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Student Engagement with Video Instruction—How to Engage 7th-Grade Social Studies Students and Diverse Academic Abilities with Video in the Classroom

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Dedication

I dedicate this dissertation to my girlfriend, Chelsea. You were the one that encouraged me throughout this process. To my parents Glen and Becky, for supporting me in so many ways through this journey. You three are the foundation that allow me to complete whatever I set my mind to in life.

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Abstract

This mixed methods action research study explored the use of video-enhanced instruction in a seventh-grade social studies classroom in a small, rural middle school in the southeast United States. The primary research questions for this study was, How do different strategies for video-enhanced instruction support or challenge engagement in learning for students with diverse academic abilities? This dissertation will describe how I used the SAMR model of technology integration (Puentedura, 2012), and David Havens' (2014) framework for engagement with technology to enact and study the impact of three different ways that video-enhanced instruction could be used to support students identified as academically gifted and talented while also supporting achievement for non-classified students. The results of this study indicated how students of various levels of academic ability can be supported in different ways based on their appreciation for different levels of integration of video-enhanced lessons. The findings and their implications for teachers, administrators, instructional coaches, and curriculum developers are discussed along with an implementation plan for building on this work in the future.

Keywords: Video instruction, student engagement, action research, SAMR model, students classified as gifted and talented

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Chapter 1

Introduction

For the past five years, I have worked as a middle school social studies teacher in a "magnet" school for four classes of students each year students in a mid-sized metropolitan area in the southeast United States. In this area, several different magnet schools draw students with unique interests and abilities in an attempt to foster targeted learning based on student interests. This school is a magnet for students with demonstrated ability in music and fine arts but also has a unique population of students from military families, students of district employees, and students who were selected through a lottery process. A large portion of the school is made up of students that are classified as gifted and talented (g/t) academically, in the arts, or both. As there is no gifted and talented class for seventh-grade social studies, I teach mixed groups of students classified as g/t and students not classified as g/t students. Due to this, I use practices that are most effective to teach both students classified as g/t and students not classified as g/t in my classroom.

As this school is a one-to-one device school, with each student having their own Google Chromebook, I have many opportunities to utilize different types of technology in my lessons. One of the most common practices I utilize is video instruction. I began using video instruction after attending a professional development session on flipped

classrooms. This session highlighted using video instruction as a replacement for lecture. Ever since I attended this session five years ago, I continue to create videos for students to watch on a platform called Edpuzzle.com. While utilizing this platform, students watch videos of the narrated PowerPoint presentations with which I typically lecture but that also include multiple-choice questions and other resources such as videos from YouTube and History.com built into the lesson. I teach one unit each year (the Cold War) in which basic instruction that would be typically taught by lecture in class was instead delivered via video. After completing the videos, students engage in partner and group activities to learn the material in depth.

Each year, at first, students are very excited about the video instruction. Students demonstrate both verbal and non-verbal approval as they pump their fists or call out with an affirming "yes!" after I explain the video instruction they will be taking part in during the next unit. They enjoy having a change in their daily routine and like many of the advantages that video instruction had to offer. However, after several days of video instruction, many students state that they are bored and show decreased levels of motivation during my classroom observations. I have noticed this is especially the case for students classified as g/t. I have observed them directing their eyes in places other than their screens. Some put their heads on the table, demonstrating apathy. A handful of my students classified as g/t admit they would rather just answer the multiple-choice questions and get their grade than stay engaged with the video. This made me wonder what was causing this disengagement? How were students that were excited for video instruction just weeks prior now bored of it? And why was the lack of engagement seemingly stronger amongst my students classified as g/t? For these reasons, I look closer

at the usage of video in the classroom and specifically analyze the impact of video as an academic tool for both the students classified as g/t and students not classified as g/t. Videos are used in my classrooms and in educational settings all around the world, so I decided to study this topic to find an answer in my local context through action research.

In a pilot study conducted in the spring of 2018, I implemented video instruction for content delivery to students 3–4 times a week in class. All videos were teacher created and were narrated PowerPoints with additional resources such as videos and pictures. During video instruction, students learned basic information about the Cold War, filled in blanks and highlighted key information in skeleton notes, and answered multiple-choice questions. These videos were uploaded on Edpuzzle.com. Students received a classwork grade based on the percentage of multiple-choice questions they got right while interacting with the video. Students watched videos for 20–25 minutes per class and the other part of class they were involved in a collaborative activity.

After the pilot study, I conducted focus groups. A total of 15 students were included in three separate focus groups. I posed all students with four questions: (a) What did you initially like about video instruction for content delivery? (b) Did your interest wane about multiple uses? (c) Why did that change? and (d) What suggestions do you have for improving video instruction? While coding and analyzing the data, I reached the following conclusions. Out of the seven students that were classified as g/t, six admitted to waning interest. Out of the eight students not classified as g/t, three admitted their interest waned, while the other five said it did not. Students mentioned that the video lessons were repetitive, they got tired of them, they lost attention, and it was hard to

focus. Some even mentioned that they would often stop listening to the videos, and one student vocalized that it was difficult to stay awake during the videos.

