to create their own understanding is an important dynamic of the social studies classroom. This study used digital primary source documents to facilitate improving student learning for standard level students. The methods included introducing students to instruction driven by usage of digital primary source documents including images and text. Students who struggled with literary skills had the opportunity to experience success while working with images to understand a wide range of concepts such as slavery, law making, and establishing a government for the newly independent United States.

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The Impact of Mindset Training Techniques on Academic Performance in a Social Studies Classroom

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The power of mindset and mindset training are two related concepts that have been used for thousands of years and yet they have only begun to gain momentum in recent decades. We constantly hear these terms used within the broader realms of success and self-improvement. Athletes are praised for having a "winning mindset." Businessmen and entrepreneurs are often respected for their powerful or forward thinking "mindsets." Professionals from all walks of life go through specific mindset training to get a leg up on the completion. Thus, in the words of Carol Dweck, "there is no denying that success and mindset go hand in hand."

This research paper follows a recent trend research in asserting that mindset training should not only be limited to athletes or adults in the professional world. Students must have some form of mindset training in the classroom. When we think of education we think of students going to school to sit in desks and develop basic competence in the core subjects. But what about success in general? We are never taught specific methods in school on "how to be successful at anything." Instead, we're just told to work hard, believe in ourselves, and if we do that, anything can happen. But can we make that a more concrete process? In conjunction with that, the goal of this study is performance enhancement in the classroom and mindset training is the means by which we intend to accomplish this.

Literature Review

Lyons and Delange (2016) define mindfulness at a foundational level as "a contemplative practice that originated in the Buddhist tradition" (p. 271). In a more applicable and perhaps more secular context, "mindfulness is defined as paying attention, on purpose, to the present moment, with an attitude of kindness and non-reactivity" (p.272). Realistically speaking, mindfulness training does not necessarily refer to a specific set of actions or behaviors. Instead, mindfulness training should be considered a general approach that one could apply to a multitude of situations. Therefore, one can practice mindfulness in a wide range of settings. This research

will focus exclusively on K-12 classrooms because the mind is still developing and realizing its potential at this stage. The current crop of research on mindset training and its benefits in a classroom setting can be divided in to three major themes: classroom management (behavior), attitude (self-belief), and engagement.

Black and Fernando (2014) focus on mindset training as a form of managing classroom behavior. They define mindset as "the trainable skill of intentionally remembering to pay attention in the present moment without habitual reaction or conceptual exaggeration" (p. 1243). After a 5-week mindfulness based curriculum specifically offered for low-income ethnic minority students, it was concluded that mindfulness training was a viable solution for improving classroom behavior which could also create a better learning environment for students.

Brooks (2001) takes this understanding of mindfulness a step further because his logic followed that a negative attitude can have a detrimental effect on the mind of a child, which in turn could lead to negative behavior (2001). During his research on hope and motivation, Brooks noted that "Once children believe that things will not improve, they are likely to engage in self-defeating ways of coping such as quitting or avoiding tasks, blaming others for their difficulties, or becoming class clowns or bullies" (p. 541). Thus, in his study, he concluded that educators must recognize that they must take the extra time on the "development of resilience" in students with learning disabilities (p.542).

Ritchhart and Perkins (2000) have a rather unique approach to mindset, though it still applies toward the theme of mindset as it relates to attitude. They assert that mindfulness is absolutely a worthwhile educational goal because "it is facilitative state that promotes increased creativity, flexibility, and use of information, as well as memory and retention" (p. 28). They consider two viewpoints: mindfulness as a state (short-term) and mindfulness as a trait (long-term). Ultimately, they conclude that mindfulness as a disposition should be the ultimate goal of educators in the classroom.

Beauchemin, Hutchins and Patterson examined the feasibility of, attitudes toward, and outcomes of a 5-week mindfulness meditation intervention (2008). In particular, the authors were interested in students with anxiety disorders and a lack of social skills because they felt that these particular students would most from the meditation and relaxation techniques. The results showed significant improvement, with students who completed the program demonstrating

decreased state and trait anxiety (in the moment versus identity), enhanced social skills, and improved academic performance.

As evident in the review of literature, the potential applications of mindset training in classrooms are endless. However, for the purposes of this study we focused our application of mindset training techniques on the high school social studies classroom setting because in social studies, students are challenged to memorize, write, and often times create. Is there a way we can improve these skills for social studies students within the context of this study? Thus, we must ask the question: Do mindset training techniques have an impact on academic performance in a social studies classroom?

Methodology

This research project involved thirty-six participants in two Western Humanities classes at a suburban public high school in North Carolina. The purpose of this study was to answer the research question in an efficient manner in conjunction with coursework. The study took place over ten non-consecutive days on an A-day/B-day schedule, from March 20 to March 31, 2017.

Following instructions for the study, consent forms for both students and their parents were distributed. The data collection began on March 20 and took place during regular instructional hours. The researcher used student work to collect data on the impact of language in the directions of assignments and grading techniques as a form of mindset conditioning on the students.

At the beginning of the study, participating students in each class were given a brief survey related to the following: questions pertaining to past experiences and overall confidence regarding school, questions related to study habits, questions related to mindset before/during/after assignments. Each participating student was given a pre-study survey containing 10 questions, using a 5 point Likert Scale.

Over the course of this study, participants were given 5 course related assignments. Both the language in the directions of these assignments and the way in which these assignments were graded served as the basis of this study. The differences in these assignments were made apparent to the students both when they received directions and when they received their grades for assignments. Furthermore, the researcher made it a point to hand back graded assignments to the participants prior to having them work on the assignment. The purpose of this was so that students could see their grades and make adjustments (if needed) on the next assignment. This

applied more so toward the second class because their assignments included a handwritten note at the top the assignment right next to their grade. This handwritten note was a message meant to either reinforce their performance (if acceptable) or encourage them to improve if improvement was needed.

The post-study survey was distributed to students the day after the completion of the fifth assignment. On the surface, the post-study survey mirrored the pre-study survey. It was also comprised of 10 questions, using a 5 point Likert Scale. The only difference is that this survey included questions about the students' experiences regarding the individual work. This survey also gave students the opportunity to reflect on how they felt this treatment impacted their learning and whether or not they felt that they would try to be mindful of their schoolwork in the future.

Results

On average, based off of the pre-study survey data, class 1 seemed to have already had an advantage over class 2 as far as mindfulness and general attitude in the classroom are concerned. This is indicated by the fact that on average, class 1: was more confident when completing assignments, felt less anxiety before assignments and tests, was significantly more aware of their mindset, had a more stable mindset during school work, had a more positive attitude toward school, and was more likely to "talk themselves up" before tests and assignments.

The five individual assignments provided the researcher with the opportunity to witness the impact of mindfulness and differences in grading techniques in a quantifiable manner. For the first three assignments, class 1 outperformed class 2 by all measures. However, this performance gap shrinks with each assignment. The data on assignment 4 and assignment 5 are the most noteworthy because it is here where we see the true impact of mindfulness in the classroom. Starting with assignment 4, the data indicates that class 2 (8.859) actually began to outperform class 1 (8.421). Thus, based on average score on assignment 4, class 2 actually outperformed class 1 by a margin of 5.20 %. We see this trend continue on the next assignment with an even wider gap in performance by class 2 over class 1. On the fifth assignment, class 2 achieved an average score of 9.706 while class 1 achieved an average score of 8.947. In other words, class 2 outperformed class 1 by a margin of 8.48%. However, one could argue that the biggest indicator of the impact of mindset training on class 2 is evident in the comparison in their scores for assignment 1 (4.117) and assignment 5 (9.706). When we look at the data in this

manner, we see that class 2 as a whole showed a nearly 136% improvement in performance over the course these five assignments.

The post-study survey was nearly identical to the pre-study survey with the exception of the last four questions. The order was also slightly different. The researcher decided that this would be most beneficial to the study because this would not only give students another opportunity to self-report data but it would also provide data that would enable quantifiable comparison between pre and post study. Furthermore, it was also believed that the final four questions would specifically address the effectiveness of the study based on the students' opinion. The post-study survey data indicated that class 2 showed measurable improvements in: confidence, anxiety, mindset awareness, and "talking one's self" up during assignments.

Implications/Limitations

There are four possible limitations of this study and they include: time of year, grade level, differences in overall class makeup, and the experience of the teacher (researcher). However, this study was an overall success as illustrated by the measureable improvement in the data as the study progressed. Although class 1 started off more in the way of mindfulness in the classroom, as indicated by the pre-study survey data, the data in the actual study itself shows a reversal of the roles by assignments #4 and #5 where class 2 outperformed class 1. Furthermore, the post-study survey data also indicated that class 2 reported: greater improvement in confidence; far less anxiety before tests and assignments; greater improvement in mindset awareness; more likely to "talk themselves up" during tests and assignments; and greater overall improvement in academic performance as measured by grades.

Conclusion

This study and subsequent research paper represents a continuation of a longstanding fascination with the impact of mindfulness and mindset training on a classroom of students. The power of mindset has long been established as a crucial component of success in every aspect of competition ranging from the sports to the business world and everywhere in between. However, it is only until relatively recently where we have seen a trend in which researchers have focused their efforts on one of the most important realms of study, the classroom.

Perhaps the most revealing aspect of this study was getting to witness this evolution of class 2 from being in a state of mindfulness versus have a more mindful disposition at the very end of the study. Just about every aspect of academic performance was improved upon over the

course of a week-long study. Thus, this study confirms the initial hypothesis that skillfully implemented mindset training techniques would have an impact on academic performance in a social studies classroom. Furthermore, this research paper offers a step by step blueprint on how to implement such a strategy to improve mindfulness in the classroom and get measurable improvement for students. If more mindset training programs are implemented in the classroom, the future will hold many possibilities for both teachers and students alike.