The primary suggestion that the students had for lack of engagement in video instruction was that video instruction for content delivery should be used less frequently. Several students also mentioned that they prefer the traditional direct instruction atmosphere due to its interactivity and the ability to ask questions to the instructor. When it came to what students liked about the videos, the pacing was one of the key benefits. Several students stated they liked the ability to rewind and watch videos again if they needed to. On the other hand, others enjoyed the ability to watch the videos and move forward, rather than having to listen to other's questions, as they had to do with lectures. They also liked the questions that were embedded within the videos and admitted that it helped them pay attention. Overall, this pilot study revealed that there are both positives and negatives to video instruction for content delivery. Yet, with the overwhelming amount of students, especially students classified as g/t, stating their interest waned, there is clearly a problem of practice in my local setting with student engagement in video instruction for content delivery.

Initially, this study was going to analyze video instruction as a means for content delivery and find ways to further engage students with this type of video instruction. As this pilot study revealed, maybe it was not a matter of how to make video instruction for content delivery more engaging for students. Maybe the problem was video instruction for content delivery is not enough. Possibly the nature of these videos as replacements for direct instruction was not harnessing the full power of video instruction. Perhaps students want to be challenged more and create videos of their own. This led me to revise my

intervention and research questions to not only determine the best way to use video instruction as a means of content delivery but also in a more integrated, creative, and collaborative way.

Problem of Practice (PoP)

This study aimed to explore how to better support student engagement with video instruction in a diverse classroom. The problem of practice is that student engagement wanes after multiple uses of video instruction for content delivery. This problem is experienced at much higher rates among students classified as g/t.

Using video as a multimedia device has become more and more widespread (Nagy, 2018). A lot of today's educational institutions use online educational materials such as video (Nagy, 2018). Succinctly put, videos, which are utilized in a variety of ways, are here to stay. Flipped classrooms, blended learning, and Massive Online Open Courses (MOOCs) are becoming more commonplace in different educational settings (Allan & Seaman, 2017; Öznacar, Köprülü, & Çağlar, 2019; Schechter, Kazakoff, Bundschuh, Prescott, & Macaruso, 2017). Flipped classrooms are when students learn course content outside of the classroom and then apply the material they learned to activities and discussions within the classroom (Gomez-Lanier, 2018). Blended learning also incorporates the use of technology but differs from flipped classroom because students interact with both traditional methods of teaching and technology (Alnoori & Obaid, 2017). MOOCs are online courses that are typically free for students to take (Pilli, Admiraal, & Salli, 2018). Between MOOCs and online classes through colleges, there has been massive growth in the number of students learning digitally (Allen & Seaman, 2017). A total of 6 million students were taking at least one online course in the fall of

2015. In higher education, 29.7% of students are taking one or more online courses, and 14.3% are exclusively learning online (Allen & Seaman, 2017). While online learning becomes more prevalent in education, implementation of video will as well. Instructors are determining ways to use multimedia resources such as video to make it both effective and engaging for their students (Nagy, 2018).

This study focuses on video instruction through student engagement. Research on student engagement is plentiful (Kinnari-Korpela, 2015; Litao, 2017; Suzanne, 2015). Engagement itself is an ambiguous term that has many meanings. Pittaway (2016), realizing the complexity of this term, stated, "students displaying behaviour influenced by internal and external factors cannot simply be turned into 'engaged students', although by creating favourable conditions (e.g. supportive frameworks and opportunities) we can facilitate the likelihood of more engagement behaviours" (p. 250). There are also assertions in the literature that cognitive (giving effort into learning) and affective (interest and enjoyment in school) factors are important to engaging students as well (Nicholson & Putwain, 2015). Throughout the literature, one thing is certainly clear: Student engagement hinges on conditions the instructor creates (Holland, 2014; Lancellotti, Thomas, & Kohli, 2016). In this specific study, engagement was defined using three characteristics: focus, success, and enjoyment in the lesson being taught. By using this meaning of engagement throughout multiple ways of implementing video instruction, this study aimed to find the best ways to use video in the classroom.

The usage of video in the classroom can be done in a variety of ways. Through the technology integration model SAMR (substitution, augmentation, modification, and redefinition), video incorporated in the classroom can be used on all four levels.

Although video is commonly used for content delivery in flipped, blended, and online classrooms, typically on the substitution or augmentation levels on SAMR, video can also be used in the modification and redefinition levels as well. In comparison to video lectures, students often gain educational value by creating their own videos, an engaging process (Clemmons & Posey, 2016; Mackay & Strickland, 2018; Parra, 2017. Student creation of video is another way to assess students outside of a traditional testing method, such as multiple-choice assessments (Lee, Hoffman, Chowdhury, & Sergueeva, 2018).

Video instruction for content delivery has been widely studied (Griswold, Overson, & Benassi, 2017; Park & Jung, 2016; Schacter & Szpunar, 2015). In a study by Devlin, Feldhaus, and Bentrem (2013), video instruction for delivering assignment instructions led to more student engagement compared to traditional face-to-face instruction. In research on video case studies in a business course, students became more engaged in their studies. Therefore, it was found that video instruction has the ability to further engage students (Pond, 2016). In a school in Chile, where students have limited access to technology at home, researchers found that the usage of Khan Academy in mathematics instruction offered a new way for students to engage in math practices and improved the learning environment in the school (Light & Pierson, 2014).

Although video instruction has been found as an engaging learning experience in the aforementioned studies, not all students are engaged by video instruction. For example, in Schacter and Szpunar's (2015) study on video instruction, many students admitted that their minds were wandering. In Lancellotti, Thomas, and Kohli's (2016) study on video instruction, 24.6% of students preferred traditional lecture to a combined video and face-to-face lecture approach. Another study in which there were issues with

student engagement was Snyder, Paska, and Besozzi's (2014) study in which some students felt that video was boring, emphasized passive learning, and did not help create a rapport between the student and instructor. As can be seen in these multiple studies, video instruction for content delivery often does not engage all students.