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Current Events in a Civics Classroom: Using Problem-Based Learning to Assess Awareness of and Attitudes Towards Current Events

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Introduction

A recent push in education has led to the rise of inquiry-based learning and student-driven instruction in schools. Higher level classes such as honors and AP are using these methods to encourage greater engagement and higher-order thinking in their classrooms. In an attempt to push back against the traditional teaching methods where classrooms can be just information depositories, educators are challenging students to learn from a multitude of sources other than the teacher. In the social studies classroom, this is represented by greater use of primary sources and other supplementary sources outside of the textbooks. Even with these developments, there can still be a lack of current events instruction as a supplement to the curriculum, which can be a valuable and easily accessible pool of ready-made activities to engage students and promote higher-level thinking. This paper describes research into including current events in the classroom and the effect on students' problem solving skills. Specifically, a problem-based learning model was used for inclusion of current events in a high school civics classroom.

Literature Review

Current events are always relevant as tools to help study the past. Not just in social studies classes, but current events can be employed as an opportunity to view content through a relevant and engaging lens across the curriculum. Current events are easily accessible (Rhoades, 1994), and break up the monotony of day-to-day learning. Rhoades (1994) also points out that current events education can "open the door to higher levels of thinking and problem-solving skills." Common sources of current events include newspapers, videos, and a growing number of internet databases. Even still, many teachers primarily use newspapers and television as the focal

point of current events in their classrooms (Deveci, 2007). Opportunities for further learning and greater engagement with material lie in teaching current events through all possible media. As Deveci (2007) notes, as long as teachers select current events that exhibit "close relationship with the topic [of study]," students will benefit from their inclusion in the curriculum.

Current events as a supplementary curriculum could most easily be implemented in the social studies classroom. Haas and Laughlin (2000) assert that confronting controversial issues should be an aim of all social studies curricula. Studies already show how teachers use different methods to include current events instruction in their classes (Biser, 2008; Haas & Laughlin, 2000; McEnaney, 1997). As Haas and Laughlin (2000) discovered, students are typically more interested in current events than they are in the standard curriculum.

Problem-Based Learning (PBL) models have the potential to be a viable model for including current events in classrooms at all levels. Interdisciplinary PBL frameworks have been shown to be an effective catalyst for achievement in middle school students (Swan et al., 2013). Additionally, PBL models can increase the higher order thinking skills of students at any grade level (Raiyn & Tilchin, 2015). Raiyn and Tilchin (2015) propose an adaptable PBL model, too, that can be modified to reach learners of all levels. PBL in social studies classes has proven effective in recent years, as well. Secondary social studies classrooms, in particular, can see the benefits of different PBL models through different lenses. Research involving civics classrooms reached similar conclusions about interest in the course material using a PBL model (Hessberg, 2012). Additionally, Ioannou, Brown, Hannafin, and Boyer (2009) determined benefits of a PBL simulation using multimedia-based instructional materials in secondary social studies classrooms.
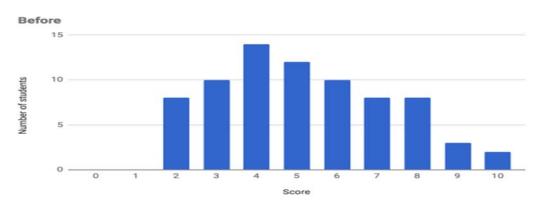
Methodology

The participants in this study were from the researcher's civics classroom at a school in suburban central North Carolina. The participants came from one standard level course and two honors level courses. Data was collected both quantitatively and qualitatively to determine students' attitudes and achievement with reference to their current events unit. The participants were asked to complete the New York Times current events quiz, which is a weekly quiz created by a NYT staff writer, Katherine Schulten. Released on Tuesday mornings, the quiz is ten multiple-choice questions that pertain to New York Times stories from the previous week, but
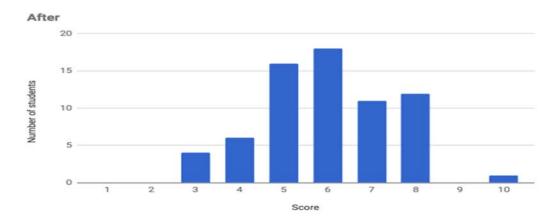
quiz-takers do not need to read the Times exclusively to have knowledge of the events covered. Students self-reported their scores with anonymity. Next, the researcher assigned a project on current events that covers the next news week. Students completed the project as part of their regular coursework for the class, and the following week the students took the next NYT current events quiz as a comparative post-test of their current events knowledge. With the post-test, the participants also took a survey with Likert-scale questions to determine their interest in current events, the participants' beliefs about their relevance, importance in the classroom, and impact on their lives.

<u>Results</u>

The New York Times Current Events Quiz was taken in order to measure participants' attention to headlines over the course of the unit. Students were asked to complete the quiz on their own and given as much time to complete it as they needed. The researcher monitored the students to make sure they were using no outside resources as they completed the quiz. As students completed the quiz, they self-reported to a spreadsheet the researcher provided; there was no grade associated with the quiz. This was done anonymously in order to reduce competition among peers and encourage honesty in reporting the scores. Seven more students reported their scores on the quiz before the unit than did after the unit. These scores were sorted into a column chart, presented in figure 1, that show a near-normal distribution of results.

Figure 1: Current Events Quiz scores before the unit

Following the completion of the unit, the scores remained in a close to normal distribution but jumped to a mean of nearly 1 point higher. Figure 2 shows the second distribution, while figure 3 places the scores next to one another.

Figure 2: Current Events Quiz scores after the unit

This data was examined using a two-tailed t-test for difference in means, shown in Figure 4. The increase in scores on the NYT Quiz is significant at the $\alpha = .005$ level. The data fails to reject the hypothesis $H1 : \mu1 - \mu2 \neq 0$ at 99.5% confidence. This significant increase shows that the implementation of a current events unit has a positive effect on student achievement, albeit on a singular quiz. Future research should consider multiple sources of assessing achievement in current events studies as a result of a Problem-Based Learning unit.

Figure 3:

Group Statistics

	group	N	Mean	Std. Deviation	Std. Error Mean
score	1	75	5.1867	2.12891	.24583
	2	68	5.9853	1.50117	.18204

H1 : µ1 − µ2 ≠ 0	**t**	**df**	**sig (2-tailed)**
	-2.568	141	0.011

The student survey was used to measure student attitudes towards current events learning and instruction. It used Likert-scale questions scaled from 1 to 5, with 1 being the lowest and 5 being the highest level of agreement with the statement or question. Students indicated that, on average, their interest in current events increased because of the unit project. They averaged 2.907 prior and 3.811 after, out of 5 points possible. Out of the 54 that returned the survey, 35

indicated a score of 3 or higher prior to the unit, and 50 indicated a score of 3 or higher following the unit. Additionally, 35 students indicated that their interest increased, 10 of which noted a 2-point increase out of 5 possible points. Only one student indicated that their interest in current events declined over the course of the unit.

When asked to evaluate via Likert-scale responses the importance of teaching current events in the classroom, students responded favorably. This being the first time many of the students had taken a Civics course, there was very little prior exposure to current events being taught as part of a course. Students overwhelmingly supported the current events unit, averaging a response of 4.278, where 5 is the highest rating possible. There was a drop-off, however, in the students' feelings about current events' relevance to their daily lives, giving only a 3.870 average response, again out of 5.

Conclusion

This research indicates that intentional current events studies in a social studies classroom can be effective in increasing students' attitudes towards and achievement in current events studies. The most resounding result from this research is the assertion that students will continue following current events, indicating that a focus on current events in the classroom leads to curiosity outside the classroom. Studying current events seemed to have a positive effect on the students' discussion and debate skills, their interest in following current events, and their short-term achievement in identifying local, national, and international news stories.

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The Impact of Anonymous Student Response Systems on Student Engagement and Achievement

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Introduction

Given the prevalence of mobile technologies in everyday life, modern research on instructional technology has focused on the implementation of computer and internet technology in classroom settings. Computers are an integral part of everyday life, and this prevalent use of computer technology places on education a duty "to prepare the children of today for the world of tomorrow, which in the early 21st century entails an increasing reliance on technology" (Friedman, et al, 2009, p. 477). Meta-analyses of studies examining the relationship between instructional technology and student performance show a moderate relationship (Baryraktar, 2001; Christmann & Badgett, 2003). In general, "studies linking the provision and use of technology with attainment tend to find consistent but small positive associations with educational outcomes" (Higgins, Xiao, & Katsipataki, 2012, p. 3).

Cellular phones fall under the category of "student response systems" and previous researchers have noted their usefulness as rudimentary clickers. When used to gather information about student opinions, or as a means of summative assessment in forced choice format, effectiveness has been mixed, with some authors noting the positive benefits of student response systems (Shafer & Collura, 2009) while others failed to find such positive results (Fallon & Forrest, 2011). However, newer mobile applications provide much more flexible options and far greater utility for educators.

The primary benefit of such classroom response systems is the anonymity they provide students. As much as teachers try to create a warm learning environment, many students lack the confidence to actively participate in classroom discussions, leading to unresolved content confusion. Shafer and Collura (2009) compared clickers with spontaneous hand raising and found that using clickers significantly improved test performance. By making responses

anonymous, students gain the benefits of traditional clickers with the added flexibility these more capable applications provide.

The present study will extend current understanding of the benefits of student response systems by examining the impact of newer applications like *TodaysMeet* in an anonymous response fashion on classroom environment and student achievement.