There is also research available on what components of video instruction are key to engaging students, and what the instructor should consider when creating videos (Adams and Porter, 2016; Colasante & Douglas, 2016; Schacter & Szpunar, 2015). Porter and Tiahrt (2016) published a list of recommendations and methods for teachers considering the use of video instruction in their classroom. Among these methods are: using outside sources, such as YouTube, recording their classes, and recording studio-style lectures. Some recommendations they suggested were to remember your audience, prepare before you start, play around with the software, decide on a theme and style for videos, start with one course, do not stop, and have fun (Porter & Tiahrt, 2016). This study revealed that there are many ways for instructors to incorporate video instruction in their classroom and many components to consider. Furthermore, giving recommendations to teachers considering using video instruction demonstrates that there are others analyzing components of video instruction and what makes them successful.

Students classified as g/t, referred to as "advanced learners" in Tomlinson's (2001) book, *How to Differentiate Instruction in Mixed-Ability Classrooms*, need differentiated instruction. The purpose of differentiation is to maximize the capacity of the learning for each student and therefore it is vital to offer learning opportunities to advanced students that challenge them accordingly (Tomlinson, 2001). One key advantage of video instruction is that it offers the possibility for more differentiated

instruction in the classroom (Crews & Neal, 2014; Holland, 2014). Videos are ideal for differentiation because whereas some videos simply present main ideas, others cover topics in greater depth, which would be more appropriate for advanced learners (Tomlinson, 2001). By giving advanced learners the opportunity to be challenged by these more detailed videos, teachers can differentiate these students' experiences from others, and hopefully engage them more than the basic level informational videos. Advanced learners, although they are performing at a high level, can become mentally lazy. These learners need vigorous activity, and if they are successful with little effort, it can impact them negatively (Tomlinson, 2001). By providing them with more difficult and cognitively stimulating learning opportunities, it is likely that these learners will be more engaged with the videos.

Many teachers struggle with student engagement. According to Nicholson and Putwain, (2015), students are often disengaged for a multitude of reasons, including factors such as student and teacher relations and the way they are taught or cognitive factors. One of the key methods I have used is video instruction for content delivery, with which some students are engaged, while others are not (most outwardly my students classified as g/t—this will be explained more in my purpose statement section). This study aimed to determine ways to better implement video in the classroom to foster student engagement.

To foster student engagement, specific theoretical frameworks were selected. These frameworks, which are discussed in more detail in the next section, were used to both create engaging video instruction lessons and to evaluate the level each lesson was at on a scale. By utilizing these frameworks, I was able to mindfully create video lessons

that would engage students and be able to compare the differences between different usages of video instruction.

Theoretical Framework

Direct instruction itself is often not enough to engage students. It is clear that student engagement hinges on more than basic practices such as direct instruction. Using interactive techniques in the classroom are twice as effective as lecture (Gray & Madson, 2007). Technology integration was another key area of this study. David Havens' (2014) framework for student engagement with technology is a prime example of effective ways to integrate technology in the classroom. This framework consists of five components: social motivation, creativity, personalization, educator engagement, and interactivity. *Social motivation* is when learning is put "in the context of the student's social environment" (Havens, 2014, p. 3). Furthermore, collaboration, gamification, and competition are also components of social motivation. *Creativity* is when the many tools that technology offers are used by students to create something and to further originality, autonomy, and curiosity. The third component, *personalization*, is when the content is relevant to students' lives and is at their competency level. *Educator engagement* includes the educator being able to give live feedback and to observe. The final component is *interactivity*, which centers on the technology being able to "provide immediate feedback, ability to rewind or review, and checks for understanding" (Havens, 2014, p. 4).

The main theoretical framework of this study is the integration of the technology model, the SAMR model. According to this model, there are four different steps for integrating technology in the classroom. The higher on the scale, the more effective the

technology is (Sheninger & Kieschnick, 2012). This framework begins with *substitution*, which is when technology serves as a substitute for something else, but there is no change. Next is *augmentation*, when the technology acts as a substitute but offers some functional improvement. Then there is *modification*, in which the technology "allows for significant task redesign" (Puentedura, 2012, p. 6). At the highest level, there is redefinition, in which the technology gives the ability to create new tasks that would not be possible without it (Puentedura, 2012).

The SAMR model served as the primary theoretical framework for this study. As both the SAMR model and Havens' (2014) technology integration framework suggest, there are many creative components that can enhance student engagement with technology integration. Video instruction for content delivery is not always engaging to students, but video can be used in other ways that increase engagement. Incorporate the higher levels of the SAMR model with video in the classroom should increase engagement.

Together, the SAMR model and David Havens' framework for student engagement with technology were used to plan the activities students used in this study. When planning these lessons, I justified each with the five corresponding characteristics from Havens' model to optimize student engagement. Furthermore, I used the SAMR model with each lesson design, starting at the augmentation level and then going to the modification and redefinition models. Whereas I used both of these frameworks for planning, the SAMR model was used to compare student engagement and student achievement among the different levels of SAMR to determine if there was a difference between the levels.

Research Questions

The purpose of this action research study was to identify how strategies of video-enhanced instruction foster higher levels of student engagement for students with varying levels of academic ability. To this end, I utilized the SAMR model of technology integration (Puentedura, 2012) together with Havens' framework for measuring student engagement (2014) in the design, enactment and analysis of three cycles of action research. In each cycle of inquiry, I incorporated video into my instruction at a specific level of the SAMR model. For example, in the first cycle of inquiry, video was used to Augment the lesson, the A level of the SAMR model. In each cycle, instructor and student data were collected and analyzed.

This action research design was guided by the theoretical framework I have already described as well as the following research question: How do different strategies for video-enhanced instruction support or challenge engagement in learning for students with diverse academic abilities?

I chose this research question to determine how different uses of video instruction affect student engagement. With many flipped, blended, and online courses utilizing video as a replacement for traditional lecture and basic content delivery, it is important to understand why students lose interest in this type of learning. Another reason I developed this question was to determine other ways that the medium of video can be used both with content delivery and in other ways to boost student engagement. This question is targeted for students classified as g/t, who were identified in my local data to have the most occurrences of becoming disengaged with video instruction for content delivery. As video can be used in a multitude of ways other than for content delivery, the intervention

for this study aimed to find engaging ways to use video at all levels of the SAMR model, and to determine if certain uses of video instruction are more engaging for others, specifically between students classified as g/t and students not classified as g/t.

Researcher Positionality

My positionality in this action research study is a lone insider. Lone insiders typically study their own practices in the setting in which they take place. Many times, an insider's goal is to study these practices in relation to a program that they are implementing (Herr & Anderson, 2015). As the researcher, I constructed the procedures of the study, created the videos lessons that the participants engaged in, and was solely in charge of collecting the data and drawing conclusions, which fits well into the category of a lone insider.

There was a high level of collaboration between the participants and myself. I am the seventh-grade social studies teacher for all students in this study. I taught the participants in 55-minute classes, five days a week (on a regular week). During this study, I interacted with the participants while carrying out the video lessons. I explained instructions, helped students that needed assistance, evaluated student work, designed and implemented exit tickets, and conducted semi-structured interviews to obtain data.

Collaboration occurred with other adults during this study. I collaborated my dissertation chair before and throughout the research study to get suggestions and feedback on how to best carry out the study. Furthermore, a teacher my seventh-grade teaching team also coded the qualitative Google form and semi-structured interview data for inter-coder reliability purposes.

Research Design

I used a mixed-methods action research design for this study. Mixed methods research relies on the mixing of both qualitative and quantitative methods at several points in the research process (Creamer, 2018). The utilization of quantitative and qualitative methods together "proves better understanding of research problems than either approach alone" (Creswell, Plano, & Clark, 2007, as cited in Creamer, 2018, p. 5). Furthermore, Creamer (2018) stated that using both qualitative and quantitative approaches adds value and creates "more robust findings" (p. 5).

In this study, students completed three different lessons, each of which lasted three days. These lessons started at the augmentation level of the SAMR model. In this level, the students watched teacher-created content videos with questions embedded within. Next, at the modification level, students created their own screencast videos to explain a concept from the unit. The final lesson was the redefinition lesson, in which students created an animation video about an event from the unit, shared their animation to a collaborative online Google Slides presentation, commented on other students' animations, and then answered questions that other students posed about their animations.

Through the use of quantitative data, I was able to measure student engagement while using different types of video instruction in the classroom via exit tickets with Likert scale questions, as well as collect student evaluations from each lesson. Exit tickets, often times called exit slips, are generally a way for students to reflect on their experience with a lesson (Marzano, 2012). Exit tickets were given each time students interacted with video during this study. These exit tickets included Likert scale statements with open-ended responses that asked students how they were engaged with

video during the instruction. Likert scales are commonly used in educational research as attitude scales (Fraenkal, Wallen, & Hyun, 2015). These Likert scale questions measured students' focus, success with the lesson, and enjoyment of the lesson. Whereas the Likert scales gave students the opportunity to rate their engagement, the open-ended responses gave students the ability to further expand on their experiences.

I used a common quantitative research method called correlational research, which "investigates the degree of relationship between two or more variables in a given situation" (Efron & Ravid, 2013, p. 45) In this study, quantitative data was collected during different phases and helped me analyze the correlation between the level of video being used via the SAMR model and the student Likert scale responses from exit tickets that measured engagement. By comparing the two, I was able to find the correlation between different usages of video and engagement using quantitative methods. Furthermore, evaluation scores were analyzed to see how successful students were at each level.

The median scores from the Likert scale rating of the exit tickets was compared to the type of video that was being utilized in the lesson to determine how engaging it was in comparison to the level of the video instruction on the SAMR model. To analyze this data, I used non-parametric tests, such as the Wilcoxon Signed Rank Test and the Mann-Whitney U Test. Non-parametric tests were used because I was comparing medians instead of means. Nonparametric techniques are used when you cannot make many assumptions about the data or the population from which the data is taken (Fraenkal et al., 2015). The determination of comparing medians was due to the fact that in the Google form, the students had the choice of choosing a number value from 1 to 5. A

ranking of 1 meant “not at all,” while a 5 meant “very much.” However, there were no values assigned to the 2, 3, or 4 ratings. Therefore, I could not make the assumption that the distance between a 1 and a 2, or a 2 and a 4, for example, are the same. The Wilcoxon Signed Rank Test is a nonparametric test that is generally used to “test the null hypothesis that the median of a distribution is equal to some value” (Shier, 2004, p. 1). This test was used to compare the engagement data between the three different video lessons on the separate levels of the SAMR model for statistical significance. The Mann-Whitney U Test is a nonparametric alternative to a t-test that is used to compare two different groups (Fraenkal et al., 2015). This test was used to analyze the quantitative Likert scale scores between students classified as g/t and students not classified as g/t to see if there was statistical significance.