Methodology

The participant sample (N = 12) was obtained using cluster sampling of students across three academic classes (2 American History I, 1 Honors Civics) from a small, rural high school in the southeastern United States. At the start of a new unit of study, these students completed a quantitative survey consisting of eighteen (18) Likert-type questions measured on 10-point scales with anchor values determined by the construct evaluated in the question. As an alternative to student hand raising in class during this 6-week time period, an online chat room using the website *TodaysMeet* was utilized. Before each class period, all students logged into the chat room created for their class using anonymous usernames and were encouraged to communicate with one another regarding the content. All other classroom functions progressed as normal. Transcripts of each classroom chat room were downloaded and analyzed. At the conclusion of the testing period, students completed a post questionnaire identical in structure and content to the questionnaire administered prior to testing.

Results

Pre-Test Questionnaire Responses   Students from the beginning expressed very positive perceptions of the teacher and classroom environment. More specifically, students rated the overall classroom environment as very positive (7.9), with subsequent high ratings for overall classroom comfort (8.53), class satisfaction (9.20), and low ratings for anxiety (3.02). Students also showed positive affect towards the teacher, rating him as very fair (9.27) while meeting the students' learning needs (8.83) and giving the students very high confidence in their academic performance (7.97).

Student rapport was good, with most students getting along well with their comrades (7.29) and generally feeling comfortable expressing their ideas during class (7.63) and that they do not frequently contribute during classroom discussion (5.85). Interestingly though, students

reported that they do not frequently ask questions when confused (5.97) or that they feel embarrassed asking questions during class (3.76), and appear fairly neutral when asked whether they would ask more questions if they could do so anonymously (5.09).

Post-Test Questionnaire Responses   Implementation of the anonymous student response chat room had little impact on overall classroom environment. Student ratings of the classroom environment were still very positive (7.86), with positive ratings also for classroom comfort (8.31), class satisfaction (8.46), and slightly higher ratings for anxiety (3.94). Student perceptions of teacher fairness were still very high (9.32), with slight improvements in teacher's ability to meet the students' learning needs (9.00). Interestingly, students showed strong positive improvement in perceived confidence in academic performance (8.75)

Student relationships appear to have improved slightly, with students giving strong ratings for how well they get along with classmates (8.05). Students still feel comfortable expressing their ideas during class (7.38), and showed strong improvement in their frequency of contributing to classroom discussion (6.67). Students still report that they do not frequently ask questions when confused (6.14) and remain neutral in their opinion on whether they would ask more questions if they could do so anonymously (5.51), even though they generally do not feel embarrassed asking questions in class (3.18).

Chat room Discussions Student use of the provided anonymous-use chat room was surprisingly sparse but telling of the overall classroom environment. Students were generally eager and willing to log into the chat room at the start of each class. Within a few minutes of initially logging on, students promptly said hello in various fashions such as "hi," "Hello," "Heyyyyy," and "sup." All students followed instructions pertaining to the anonymity of their usernames, and no students created any usernames deemed inappropriate.

Discussion comments fell broadly into three categories: (1) Student content questions, (2) Student responses to those questions, and (3) Off-Topic Discussion. This latter category constituted the largest proportion of student discussion. Given the anonymous nature of the chat room, students quickly started talking to one another in a very casual manner. For instance, the students in American History I (1st Period) within minutes were posting casual phrases from popular culture, such as "cash me outside" and "spit that fire bro."

As time progressed, student online participation became increasingly focused and content related, with student questions initially focusing on activity instructions. During an activity where students were instructed to color in American land acquisition prior to the Louisiana Purchase, one student in 1st Period asked "do we color the one above Ohio and Indiana," which was quickly answered by another student with the response "No." Not long after, another student asked "what do we do after we find the Lewis and Clark trail..," which unfortunately was not answered by the other students, forcing that student to raise her hand and ask me directly. During the same activity in 2nd Period, one student asked whether he or she "can see someone's map to fill in my rivers." The students in Honors Civics did not ask questions of this nature, perhaps due to their age and maturity level.

The real focus and purpose behind the introduction of this chat room was to provide students an avenue for clarifying content-related information while taking to one another. The chat room was introduced as a supplement to normal classroom discussion, and regular classroom functions were maintained while the chat room was in use. As expected, students eventually utilized the chat room to ask each other questions related to the material being covered. During a discussion on America's acquisition of Florida, one student in 1st Period asked "What is the Adams Onis Treaty?" Soon several other students asked similar questions such as "what is the Berling Land Bridge," "What's the Monroe Doctrine," and "What if slavery resurfaced." Unfortunately, none of these questions were met with answers from other students, and the questions were eventually resolved verbally. Nevertheless, it was an important step forward in classroom participation, as the chat room allowed these students to ask questions that they may not have asked under normal circumstances. Several days later, while discussing the Corrupt Bargain, one student asked "what's more realistic electoral votes or popular votes," a great question to ask given the topic at hand. Another student quickly responded, "I'd say elector, it seems more official." Several minutes later, a third student responded "I feel like this website kinda helps," providing the first indication of student approval for this new classroom exercise. The students in 2nd Period followed a similar pattern, although their use occurred more sparingly. While learning about the acquisition of Florida, one student asked "why did we want Florida," leading another student to say "because we wanted the beach." After a few minutes, I answered the student's question, expressing "we purchased Florida mainly in order to complete our obtainment of east coast land, but Florida was also an important strategic location."

The best use of the chat room, and the real heart of this study, occurred when students posed interesting discussion questions that extended beyond the topic being covered. During 1st Period, while discussing Andrew Jackson, one student asked "do you think flags will ever change?" It was a great question that brought forth an interesting response from a student who said "I think the flags should stay original." I loved this question and response because it extended discussion beyond what we were covering and got them thinking. Another student soon after made a similarly great contribution, asking "why is the republican symbol an elephant?" A nearby student Googled the question and soon responded saying "Thomas Nast drew a donkey clothed in lion's skin, scaring away all the animals at the Zoo. One of those animals, the elephant, was labeled 'The Republican Vote.'" This interaction was great because (a) a student posed an interesting question not directly covered by the material, showing thought and understanding at a non-superficial level, and (b) another student used technological resources available to quickly research and answer the question.

Although some interesting discussions did occur, overall use of the chat room was well below expectation. This low turnout may be reflective of the overall positive nature of the classroom environment, and students have felt comfortable enough to ask questions without the need to post them digitally.

Discussion

The implementation of the anonymous use chat room boosted the frequency of technology use and student participation. Students were given daily opportunities to engage with fellow students on the chat room using their mobile devices, and they seem to have taken advantage of those opportunities to some degree. Students showed strong improvements in the frequency in which they contributed in class, and that increased frequency coincided with strong positive improvements in how well the students got along with fellow classmates.

Close examination of the nature of student engagement on the online chat room was indicative of a strong classroom environment, with sparse use of the chat room for content-related discussions but overall improvement in student-to-student interaction. The majority of the comments posted on the board were unrelated to content being covered, but their nature may stem from the unusually positive classroom environment. The casual nature of the chat room indicates that the board became an extension of sorts of the students' normal social

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environments, which boosted student engagement in this particular classroom. The students were close to one another as indicated from their strong survey responses, particularly the senior students enrolled in Honors Civics, and that closeness diminished the need for anonymity and digital interaction for classroom purposes. This technology, if utilized properly in classrooms with weaker student rapport, could significantly aid student learning.

While discussion may have been casual in nature, the anonymous chat room did lead to small improvements in student achievement. Students appeared more engaged during the study period, possibly resulting from being provided an avenue to converse in a non-disruptive manner, making the current results indicative of previous researchers who found technology use to lead to "consistent but small positive associations with educational outcomes" (Higgins, Xiao, & Katsipataki, 2012, p.3). In other words, the incorporation of the chat room provided small gains in achievement while causing minimal distractions in the overall environment.

While compelling, the results of this pilot study must be interpreted with caution due to the size of the student sample (N = 12), all of which came from one classroom at one High School. Performing follow-up investigations using larger samples in a variety of schools is warranted.

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The Use of Interpersonal Speaking Strategies and Oral Feedback to Support the Development of Students' L2 Ability in the High School Spanish Classroom

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Introduction

Today's society requires citizens to be globally-minded and able to communicate effectively with people of different cultures. The American Council on the Teaching of Foreign Languages (ACTFL) asserts in their position statement on global competence that environmental and health issues, as well as innovation throughout the globe, "require collaboration across borders" and joint problem-solving (ACTFL, 2014, p. 1). Language learning is necessary in order to foster the cultural competence and global readiness that is needed for students to succeed in the world today. Students need to be prepared to interact with members of different cultures and will need language proficiency to do so.

Part of being able to communicate effectively entails learning how to speak with others in the target language: spoken interpersonal communication. This type of communication is integral to the development of a student's second language (L2) proficiency, yet speaking in the language is often what causes students the most anxiety (Young, 2014). Teachers must be aware, then, of the types of encouragement and corrective feedback given in the classroom, while simultaneously engaging students interactively in order to provide opportunities for interpersonal development.

Literature Review

In considering language learning, ACTFL's *World-Readiness Standards for Learning Languages* (2015) are relevant for understanding what students should be able to accomplish. The standards include five goal areas of language learning (the "5 C's"), one of which is Communication. One of the very foundations of Communication is the interpersonal mode, defined as: "[l]earners interact and negotiate meaning in spoken, signed, or written conversations to share information, reactions, feelings, and opinions" (ACTFL, 2015, p. 1). This sets the precedent for what learners accomplish as they communicate, and the standards, according to

Young (2008, 2009) are crucial in that they "emphasize communication as being at the core of second language learning" and that "communication involves personal expression, interpretation, and negotiation of meaning where feelings, identities, personal relationships, information, and ideas are exchanged in various forms of human interaction" (Shrum & Glisan, 2016, p. 207). Because of the importance of interpersonal interaction, it is critical that world language teachers implement strategies that maximize the opportunities students have to engage in this type of communication. Hall (2009), paraphrasing Vygotsky (1978), adds, "[t]he search for interactional practices becomes one of the most important problems of the entire enterprise of understanding individual language learning, for teaching practices are simultaneously prerequisite and product, the tools and the results of language learning" (p. 12).