Although student achievement is not a part of the research question, student achievement can have an impact of student engagement (Dyer, 2015). Due to this, I collected other quantitative data in this study, such as evaluation results. For each activity, the students received scores based on the amount of answers they got correct (for the augmentation level) or a rubric (for the modification and redefinition levels). To analyze this evaluation data for statistical significance across the levels of SAMR, I used a parametric test—the paired samples t-Test. Parametric techniques are used when assumptions about the nature of the population can be made (Fraenkal et al., 2015). A t-test for means is a parametric test used to determine if the difference between the means of two samples is significant (Fraenkal et al., 2015). Due to the sample population being consistent across all three levels and evaluations, a paired t-test was used to determine statistical significance between augmentation, modification, and redefinition. To analyze

the statistics between students classified as g/t and students not classified as g/t, an independent samples t-test was used. An independent samples t-test is utilized to compare the mean scores of two independent groups (Fraenkal et al., 2015). As the students classified as g/t and students not classified as g/t were two independent groups, the independent samples t-test allowed me to see if there was any statistical significance between the mean scores of these two groups.

Action research is typically when the researchers themselves are heavily involved in the research study and have control over it (Herr & Anderson, 2015). Due to my lone insider positionality and small size and scope of this study (one class and a little over four weeks), this study is an action research study. I analyzed a sample of one class to collect data from to conduct this study, which is typical of an action research study. Also, the length of the study was a four-week period, which although is brief, also is a characteristic common of action research.

Other characteristics of action research that are present in this study are that I generated new knowledge (constructivist), understood my own situation (situational), used research to improve practices in my specific setting (practical), I had thought out process (systematic), and I created new questions to be examined in future studies (cyclical) (Efron & Ravid, 2013). In this study, I generated new knowledge by finding ways to engage students using different types of video instruction, which I can then use to improve the usage of video instruction in the future. I used the findings created new questions about video instruction that I can then explore in new cycles of research. Also, I am the instructor of the participants, and with my insider knowledge of the participants, I knew the participants in depth while enacting the study.

This research was conducted in a seventh-grade social studies classroom in the Southeast United States. Currently, the school has a population of 460 students. Out of the 460 students, 91 are state identified as gifted and talented both academically and artistically. There are an additional 94 students that are identified as gifted and talented only academically, and 79 that are labeled as gifted and talented solely artistically. Overall, 57.4% of the school population is identified as gifted and talented in at least one area, and 40.2% of the school is identified as gifted and talented academically. The school is a public magnet school, meaning that the students must qualify to be admitted. There are primarily three factors that grant students admission. The majority of students enter through a program that requires student auditions to qualify as gifted in the arts. These arts include but are not limited to: band, strings, chorus, dance, drama, and visual arts. These students often fall into the gifted and talented category academically as well.

The next largest population in our school is military students. The school is located on a military base, and our school serves as the home school for the children of active military personnel that live on the base. The remainder of our students feed in from an elementary school. Students gain entry into this school through a lottery system. Students are required to take math, science, ELA, and social studies, and have the option of choosing two of the following electives: dance, drama, band, chorus, strings, visual arts, physical education, computer science, or general music.

At the time of the study, there were six classes of seventh-grade social studies, and I taught four of them. Class sizes averaged 24 students per class, for a total of 95 students. For this study, I purposively sampled one block of students. This block of students was the first class of the day and comprised of 23 students. Out of these students,

there were 12 boys and 11 girls. There were 9 students state identified as gifted solely academically, 2 students that were state identified as only gifted in the arts, 5 students that were state identified as both, and 7 students that were not classified as g/t. As this study aimed to focus on students that are classified as academically gifted, this class, which has 13 out of 23 students (60.9%) identified as gifted academically, served as an excellent representation of this student population. This class also had several students that are not classified as g/t academically, whose results from the study were compared and analyzed with the students classified as g/t as well.

At the time of this study, I was finishing my fifth year of teaching in this position and tried a variety of strategies to engage all of their students. Student engagement is a struggle that many teachers deal with. According to Nicholson and Putwain (2015), students are often disengaged for a multitude of reasons, which include factors such as student and teacher relations and the way they are taught or cognitive factors. One of the key methods I have used is video instruction, which some students have been engaged with, while others have not, most outwardly the students classified as academically g/t. This study aimed to determine ways to better implement in the classroom to foster student engagement.

While gathering data from qualitative and quantitative methods, validity was important. To keep validity at the forefront, there must be a sufficient level of internal validity in the study. The internal validity is the trustworthiness of the inferences that I made based on the collected data. This can be broken down into five different types of validity: dialogic/process (new knowledge is generated), outcome (action-oriented outcomes are achieved), catalytic (both researcher and participants are educated),

democratic (local setting relevance), and process validity (appropriate methodology) (Herr & Anderson, 2015). Through this study, I constructed new knowledge of ways to incorporate video in the classroom. The outcome was to use these new strategies to continue to improve video instruction. Both the participants and I found change in our understanding while experiencing the process. The study was completed at my workplace (where video instruction is prominent), and methodologies were appropriately selected to analyze and interpret the data collected. I was solely in charge of the study and process, which gave me a unique positionality in this case.