Although using the interpersonal mode is integral to a student's L2 development, it is often not incorporated well in the world language classroom (Glisan, 2012). Because of this, adopting intentional, effective teaching strategies that maximize opportunities for interpersonal communication is essential. Strategies can focus on discourse between the teacher and students (teacher-student), as well as discourse between pairs or groups of students (student-student). Teacher-student strategies include designing instruction that is student-centered and allowing students to have maximized opportunities to use the L2 in class. Glisan and Donato (2017) call this a High-Leverage Teaching Practice (HLTP) and explain, "[w]hat sets this HLTP apart from the others . . . is that it permeates everything that teachers do in their classrooms . . . . it can be viewed as a 'way of doing business' that is based upon beliefs concerning the role of the teacher in a more contemporary paradigm in which he or she is not always the imparter of knowledge on center stage" (p. 48). An example of a strategy that promotes student-student interpersonal communication is pair or small-group work requiring students to have conversations with one another. Implementing these types of tasks is important because, as Curtain and Dahlberg (2016) explain, "[i]nteraction is the key to the interpersonal mode and to language development for second language learners, and interactive language tasks are among the most important means by which this communication can be accomplished" (p. 133).

Supporting the interpersonal mode can also be accomplished through effective teacher feedback which includes error correction as well as praise. Shrum and Glisan (2016) explain that "[p]lanning meaningful and helpful responses is important in addressing the communicative goals of a standards-based curriculum" (p. 81). This is more than simply "informing the learner

only about correctness" (Hattie & Timperly, 2007, p. 82). Feedback also needs to extend beyond simple evaluation of students' utterances such as "Very good!" (Glisan & Donato, 2017; Hall, 2009). Rather, effective feedback helps students be aware of how they can improve their use of the target language and give them the opportunity to do so by noticing the error and repairing (Lyster & Ranta, 1997; Schmidt, 1994; Schmidt, 2001; Sheen & Ellis, 2011; Shrum & Glisan, 2016) in a positive, encouraging environment. Shrum and Glisan (2016) assert, "it is essential that the language classroom environment be one in which sharing opinions, offering a variety of possible responses, asking questions, negotiating meaning, and initiating unexpected conversations are welcomed" (p. 244).

Taking into account the importance of interpersonal communication as well as feedback related to error correction and the creation of a positive environment, the present study sought to answer the question, *How does the use of interpersonal speaking strategies and oral feedback support the development of students' L2 ability in the high school Spanish classroom?*

Methodology

The current study took place in a Level 3 Honors Spanish class at a public high school in North Carolina March 13-May 31, 2017 where the teacher-researcher was placed for a student teaching internship. The class was comprised of 23 students, 16 of whom were study participants. The study examined three data sets: student work, observations and field notes, and student survey responses. Student work was collected on March 17, March 23, and March 27 to comprise the first data set. The survey was completed on May 2 and the teacher-researcher continued reflection through May 31.

The first data set consisted of student work samples from three interpersonal speaking tasks, *entrevistas* (interviews). The teacher-researcher examined student progress between activities to see if the instructional strategies made a difference in their interpersonal speaking skills while simultaneously looking for growth in students' comprehensibility (vocabulary use, language control, pronunciation and fluency), and quality of communication (details and description used, fuller use of the L2, and maintaining conversation). The second data set included field notes the teacher-researcher made through observations during and after the study and through watching video-recorded class periods. The notes consisted of reflection on the effectiveness of teaching strategies and oral feedback. The third data set consisted of student responses to a written survey designed by the teacher-researcher. The survey asked students

about their experience in the class regarding the interpersonal speaking tasks and their opinions of teacher feedback. The teacher-researcher specifically examined student views on how/if they believed they improved in interpersonal speaking and if they believed the classroom atmosphere contributed to their interpersonal speaking ability and comfort level.

The three data sets collected were analyzed for the purpose of looking for patterns in students' language ability and development in Spanish, as well as the effectiveness of the strategies and oral feedback in supporting students' language development.

Results and Discussion

The results of this study regarding the first data set reflected that the three *entrevistas* allowed students to have opportunities to demonstrate potential growth in their language development. Though the growth was not sizable in terms of the L2 that students were producing within their proficiency range, the *entrevistas* took place only over the span of ten calendar days, and the teacher-researcher believes that with more time, students would have shown additional growth. Other limitations to the study include the fact that students may have been reading their notes while speaking, and the instructions given may have been too detailed and may have prevented students from creating questions on their own. Despite these limitations, examples of how students began to show growth in interpersonal speaking include the following. Five (5) of 15 students (33%) did not ask any questions in Spanish in the first *entrevista*, but began to ask questions in the second *entrevista.* Though students did not evidence greater accuracy of language use, by the second and/or third *entrevista*, the fluency of student responses generally increased in three of the 14 students (21%) who completed all *entrevistas*, and eight of these 14 students (57%) showed potential increases in variance/larger use of words by the third *entrevista*. The teacher-researcher acknowledges that although she observed some expansions in conversation, she did not specifically teach the students strategies for maintaining conversation, and she would change this for the future, as teaching this would most likely help students grow even more (Glisan & Donato, 2017; Naughton 2006; Shrum & Glisan, 2016).

The results of this study regarding the second data set, observations and field notes, indicated that students tended to feel apprehensive about speaking in class and responded well to encouragement. The teacher-researcher realized it took a conscious effort to move beyond simple feedback such as "Very good!" and that it was difficult to have interpersonal teacher-student conversations in class. One way in which the teacher-researcher enacted an opportunity for

interpersonal teacher-student discourse was through sharing "*buenas noticias*" ("good news") at the beginning of each class period. This was a time for students to talk about good news in their lives. The teacher-researcher also made a concerted effort to highlight the positive aspects of students' speech as well as to give them the opportunity to self-correct their errors, thereby providing them with more ownership in the learning process (Lyster, Saito, & Sato, 2013).

The results of this study regarding the third data set, the survey, revealed student perspectives on their comfort level and ability in speaking as well as their perspectives on teacher feedback. The survey included Likert-scale questions and open-ended questions. Twelve (12) of the 16 participants (75%) reported increased comfort in speaking and 13 of the 16 participants (81%) reported increased ability in speaking. Fourteen (14) of the 16 students (88%) reported that they either agreed or strongly agreed with the statement "The teacher gave me effective feedback (correction and/or praise) during class," and 15 of the 16 students (94%) reported that they either agreed or strongly agreed with the statement "The teacher created an atmosphere that helped me improve my interpersonal speaking skills and feel comfortable in doing so." The responses about comfort level and ability support the idea that it is necessary to affirm students and provide them with a positive learning environment. Students did not simply note this was happening in the class; instead, in the open-ended questions on the survey, some attributed this as the very reason for growth in comfort and ability in speaking Spanish with others. Additionally, their responses reiterated that time plays an integral role in learning a language as students gradually acquire more skills and L2 structures (ACTFL, 2012a, 2012b).

Conclusion

In conclusion, interpersonal speaking and teacher feedback are integral to students' L2 development. Given student anxiety in speaking and the frequent lack of interpersonal activities found in the classroom, it was important for the teacher-researcher to ensure students develop interpersonal speaking skills while feeling comfortable in doing so. The teacher-researcher found that using strategies such as providing many opportunities for students to practice speaking, and intentional oral feedback, including encouragement, supported the development of students' L2 ability. Even though the teacher-researcher did not see large gains in language use, the teacher-researcher did see growth in their L2 output in the *entrevistas* and it is important that students reported that they felt more comfortable and able to speak. The teacher-researcher believes with more time, there would be additional growth.

For the future, the level of scaffolding could be modified and the teacher-researcher should teach students strategies for how to maintain the conversation in Spanish as research suggests. The teacher-researcher would also recommend continuing with "*buenas noticias*" as a way to incorporate more interpersonal practice in the classroom that is directly related to students' lives. The teacher-researcher believes future investigation into how teacher feedback directly relates to student affect would be advantageous.

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Citizenship Education: Critical Investigations into History, Theory, and Pedagogy and Researching Students' Conceptions of Citizenship

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Citizenship education is a field of instruction within social studies dedicated to educating and shaping future citizens of a country and fostering positive "civic identity." Though the family is a major element within the process of socialization, American students' interactions with citizenship largely take place in the classroom, as the student is a member of the school community and exposure to citizenship education informs students of the processes of being and becoming a member of a state and country. Citizenship education is a varied and oft-debated field, as noted by Josic (2010). Much of this contestation is due to underlying power-dynamics of citizenship itself, influencing knowledge-production and legitimization. Traditional citizenship educational models involve emphasis on knowledge of a country's governmental systems and processes, and cultivating a sense of national identity. Focus on "participatory" and "personal-responsibility" models of citizenship, associated with voting/activism and financially responsible/successful citizen qualities respectively, are prevalent within traditional citizenship education (Westheimer & Kahne, 2004, p. 240). Emphasis on "successful" and personal-responsibility models produce what Josic identifies as a "socially stratified 'successful citizen'-someone who is successful in school and life, and others who are failures" (2010, p.11). Critical investigations of citizenship education offer opportunities to examine how citizenship is conceived, pedagogically engaged, and how the field can evolve from dichotomous associations of citizens as either *participatory* and *passive*, or *responsible* and *irresponsible*, working to foster empowerment and agency for today's youth (Josic 2010).