Significance of the Study

The middle school in this study was one of many that have one-to-one device access for their students. As a result, more instructors were given the opportunity to utilize this technology in their instruction. As more teachers have self-implemented or been pushed to integrate technology in their classrooms, more classrooms have seen video instruction become a staple. This has led to more flipped and blended classrooms that utilize video instruction as an important component for teaching students content. As a one-to-one device school, this middle school was a perfect scenario to implement this study. By analyzing ways to make video instruction engaging for students, I improved my practice.

I generated knowledge for myself and my local setting in this action research study. As mentioned in the research questions, part of this study was focused on analyzing how video instruction engaged students with diverse backgrounds, specifically those who are classified as g/t. By purposively selecting a class of students, I included a diverse sample of students, including both those classified as g/t and those not classified

as g/t, and students of different racial, gender, socioeconomic, and other backgrounds. Judging by the student population at the school during the study, it was likely to have a student that represented almost every single diverse group in the student sample and to include a number of students classified as g/t. This allowed me to understand how to better instruct diverse student populations in the future and to make considerations based on diversity.

After identifying ways that incorporating video instruction was engaging or disengaging, I will be able to improve future lessons with video instruction. This will allow me to be more selective and intentional when creating material for video instruction and setting up lessons that incorporate video, which in return, will improve student engagement. This will likely further impact my classroom by having more engaged students, who will be able to master material learned while interacting with videos.

The knowledge gained in this study may also be transferable to other similar settings. The intended audience for this study is middle school social studies teachers with students classified as g/t. As these teachers would have similar conditions to this study, this would likely create the most transferability. Although these educators could find this research to be the most transferable, this research could potentially be evocative to any teacher that either uses or is considering implementing video into their classrooms.

Limitations of the Study

Students in the school were digital natives who have been trained in how to effectively use their devices. I also demonstrated to students how to navigate the videos

and necessary websites and apps. However, an assumption in this action research study was that students know how to effectively operate their devices to interact with and learn from the video instruction. There were also students who may not have had a lot of exposure to technology at home or in elementary school. Even students that have been through the training may not retain the information, as they may not have listened due to a lack of engagement, or simply do not retain information well. As the main data collection tool in this study was the usage of exit tickets, a limitation could be that students may not know how to carefully fill out Likert scale surveys and provide valuable feedback.

Another assumption is that seventh-grade students understood the difference of using devices for educational purposes versus entertainment purposes. Students may have believed that videos are used for entertainment purposes only, as students commonly stream videos at home from Youtube, Netflix, and other services. The participants needed to understand that video instruction in the classroom is different than interacting with videos for entertainment. To continue in this thread, if students are using their devices to play video games or visit entertainment websites or apps instead of watching and interacting with the video instruction, this could be a serious problem. Through strict teacher observation and explanation, these assumptions were addressed.

As this study focuses on students classified as gifted and talented, it may leave out detailed research on other student groups. These groups include but are not limited to: gender groups, racial groups, students with different socioeconomic statuses, and learning disabled students. However, I purposively studied students classified as g/t due to the problem of practice and the academic setting. Also, attrition of students was another

issues, with several students having issues with their devices and others missing school due to illness and other reasons.

My own potential biases, assumptions, and positionality are other possible weaknesses of this study. Growing up in a primarily middle and upper class suburban area and school system has limited my opportunity to have experiences with people of diverse backgrounds. Specifically, I have spent most of their life surrounded with others with backgrounds similar to my own. Although I have experienced much more diversity in my adult life over the past five years, there are likely many biases and assumptions that remain embedded due to my upbringing. Some of the assumptions stated previously, such as the assumption that students have access to technology at home and understand how to use devices for educational purposes, are a direct result of how I was raised in a middle-class home with technology available and parental support to show me how to use it in an educational way. As a result, part of this research is devoted to analyzing how video instruction engages diverse members of society, with a focus on students classified as g/t.

Organization of the Dissertation

This dissertation is organized into five separate chapters. Chapter 2 is the literature review, which focuses on the relevant studies on video instruction that are pertinent to the problem of practice. Chapter 3 describes the methodology used for the dissertation and goes into detail about the data collection process, audience, and environment that is being studied. Chapter 4 focuses on the findings of the research study, including important information gathered from the study, and a discussion of the results. Finally, Chapter 5 discusses the results in further detail and highlights the limitations and future implications of the study.

Chapter 1, the introductory chapter, focused on identifying the problem of practice, key research questions, a brief review of the literature, researcher positionality, limitations, and providing a glossary of terms for the dissertation. This chapter is intended to serve as an outline to the study and to introduce the research study to the reader.

Glossary of Terms

Blended learning: when students interact with both traditional methods of teaching and technology (Alnoori & Obaid, 2017).

Chromebook: a computer that runs on Chrome operating system, which utilizes cloud storage and Google programs (Chromebook Help, n.d.). This will be the primary device used by participants in this research study.

Device(s): any machine that can be used to connect to the Internet. In this study, students used technology to access or interact with videos (i.e.- Chromebooks, laptops, desktop computers, smartphones, tablets, etc.)

Edpuzzle: a website and app that instructors use to upload videos online. This tool allows teachers to crop, voiceover, and add questions to videos. These videos can be teacher created or borrowed from other sources (other teachers, Khan Academy, YouTube, etc.) This tool also tracks student progress and success with interacting and watching the videos (Edpuzzle Team, n.d.).

Engagement: a term to describe if a student was focused, felt a sense of accomplishment and enjoyed the content they are being taught. Student engagement hinges on four

characteristics: success, curiosity, originality, and relationships (Strong, Silver, & Robinson, 1995).

Flipped classroom: when students learn course content outside of the classroom and then apply the material they learned to activities and discussions within the classroom (Gomez-Lanier, 2018).

One-to-one: a term that means the ratio of devices in a school and students is 1:1, that all students have access to devices inside (and sometimes outside) the school setting. This can help teachers enhance student technology skills, personalize material, and allow for more creative work (Harold & Doran, 2016).

SAMR: a technology integration model that focuses on four ways to utilize technology: substitution, augmentation, modification, and redefinition (Puentedora, 2012).

Screencast-O-Matic: an online tool that allows instructors to create recordings of their own computer screens and includes features such as voice recording, screen cropping, and screen splitting (including the instructor's face and the screencast). These recordings can be saved and uploaded onto websites. (Screencast-O-Matic.com, n.d.). These videos can be uploaded on websites such as Edpuzzle and YouTube and then accessed by anyone.

Students classified as gifted and talented (g/t) : students who are often referred to as "advanced learners," which can mean when a student is advanced in comparison to their peers in a certain area (Tomlinson, 2001). In this study, students classified as academically g/t are state identified. This process requires taking a test in the state of South Carolina that places them in this group.

Students not classified as g/t: students who are not in the advanced learner (g/t) category. In this study, these are students who are not identified as academically gifted and talented.

Video components: any part of a video used for content delivery (i.e., open-ended responses, multiple choice questions, etc.) that adds something new to the video outside of watching the video.

Video instruction: a method of instruction in which students watch and interact with digital video content to learn the material. This often serves as a way to deliver key information in many different types of classrooms (Brame, 2015).

Chapter 2

Literature Review

In this review of the literature, I examined video instruction as a teaching strategy The purpose of this action research study was to identify how strategies of video-enhanced instruction foster higher levels of student engagement for students with varying levels of academic ability. Before I enacted this study, I used video mostly as a means for content delivery, which replaced my face-to-face lecture. Although this form of video instruction proved to engage students at first, engagement levels decreased after it was used several times. This was experienced at higher rates among my students classified as g/t. Due to this problem, I realized I needed to better understand video-enhanced instruction among different ability levels in my classroom. This led me to design an intervention in which students interacted with video-enhanced instruction at different levels of the SAMR model. The design of this mixed methods, action research study was guided by the following research question: How do different strategies for video-enhanced instruction support or challenge engagement in learning for students with diverse academic abilities?

This chapter is organized into several parts. The first part is the historical perspectives. Secondly, I analyze the theoretical perspectives of video instruction. Next, I discuss the relationship between learning modalities (differentiated instruction) and video

instruction. After this section, I include a section on social justice and video instruction focusing on how different groups of students learn with video instruction. There will then be a thorough review of the literature on video instruction, specifically on how it has impacted student engagement and achievement. The final part of the literature review will focus on different video components and how they have been used in research studies, as well as how student-created video has been used to engage students in previous studies.

Purpose of the Review

Literature reviews are vital to synthesize and summarize research that others have done that relates to the topic of research. This helps build the rationale for the study and highlights the importance of the research question (Efron & Ravid, 2013). The sources for this literature review include textbooks, journals, and articles, primarily accessed through the University of South Carolina's Thomas Cooper Library Database. Some of the key databases utilized in this literature review were: ERIC, Humanities Sources, Hospitality and Tourism Complete. The purpose of this review is to summarize and synthesize much of the research that pertains to video instruction and its use in different scenarios. One key part of the literature being analyzed is studies on how to effectively use video instruction in the classroom to engage all students. The historical perspectives will give the reader insight into the ways that history has been traditionally taught, and then give a brief introduction on how the incorporation of key technologies such as video instruction has changed the teaching of this subject. By analyzing the literature on Scholar Academic and Learner Centered Ideologies, along with the SAMR model and David Haven's technology integration model and their relations to video instruction, I

ground the practice of video instruction in educational theory. Specifically, this will show the versatility of video instruction and how it falls into several categories of theory.

The next five parts of the literature review are critical for providing an idea of what previous studies have already found on video instruction. The section on differentiated instruction and learning modalities shows how video instruction can be used to reach students that learn in different ways. This part of the literature review also delves into research on students classified as g/t and their experiences with video instruction, and looks at social justice factors as well. The segment on student engagement reveals data from other studies on how video instruction has either succeeded or failed in engaging students in a variety of content areas and levels of education. Student achievement is important to include due to the impact that it can have on engagement in the classroom (Dyer, 2015), and provides evidence that video instruction is not only a useful medium for engagement but for learning as well. By providing an extensive review of different video components and how they are used in video instruction, I illuminate the components that have shown previous success and the components that have not. Additionally, the section on student-created video explains the benefits of having students create their own videos in the classroom. These studies assisted me in choosing components to include in my content delivery videos for the augmentation level of my action research study and how to best implement student-created video activities on the modification and redefinition levels.