Ross defines citizenship as "the relationship between the individual and society, between the self and others" and argues "the curriculum must reflect this: it must help the individual understand their both their own identity and the nature of society, and most importantly, how to manage the complex relationship of rights and responsibilities that exist between the two" (2008, p. 493). Incorporation of identity and community within citizenship education may cultivate

awareness of students' agency within their surrounding environment, community and to greater spheres. This research offers an inductive qualitative approach to examine students' perceptions of citizenship within the environment of two Social Studies classrooms in a central North Carolina city and features discussion of lessons implemented during the study period centering on citizenship, human rights, American activism, the Enlightenment, and revolution.

Review of Literature

Josic's (2010) dissertation begins "as today's youth is growing up in societies made more complicated by globalization, the argument grows for expanding the discussion about citizenship education and in increasingly multicultural and interconnected societies, young people are developing new civic attitudes as well as 'attachments and identifications' as citizens within three levels of communities: local-cultural, national, and global" (p. iv). Zipin and Reid write of the Making Community Curricular (MCC) approach that blends incorporating students' prior knowledge and community perspectives and critiques of the dominant models of citizenship education, facilitating "the justice-oriented citizen, engaged in challenging social inequalities" promoting "deliberative" [agency-oriented vs. obligatory] democracy" (2008, p. 534-535).

Josic utilizes theoretical frameworks of Foucault promoting "critical examinations of ordinary processes [that] can lead to thinking of them in different ways and uncover other possibilities" (2010), p. 44).   Josic (2010) explores "the perspectives of youth in two public schools located in New York City and in…New Jersey" and used "two purposive samples of 28 high-school juniors and seniors exposed to advanced social-studies curriculum, the data were collected during a 12-week period through class and school-activities observations, researcher journaling, small group interviews of students, and follow-up interviews with individuals" (p. iv-v). Josic (2010) concludes: "as revealed in this study, youth shape their understandings of citizenship through the interplay of construction of belonging, engagement, and success within their communities and young people negotiate their multiple citizenship identities through the interaction of these three constructions and the institutional social relations predominantly within educational environment" (p. 131). This paper explores students' perceptions and experiences of citizenship different contexts and features descriptions of lessons centering on citizenship and empowerment during the study period.

Methodology

This was a qualitative inductive study utilizing data from survey responses of seven high school students analyzing their conceptions of citizenship, empowerment, and agency within community, country, and global contexts. The researcher is a pre-service teacher. The study incorporated elements of Josic's (2010) framework utilizing qualitative data of the author's survey, includes descriptions of the lessons implemented, and the researcher's impressions of the effectiveness of the project. The participating students were enrolled in an American history honors course (eleventh and twelfth graders) and a world history course (ninth graders) in a high school located in a central North Carolina city. The school is a Title One school with sixty-five percent of students receiving free lunch. Demographics within the school are approximately forty percent African American, thirty-five percent Hispanic, twenty percent white, four percent multi-ethnic, and one percent Asian. All students present in the classes participated within the lessons taught and completed surveys. Seven students are featured within this research, five were enrolled in the American history class and two in the world history class. Students participating within this study were generally reflective of the demographics present within the school. The questionnaires consist of seventeen questions centering on the student's understandings and experiences with community, national, and global citizenship. The researcher did not know who was authorized to participate in the study until final data were collected and the pre-service teaching period was over. This was conducted to eliminate the possibility of bias or coercion on the researcher/student-teacher's part during the student-teaching period.

Results and Discussion

Student's survey written responses varied. The survey asked students about their experiences as citizens within their communities, nation, and world. Themes emerging from the survey indicate: all students felt most active as a citizen within their community, four students associated volunteerism with active citizenship on the local level, and two students linked environmental awareness with global citizenship. Four senior students wrote of a strong negative view of the nation. One student indicated non-citizenship status for themselves and their parents within a survey response, and this contributed to a very negative view of the country. Three students identified English as the primary subject they felt most connected to, based on a sense of belonging in the class environment, one student choosing both English and history, two choosing history, one choosing band, math and science and one student feeling impartial to any specific course. A majority of students' conceptions of a "good citizen" were associated with

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obedience to laws, "active citizenship" associated with voting, volunteerism, and interaction with the community, and five out of six students believed "critical citizenship" was associated with disobedience and criminality rather than intellectual judgement.

The following passages contain responses from two students, identified as student four and student seven, to question two of the survey asking students to describe themselves as citizens in their community, nation, and world. Student four wrote "I see myself as an active citizen by voting, being conscientious, and advocating for both sides of an argument." Student seven wrote "in my community I simply go to school, get my education and come home. I do volunteer work for my community at times. In my nation I see myself as a smarter individual who can help our nation through my career and advance tech that could be used globally one day." Themes of community involvement, volunteerism, knowledge of local, national, and international issues, education, and advocacy are how students' associated themselves with citizenship in responses to question two overall. Question four asked students which citizenship context (local-cultural, national, or global) they felt most active within. Results show all students who replied indicated a local-cultural context. As the school is located within the local-cultural context, as well as the state/national, there is great opportunity to engage with active citizenship cultivation with students' through service education, local history projects, field trips, etc. Student seven's reply to question four also associated the playing of music with active citizenship which offers an exciting opportunity to examine the relationship between the arts and citizenship in further research.

Overall, students responded negatively to the question "how would you describe your nation." Student four stated "my nation, while advanced in the administration and protection of human rights, is severely lacking in key areas, and is too susceptible to corruption." Student seven wrote "I would describe my nation as a nation of uneducated or unequal people who are only out for themselves." American students are influenced in our current era of political instability and polarization. There is no doubt the discriminatory policies of President Donald Trump targeting migrants and the emphasis of law and order politics within his administration affect how youth of color perceive their nation. A priority of citizenship education should be to bridge the gap between empowerment in the community to empowerment within the nation. Students felt they were active within their communities and identified themselves as "active citizens" with their volunteerism in question three, and one felt he could make a difference

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nationally by utilizing his intellect and developing assistive technology to help people. How can educators further help and support our students in feeling more empowered in a national context?

During the research period, American history lessons centered on the creation of the United Nations Universal Declaration of Human Rights (U.N.U.D.H.R.) and historic American advocates for civil and human rights. World history lessons centered on the Enlightenment, the American, French, and Haitian revolutions and individuals associated with these events. Both lessons within the two classes culminated with a project in which students wrote about a certain individual associated with American civil and human rights activism or an individual associated with the Enlightenment or the revolutions listed above. Students evaluated the rights within the U.N.U.D.H.R. in American history as to which five were most important and why. World history students evaluated the philosophies of Popular Sovereignty or Natural Rights as to which was more important, why, and significance to today and outlined the significance of this philosophy with a chosen revolution studied. A hope of this assignment was to empower students with examples of agency in confronting corruption, racism, exploitation, and totalitarianism within history.

The original purpose of this study was to investigate the relationship between the lessons described above to the survey administered as a pre and post-test questioning perceptions of citizenship, community, nation, and world. Results were varied from students' in that no substantial relationship was observed. Problematic within this original hypothesis was that students could encounter a book, essay, news broadcast, documentary, or other informational item that affected their perceptions of the concepts listed above. The lack of relationship can be due to the small number of respondents in relation to the whole population of both classes. Informed consent was given for seven students out fifty-two students enrolled in the two classes.

Josic's (2010) theoretical framework was followed throughout, and the associated survey was judged to be an in-depth tool for understanding youths' conceptions of citizenship interacting with education and levels of socialization in a globalized world. However, the detailed nature of the survey requires much classroom time to be devoted to it (in each survey session students had forty-five minutes to complete their responses). The researcher notes the vocabulary was complex for some students based on their responses, especially for ninth-grade participants. Many students left questions blank, not fully answered, and responded with answers

that did not meet the target of the question. A shorter survey with vocabulary youth are more practiced with would benefit further research.

Conclusion

The opportunity for teachers and researchers to understand students' experiences of citizenship can and should inform curriculum. Themes from the study emerged centering around local citizenship orientation, volunteerism and active citizenship, and the linkage of recycling/environmental awareness with global citizenship. Older students' indicated a negative view of the nation. Students overwhelmingly named liberal arts subjects (English, history, and music) as the course they identified with and felt the most sense of belonging pertaining to the class environment. Vocabulary such as "good citizen" was associated with obedience to laws, "active citizenship" associated with voting, volunteerism, and interaction with the community. A majority of students wrote "critical citizenship" was associated with criminality rather than shrewd evaluation. A striking connection in this research is the contrast of youths' positive responses pertaining to community, citizenship, and activity with negative views of the nation.

The students within this study attended a Title One school and generally reflected the diverse demographics of the school. Therefore, this study also captures minority students' perceptions of citizenship during an historically discriminative political era. The policies of President Donald Trump regarding immigration, deportation, building the wall, emphasis on law and order politics, and travel-bans on seven Muslim countries have contributed to a period of fear, frustration, and anger for many American students. Teachers can utilize research to understand how students feel empowered and work to scaffold empowerment to the national level through lesson implementation, lessons on civic participation (attending town-halls, writing Congress members), etc. As youth are the future, we must work to empower our students to act within their local, national, and global spheres. The first place we can start is in the classroom.

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Studying World War I and Evaluating Student Growth in (Historical) Empathy

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Introduction

Many educators agree that the central goal of social studies curriculum and education is to prepare students to be equipped, if not be outright better citizens upon graduation. This vision has since expanded from merely being more actively engaged local and national citizens, to a pseudo-cosmopolitan vision for developing complete world citizens, prepared to tackle the world's most pressing problems. Considering the toxic rhetoric endemic to contemporary American discourse, political and otherwise, there is clearly much work to be done in this regard. Thus, melding a curriculum and pedagogy that fosters increased empathy is vital, both for the sustainment of democratic ideals and for the pursuit of global understanding. Considering the increasingly global nature of our world, placing U.S. historical events in global context is a necessary component in achieving these audacious, yet attainable goals.

The purpose of this action research project is to evaluate how studying the U.S. involvement in World War I from an international perspective helps to foster global historical empathy. The primary way this result is to be achieved is by presenting students with voices that are typically not presented in official narratives, textbooks, and even in popular discourse about the war. While commonplace amongst historians, high school students are rarely exposed to such perspectives. For this project, students are introduced to these varied points of view through the student-centered approach of guided primary source inquiry. As such, in what ways will students gain an understanding of the war while also expanding their sense of global historical empathy?

Previous Scholarship

The role of social studies in fostering student empathy has received increased attention from scholars. Kohlmeier (2006) maintains that skills in demonstrating empathy are needed in order to "be productive citizens in a democracy" (p. 52). Barton and Levstik (2009) have

provided a succinct definition of what lies at the core behind the concept of historical empathy. They note, summarizing the consensus reached in North American and Great Britain, that "[e]mpathy involves using the perspectives of people in the past to explain their actions" (p. 208). Furthermore, Barton and Levstik contend that historical empathy is a tool that can help students foster historical understanding and inspire action. However, they observe, historical empathy is often seen by teachers and the like as an end in itself.

Yeager, Foster, Maley, Anderson, and Morris (1998) have proposed four phases of historical empathy. The first stage is to introduce a historical event where human actions and reactions require analysis. To a certain degree, such topics need to be perplexing, although what *perplexing* is or is not can be entirely subjective. Additionally, it is ideal that students be able to connect to the historical actor's experience in some way via their own personal experience. The second phase is to understand the historical content and chronology historical actors operated in. Not only does this paradigm help us to understand the "why" of individuals' actions and reactions, as Endacott and Brooks (2013) note, this contextualization "frame[s] the circumstances under which the difficult situations were faced" (p. 10). Following this step, students then need to interpret the historical evidence. Finally, students reassemble the historical record by constructing a conclusive narrative framework.

Endacott and Brooks (2013) highlight just how difficult and contentious defining historical empathy can be. Similarly, Friedman and Garcia (2013) explain that defining historical empathy is "inherently nebulous" (p. 117). There are other pitfalls that can make evaluating the development of historical empathy problematic. For instance, Endacott and Brooks (2013) elucidate the limits of writing, rightfully pointing out that not all students have the same ability to convey their thoughts and ideas. Barton and Levstik (2009) point out that we also should not pass judgment on historical actors.

Primary sources can and do play a central role in helping students learn history, while also directly contributing to the development of historical empathy skills. According to Yeager et al. (1998), multiple authentic historical sources are needed in order to help students develop empathy skills. Furthermore, having students analyze primary source documents enables them to engage in what King, Newmann, and Carmichael (2009) have labeled "authentic intellectual work" (p. 43). As Eamon (2006) points out, critical thinking skills are honed as students are

exposed "to issues of context, selection and bias" (p. 297). These voices certainly aid in anchoring content. Tally and Goldenberg (2005) note that students found using primary sources to study history gave them more "in depth" knowledge, providing an opportunity to "see things for" oneself, and "learning 'the whole picture' of history" (p. 8).

While utilizing primary sources in secondary social studies classrooms is considered ideal, Wineburg (1991) highlights the multitude of problems that can arise in how students can and do interpret the validity of such sources. In fact, he observes that many students tend to question the validity and authenticity of primary sources, and rather perceive the *expert* perspective from textbooks and teachers to be the *real* history. Indeed, this tendency is similar to VanSledright (1994) findings on the tension inherent in the "relationship between historical fact and interpretation" (p. 2).

Methodology

This study centers on a six-lesson unit on the U.S. participation and role in the First World War. The central method used for introducing students to this content was through web-based and digitized primary sources, ranging from letter and diary collections, to photographs and artwork, to audio interviews from veterans and witnesses. Additionally, students were exposed to other cultural artifacts from the war, including brick-and-mortar memorials, and unofficial commemorative efforts, such as poems, television commercials, and historical satire. Each day, the teacher-researcher introduced key historiographical and chronological concepts that the students needed to contextualize these sources. Students engaged directly with the material, either through reading, listening or watching. In the case of the physical monuments, students took a *virtual field* trip to locations in France, Belgium, and the United States. Students grappled with the content, to borrow from Sizer and Sizer's (1999) terminology, using an array of pre-assembled guided research and analysis packets. These were either taken from the United States National Archives and Records Administration teacher resources, or were created by the teacher-researcher. Triangulating qualitative data through a blend of student artifacts, as well as pre- and post-test surveys, this study evaluates how using primary sources to study the U.S. role in this conflict helps to foster global historical empathy.

Sample Information

This action research project was conducted at a small rural high school, located in the southeastern United States. The school is located roughly thirty miles north of a mid-size metropolitan area. As of 2015, this school had a total student body population between 600 and 650 students. The research project was conducted during three periods of standard level U.S. History II (U.S. history since circa 1877). The first class had twelve students, the second class had twelve students, and the third class had sixteen students. Of these, initially eleven students obtained permission to participate. Ultimately, only nine students were used in this study, as two students failed to complete the pre-test questionnaire.

Results

Taken together, the seemingly simplistic activities described briefly above can work in concert, reinforcing content knowledge, while helping students directly engage with the historical material. But does this necessarily equate to increased historical empathy? If scholars have difficulty defining empathy, never mind historical empathy, it should come as no surprise that high school upper-classmen had comparable struggles. Nonetheless, based on their pre-survey responses, three students came in to the unit with a strong grasp on how to define the concept of empathy, and also how to identify it using specific examples. Three students demonstrated a more nuanced understanding of what empathy is following the unit. The remaining students demonstrated difficulty defining the concept for themselves throughout the unit, yet there were glimpses of comprehension and application, as evidenced by their thoughtful responses in the aforementioned summative assessment activities.

There were a couple of students who demonstrated considerable growth in terms of defining (historical) empathy and identifying what it is. For instance, although Student G still noted how empathy and sympathy are merely "opposites" at the end of the unit, further analysis of the data demonstrates the evolution in this student's understanding of the concept. This is exhibited in this student's use of the word "unspokeness" [*sic*] to describe the elemental bond between supposed enemies. Additionally, Student E explained how one can identify what empathy is by both being able "to show feelings," as well as being "able to understand someone's feelings," and "showing that you care for someone."

Student J also demonstrated marked growth in their development of empathy skills and identification. True, they used the *Oxford English Dictionary* to come to their definition: "the

ability to understand and share the feeling of another." However, this student appears to have come up with their own definition for sympathy, having noted how it "is the feeling of pity for another's feelings," and "usually not wanted by others." What is more, this student made the concepts their own in the example that they gave in order to identify what empathy is. "If anyone has lost a loved one while being in love with them," the student explained, "I can understand and share that feeling of absolute despair and sadness and help them through it."

Commentary

The multiple modes that students were able to engage with the historical content, as well as the concept of (historical) empathy helped students to learn about the U.S. experience in World War I from a global perspective. The effect that the unit of study had on student evolution in the realm of (historical) empathy often reinforced student understandings and definitions thereof, or improved their understanding of the concept. Considering the inherent ambiguity in defining empathy, even amongst scholars, the achievement of these students is quite inspired. Nonetheless, there were instances when students continued to struggle defining empathy for themselves, or even identifying an example. However, these same students could many times exhibit (historical) empathy, as evidenced by their summative analyses. That said, there were moments when many students continued to demonstrate difficulty in empathizing with soldier motivations for fighting the war. Furthermore, the majority of students identified sympathy with either "feeling bad" for someone, or even "feeling pity" toward them.

Primary sources helped students develop a better sense of what life was like for historical actors. As the overwhelming majority of responses indicate, this was certainly true during this unit on the First World War. Consequently, students gained a better understanding of what life was like within many combatant nations. Students also demonstrated the ability to compare and contrast these experiences, often times highlighting elemental similarities between the opposing sides. As such, these students found themselves similarly considering the utility of the war, especially when one considers the conditions of combat, as well as the heretofore-unseen number of casualties. For them, the ends ultimately did not justify the means. Finally, students also demonstrated an increased sense of what both empathy and historical empathy is as a direct result of grappling with the artifacts, textual and otherwise, from this highly complex historical

event. While there were those that struggled to actually define what empathy is, never mind what historical empathy is, their analyses demonstrate that they were in fact *getting it*.

Conclusion

Curriculum, social studies or otherwise, needs to focus on developing all student skills and attributes, and any course of study that omits this is fundamentally hindering comprehensive student growth. While challenging, the collective student growth during this unit was amazing, despite its varying degree. This unit, which began a month into the semester, helped to lay the foundation for further in-depth analysis for the remainder of our time together. Students not only demonstrated high-level analytical skills, as evidenced by their summative and formative assessments in the unit on the Second World War, but also demonstrated remarkable growth in the realm of empathy. This was particularly the case when we analyzed the human experience of the Great Depression in the United States. Indeed, many students were able to tap into the pain evidenced in the *Migrant Mother's* eyes, and quickly move beyond the realm of sympathy.

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The Effects of Performance Based Assessment on Student Attitude and Achievement in Historical Writing

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Many students find social studies classes inherently boring because students fail to find the connection between the historical topics in their classes and the current issues in their lives (Saye & Brush, 2004). These failed connections can lead students to dread their social studies classes and could potentially leave them walking away without a grasp on the studied material. To overcome this obstacle, Saye and Brush (2004) recommend that teachers should actively work to make the content more fun and enjoyable for the students, while observing multiple perspectives where the students are able to apply their own ideas and experiences to the historical content. Performance Based Assessments can be used as an alternative to traditional formative assessments such as multiple choice tests, as students actively work to create a product that demonstrates their understanding and mastery of the studied topic (Stanford, 2008). This study hopes to investigate the role of Performance Based Assessments on student attitude and achievement in historical writing in the high school social studies classroom.

Literature Review

The perception that the social studies content is boring is thought to stem from the content not being relevant or engaging with students because of the lack of personal connection to their lives (Saye and Brush, 2004). The first step to address the low interest by teachers should be to create an engaged pedagogy to help students make connections to the material. Bypassing the passivity of lecturing and heavy textbook reading commonly associated with traditional forms of teaching social studies, engaged pedagogy is centered around active exploration, construction, and learning by teacher focus on engagement, effectiveness, and viability (Norman & Spohrer, 1996). An engaged pedagogical approach can give students a more authentic purpose. Doing so will help create "deep, sustained learning" and will assist students in looking at the "problems of the past to more meaningfully address problems of their present and future" (Callahan, Saye, & Brush, 2014, p. 132). A key feature of engaged pedagogy and authentic

instruction is the utilization of Performance Based Assessments. Performance Based Assessments are a method of measuring student learning by having students create a product or a response, which are often project based, that serves as a deviation away from more traditional modes of assessment, such as multiple choice testing (Rudner & Boston, 1994; Wiggins, 1989). Not only do Performance Based Assessments work to build the bridge of relevancy for students, but they have been shown to be more effective than traditional assessment methods (Strobel, 2009).

Methodology

The action research study was conducted in an Advanced Placement United States History (APUSH) class during the spring semester of 2017 with an enrollment of seven students. The research study was completed over a five-day span, while students were learning the causes and events of the American Civil War. Data were collected from student writing samples of the Long Essay Question (LEQ) format, performance based assessments completed in class, surveys completed before and after the study, a questionnaire that was completed after the study, classroom observations, and field notes completed by the researcher. All of the seven students in the survey completed both the pre and post study LEQ's. Each LEQ was graded using the College Board rubric, where students can get a maximum score of six points by completing the essay. All research took place in a rural, public high school in western North Carolina that qualifies as a Title I school.

Two different performance based assessments were designed for this study. Intentionally, one of the assessments was designed to rely heavily on technology for its implementation, while the other used little to no technology. The first of the two assessments was an assignment that required students to create an infomercial video on sectional differences in the United States prior to the Civil War, where students recorded and edited a video on classroom iPads. The second of the assessments was low tech in its implementation, as students used little classroom technology to prepare their presentation for the assessment. Students were given the task of being a General in a specific Civil War battle, and they were required to study battle plans, reasons for the battle, the specific number of casualties, the victor of the battle, and the battle's outcomes and implications. The students were commanded into battle by their region's General of the particular military engagement, and then Generals instructed their soldiers what to do in the fight.
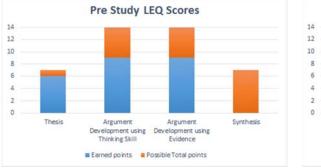
To triangulate any changes of attitude throughout the research process, the researcher collected pre and post surveys, took field notes through classroom observations, and had students complete a small questionnaire. These data points were cross analyzed to detail any changes in attitude and show any changes that occurred over the five-day unit.
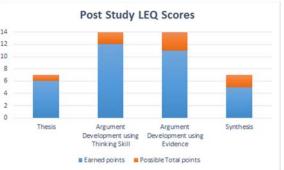
More quantitative in nature, data were also collected to determine if there were any changes in student achievement throughout the data collection. To measure potential changes, students' writings were graded using the standard APUSH LEQ rubric, and students were graded on the completion of the two performance based assessments, which were the infomercial presentation about sectional differences and the execution of the Civil War battle reenactment. These three measures were compared amongst one another to show any potential changes in completion of classwork.

Results

For the first LEQ essay, the class average was a 3.43 out of a possible 6 points. The highest recorded score was a five, which was recorded on two separate essays. The lowest reported score was a one. Zero points were awarded for synthesis, as only two students attempted to make a connection to another period in history but fell short as they only mentioned another period without establishing their connection.

Many students did not attempt to create synthesis and skipped directly to a conclusion in their essay. When attempted, the synthesis connection wasn't created. Student two concluded her LEQ with a sentence that said, "Much like the English Civil War the Americans ~~fought for repressi~~," with the beginning of her synthesis, presumably about fighting against repression, crossed out, with no further detail or supporting evidence. On the planning page attached to her essay, Student six wrote "probably not" after placing a question mark after her final section entitled synthesis.
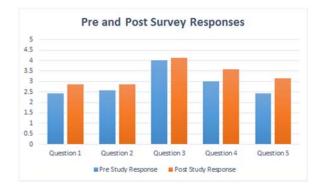
There were increases across the board in the scores for the second LEQ. The class average rose to a score of 4.86 out of a possible 6 points. The highest reported score on the second essay was a maximum score of six, which was reported by three different students. Again, the lowest score reported was a one, which was reported for a second time by student number three. Synthesis showed the most improvement across the class, as five of the students were awarded a point for accurately connecting their thesis to another relevant historical topic. Arguing against the statement that the North had won the war before it began, student four compared the Southern states to the colonists in the American Revolution, in that they were "the rebellious 'underdog' nation" and compared their "fighting morale and spirit" against a nation with a much larger navy.

Overall, there was a solid increase amongst reported students. In their essays, most students were able to fit many more relevant historical examples in their essay and use that evidence to support the targeted thinking skill of comparison. Student one chose to highlight "compromises such as the Kansas-Nebraska Act" and the Northern strategy entitled the Anaconda Plan to support his claim of the North having "an abundance of resources" and the ability of the government to use policy to "sway the public and other nations."

There was also a recorded increase in student response to each survey question that was asked in the pre and post survey. The first question, which asked how much students enjoy historical writing, increased from an average response of 2.42 to 2.86. In determining how strong they feel about their writing, their responses increased from 2.57 to 2.86. Class support was the highest reported response in both surveys, with a score of 4 in the pre survey, and a score of 4.14 in the post survey. Students reported that they enjoyed writing in history than other subjects, with an increase in tallied scores from 3 to 3.57. Reporting the highest jump between pre and post surveys, the fifth question, which asked how much they would rather complete a writing activity than a different form of assessment, saw an increase in score from 2.42 to 3.14.

There were two questions exclusive to the post survey that aimed to gather information about how the students perceived the performance based assessments. The first of the post survey questions asked students if they felt that the performance based assessments had helped them become a stronger writer, where the calculated class average was 3.57. The highest rated question in the survey was the final question, which asked students if they felt the performance based assessments helped them retain content they could use as supporting evidence in the

LEQ's. Two students reported a score of 4, while the other five students in the class recorded a score of 5, making the class average 4.71.

Pre and Post Survey Responses

There were reported changes in student attitude during the course of the study. When the students were presented content in the traditional manner of the class, which consisted of mainly lecture and classroom discussion, students were often disengaged. During the study, students were often involved in the discussion during the enactment of the performance based assessments. Students were actively discussing the content, while laughing. Students reiterated this sentiment in their questionnaire. Student one reported "the way we learned made the information more easily learnable, and fun to do rather than taking notes."

Student four articulated that "the new tests allow for more creativity and especially humor to involve more classmates with an idea. Students do not get these interactions with standard tests about the information." Student five stated "I retained more information, and learned more specific information by being forced to create something with the information." Student four added "the performance assessments helped me integrate the factual information by providing me with an emotional or physical connection to the material."

Discussion

Throughout this study, performance based assessments were effective with this group of AP students. They responded positively to the changes in instruction as well as the different assignments they were asked to complete. Six of the seven students in the study were able to report growth from the first LEQ to the second LEQ. All seven reported a positive change in attitude throughout the process, by increased reported scores on their survey, positive remarks on the questionnaire, and through changes in classroom behavior.

Meaningful learning was achieved through these performance based assessments. Students' authentic relationship with the content and non-traditional strategies helped foster this meaningful connection, as detailed by the Teachers Curriculum Institute (2010). Students showed problem solving skills throughout the entire process, and they were given a break from rote learning as the focus of the class shifted to completing real world, hands-on activities.

Conclusion

Performance based assessments helped create meaningful learning for these APUSH students, and their content knowledge was obvious in their historical writing. The varied assessments helped create a more enjoyable experience in the class and provided an alternative to rote learning. Student attitudes grew, as students reported enjoying the presentation of the class and the completion of the performance based assessments.

As teachers work to implement these changes in their classrooms, they should create lessons and assessments that specifically target learning goals and objectives, by first determining the desired effects of the lesson. Teachers should use the end goal to create authentic assignments and activities, and use developed writing prompts to allow students to express their personal connections with the learned content. Most importantly, instruction should be developed around the growing needs of students and should work to break away from the boring, rote perception of social studies and provide students with positive experiences with social studies content.

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Effects of Game-Based Learning on Attitude and Achievement in Elementary Mathematics

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Student attitude and achievement in math are two growing matters of interest in current educational research. The attitudes that students bring into the math classroom can greatly impact their future success in math. In the math classroom, students who believe they are "neither smart nor capable of effort are the most likely to have poor academic achievement" (Leroy & Bressoux, 2016, p. 49). Three of the most common factors attributed to negative attitudes and low motivation in the math classroom are low mathematical self-esteem (NCTM, 2014), negative messages about student potential (Boaler, 2016), and low perceived control over mathematical successes (Linder, Smart, & Cribbs, 2015). Boaler (2016) asserts that this dislike most students harbor for math stems from the way the subject is presented to these students in the classroom.

Literature Review

For many years, math education in the United States has relied on teacher lecture and independent drill and practice (Leroy & Bressoux, 2016). As Boaler (2016) claims, this rigid structure of math is not only unproductive for student learning but also destructive for student attitudes about math. A constant presence of drills and memorization may also lead to severe math anxiety, or the "panic, helplessness, paralysis and mental disorganization that arises among some people when they are required to solve a mathematical problem" (Hunt, 1985, p. 32). Math anxiety is very common among upper elementary students and can be detrimental to their learning experience in the classroom. This aversion to math is often elevated over time, leading to low math achievement, avoidance of math activities, and negative life experiences with math (Ramirez, Gunderson, Levine, & Beilock, 2013).

In order to make math education more engaging for all students, the process should involve the incorporation of simulation and competition in the classroom (Parker, 2015). For example, Ku, Chen, Wu, Lao, and Chan (2014) investigated a game-based approach to learning math and determined it was useful for increasing student engagement, motivation, and

achievement. They found that both high-ability and low-ability students gained significant confidence toward math through the game-based approach to learning.

One approach to Game-Based Learning (GBL) that has gained popularity recently is that of serious gaming. *Serious games* are games "designed and researched with careful attention to contemporary learning theories, including customization of task difficulty to the learner's capabilities, metacognitive reflection on the learning taking place, and consideration of the rich situated interaction among learner, game environment and classroom environment" (Young et al., 2012, p. 492). Serious games target the intrinsic motivation of students, relying on their internal drives for competition, interaction, and creativity. The mental mindsets that come along with serious gaming may help to provide students with critical thinking and problem solving skills that can be applied far beyond the math classroom. This study will examine how the use of serious gaming on the topic of ordered pairs affects student attitude and achievement for fifth grade mathematics learners.

Methodology

This action research study was conducted in the spring of 2017 with a standard-level fifth grade math class. This study investigated how the use of serious gaming on the topic of ordered pairs can affect student attitude and achievement for math learners in the fifth grade. The study was conducted at an elementary school in the southeastern United States with an enrollment of approximately 754 students. The fifth grade math class used for this study had twenty-seven students in the class. Twenty-five of these students returned signed consent forms with permission to participate in the study. The class was split among genders with twelve males and thirteen females. In order to protect the anonymity of the students, the researcher randomly assigned each of them to a number from one to twenty-five.

The data collection period for this research study spanned the course of five school days. The first and last days of the study ere used for pre and post assessments, survey administration, and student interviews. The middle three days were designated as instructional days to incorporate principles of GBL into classroom instruction. The periods of math instruction lasted sixty minutes each. During instruction, the researcher led the students through a series of game-based discovery learning activities including Coordinate Battleship, Finger Twister, Connect Four, Mission: Zombies, City Planner, Dice Game, and many more. Each of these games asked

students to use their knowledge of ordered pairs to think critically and develop a strategy for the particular activity.

Data on student attitude toward math was collected through daily surveys, student interviews, still photographs, and researcher field notes. Data on student achievement in ordered pairs was collected through student assessment, student artifacts, video recordings, and researcher field notes.

Results

Daily Attitude Surveys. The researcher handed out the surveys daily to all students. There were three questions on the survey, two close-ended and one open-ended. The close-ended questions asked students to rate their attitudes toward the daily math lesson and math in general using a Likert-type scale with smiley faces and single word descriptions. The open-ended question asked if students had any other comments they wanted to share.
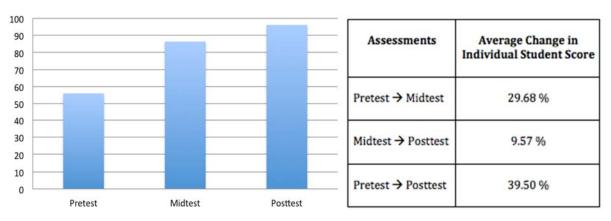
The questions on the survey were examined for common trends through open, axial, and selective coding methods. The baseline set of surveys, handed out before game intervention, was coded separately from the post-intervention set of surveys. Average percentages were calculated from the twenty-four students who took the survey each day. On these baseline surveys, 54 percent of students mentioned that they disliked math, while 67 percent of students wrote they were bad at math. Only 17 percent of students who participated in the survey said they enjoyed math. Since these numbers were drawn from the responses students entered into the final open-response question, it is possible that more students felt one of these three ways but did not express it. When examining the Likert-scale questions, 83 percent of students circled unhappy, worried, or bored about their feelings toward math on the baseline survey. Ninety-two percent of student's comments and reactions grew more positive each day. By the final day of instruction, 100 percent of students indicated they felt either good or happy about math.

Student Interviews. All seven of the students pulled out for individual interviews commented on how much more they enjoyed math when it was taught in the form of a game. The three major themes that arose from the interviews were increased growth mindset, problem solving skills, and student engagement. In terms of growth mindset, the students made comments such as, "I am getting so much better at math now," and "I learned a lot about ordered pairs. I didn't know it was possible but I understand so much more now." One student even added, "I used to think I was bad at math but now I think I just learn differently than most people. I would
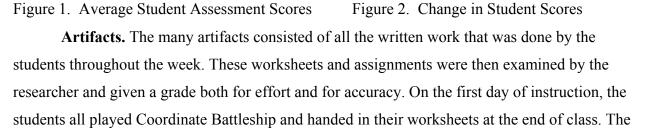
love to keep playing games to get better in math. I think if I could find a way to do that with fractions, I would finally be able to understand them."

Another common theme that arose from the interviews had to do with the problem solving skills that were strengthened through partner interaction. When asked if the students enjoyed working in partners, one claimed, "Yeah, I like working in partners cause I think differently from a lot of people. So having a partner is great because if I think one way about something and they think a different way, we can put our ideas together and hopefully get something right." Many other students echoed this sentiment with comments such as, "I liked being able to talk out loud while I was thinking," and "my partner got confused one time but I helped her think through her mistake."

The final theme from student interviews was increased student engagement during various classroom activities. Some of the comments that expressed this sentiment included, "I feel good about using games to get kids to learn math in a fun way," and "Learning math is not my favorite but this week I loved it! Usually I don't, but this week was great." Another student expressed that GBL "makes math feel like it's not math." When asked what he meant by this quote, the student expressed that "math is usually so boring but this week we saw that it could also be fun. We were playing games but we were also learning a lot and I think that is the best way to do a math class."

Assessment. The following figures contain both whole-class and individual student data.

Assessments	Average Change in Individual Student Score
Pretest → Midtest	29.68 %
Midtest → Posttest	9.57 %
Pretest → Posttest	39.50 %

Figure 1. Average Student Assessment Scores   Figure 2. Change in Student Scores

Artifacts. The many artifacts consisted of all the written work that was done by the students throughout the week. These worksheets and assignments were then examined by the researcher and given a grade both for effort and for accuracy. On the first day of instruction, the students all played Coordinate Battleship and handed in their worksheets at the end of class. The

class average for the battleship activity was an 84 percent. On the final day of instruction, the students rotated through five separate sections where they completed various activities and games dealing with the coordinate plane. The students demonstrated proficient knowledge of ordered pairs during the various games and worksheets. There were only 11 worksheets out of a total of 122 that contained any errors with the ordered pairs. This would translate to a class average of 91 percent for the day.

Video Recordings. Throughout instruction, the video camera picked up on many comments and conversations the researcher would have missed otherwise. The researcher classified interesting comments from these video clips as either aha moments, declarations of ease, or peer corrections. The recordings categorized as aha moments include student comments such as, "Ohh, that makes sense now," "Oops, I did that one wrong," and "Good point. I didn't think of that before!" Some of the comments from the declarations of ease category include, "I'm so good at this kind of math," "Look! We didn't make any mistakes," and "This is so easy." Finally, some of the most interesting comments in the peer corrections category include, "No, three comma four means over three *then* up four. You had it the other way around," "I think that ordered pair might be backwards," "Are you sure I didn't sink your ship yet?" and "Did you double check number six?"

Discussion

In the interviews and surveys, many of the students expressed an initial aversion to math that was lessened throughout the course of the GBL. They spoke of a looming sense of fear toward daily math instruction. These feelings of math anxiety that students expressed closely resembled those described by Hunt (1985). The negative attitudes that students felt toward math on the baseline surveys also went along with the research from Leroy and Bressoux (2016), who determined that students who struggle with low math self-esteem are the most likely to have poor achievement in the math classroom.

The incorporation of serious games was successful because the games "make math feel like it's not math," and pushed many students "to work harder than [they] normally would because the work was fun and challenging." The guided discovery learning process allowed the students to work together to tackle complex, real-world situations. Many of the students commented on how having a partner was very beneficial to their overall success with ordered pairs.

The comments from the students throughout the study showed that students had begun to view their math ability as fluid, or something that could be developed through hard work and dedication. Many of the students who originally believed they were bad at math claimed after the study they knew they could succeed through more engaged practice. The comments and corrections that students made during their conversations showed they had developed a fundamental understanding of ordered pairs and the coordinate plane. The students felt comfortable enough with the material not only to correct their partner but also to explain why the partner's thinking was invalid. These various examples, coupled with the dramatic increase in students' assessment scores, showed the GBL increased both student attitude and achievement in math.

Conclusions

The results of this study have many implications for students in the math classroom. The participants demonstrated significant improvements both in their attitudes about math and their achievement in ordered pairs. Thus, this action research study corroborated the literature surrounding the impact of serious games on attitude and achievement. These results may encourage other researchers and practitioners to continue investigating and searching for additional methods to more effectively integrate GBL into instructional practices.

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