Historical Perspectives

Social studies traditionally is a subject that is taught by means of face-to-face lecture. This method is sometimes referred to as “chalk and talk,” where the teacher is on

stage and presents the material to the student in a lecture format (Nair & Narayanasamy, 2017). Lecture is a type of teaching that has been marginalized in the world of education. Evidence shows that lecturing hinders independent thinking, is detrimental to the attitudes of students, and lacks the ability to motivate students (Bligh, D. 1971; Bligh, D. A., 1998). Other literature suggests that history lectures and textbooks often alienate the students from the content (Loewen, 1995). Instructors that utilize lecture often times view students as vessels that are receiving knowledge and do not allow them to bring in prior knowledge to build on (King, 1993). Furthermore, history is frequently taught in a manner that is exam-oriented: It is taught to the test that neglects to further students' thinking and understanding skills. As a result of the teacher-centered approach in many history classrooms, students often view history as a boring subject and have a lack of engagement in the subject (Nair & Narayanasamy, 2017). Since these lectures often push memorization of facts and do not relate to the lives of the students and prior knowledge, student engagement in motivation in these courses are low (Perrotta & Bohan, 2013). The traditional lecture-based history classroom is being challenged and a new classroom in a digital world in emerging.

Although videos have been used in social studies classrooms in different ways throughout history, current technology allows video instruction to be more dynamic than ever. Teachers can now create and use videos with a wide array of components to help supplement or even fully replace their face-to-face lectures. Today, instructors have the power to record themselves and the contents of their computer screens and have their face in the video as well (Kizilcec, Bailenson, & Gomez, 2015). Using different online platforms, instructors can embed quizzes in their videos to check for comprehension

(Schacter & Szpunar, 2015). These quizzes can range from simple true-and-false questions all the way to multiple choice and even short response or essay questions. Instructors can include components such as animations, on-screen text, and narration to enhance their videos, too (Amosa Isiaka Gambari, Akawo Angwal Yaki, Eli S. Gana, & Queen Eguono Ughovwa, 2014). These components have transformed a process wherein a teacher would use a VCR or DVD to play videos with an accompanying worksheet into one where videos can be streamed from anywhere with seemingly endless possibilities for engagement.

In addition, video can be used not only as a teaching tool for replacing and enhancing direct instruction but also can be used as a way for students to demonstrate knowledge. With screencast and video capabilities available on most devices today, students can create their own videos. With these videos, students can meet learning objectives and show mastery of content and skills. Furthermore, students can add in a wide array of multimedia and technology tools in their videos that would be inconceivable without the use of technology to strengthen their learning as well.

With all of these possibilities and seemingly endless uses for video instruction in the classroom, the question that remains is how can instructors utilize video in the best way to engage their students?

Theoretical Perspectives

Teachers use video in classrooms in a variety of ways with different outcomes. This section will begin by looking at the two frameworks used in this study to examine video instruction. The first is the SAMR model, a model that is utilized to self-assess and

plan technology lessons with the goal of enhancing and transforming instruction (Puentedura, 2012). The next is David Havens' (2014) framework for engagement with technology, which provides five components to include in a technology lesson to enhance student engagement. Lastly, this section will explore how video instruction fits into the scholar academic and learner-centered ideologies, how it can play a role in facilitating differentiated instruction, how it impacts students classified as g/t, how it engages and impacts student achievement, how it plays a role in social justice by meeting needs of diverse groups of learners, how different video components help or hinder all of these factors, and how student-created video can be used to engage students.

The SAMR Model

The SAMR model, created by Ruben R. Puentedura in 2006, is a technology integration model that provides a framework for educators to develop optimal learning experiences on technological devices (Romrell, Wood, & Kidder, 2014). This model has four levels and can be used for using, selecting, and evaluating technology in educational settings (Puentedura, 2006, in Hamilton, Rosenberg & Akcaoglu, 2016). Each letter in the SAMR model stands for a part of the model. The "S" in SAMR stands for substitution and is when "tech acts as a direct tool substitute, with no functional change" (Puentedura, 2015). The next level is augmentation, and is defined as when "tech acts as a direct tool substitute, with functional improvement" (Puentedura, 2015, p. 2). The "M" stands for modification, which is when "tech allows for significant task redesign" (Puentedura, 2015, p. 2). The last part of the SAMR model is redefinition, or when "tech allows for the creation of new tasks, previously inconceivable" (Puentedura, 2015, p. 2). This model,

which is often displayed in the form of a ladder, encourages educators to move up the ladder, which can lead to higher levels of learning and teaching (Hamilton et al., 2016).

David Havens' Framework for Engagement With Technology

David Havens' (2014) framework for engagement with technology provides a tool that intersects both student engagement and technology tools. To do this, the framework incorporates measurable elements into five distinct categories that can be used to determine what makes an effective and engaging technology tool. The goal of this framework is to provide a tool that intersects both student engagement and technology tools. The first of the five categories is *social motivation*, which is defined as when the lesson is put in the context of the student's social environment. Havens suggests that elements such as collaboration, gamification, and competition can enhance social motivation. The next category is *creativity*, in which the technology tools are used to enhance curiosity, autonomy, and originality. The third category is *personalization* of the content. This includes two considerations: that the technology and lesson should be kept in the students' zone of proximal development and the content should be applicable to the lives of the students. Furthermore, the lesson and technology used should be modified for the students' learning profiles. The next category is *educator engagement*, which is defined as "how well can a teacher or mentor see what is going on or give live feedback" (Havens, 2014, p. 4). The final category in this framework is *interactivity* and is met when immediate feedback is given, along with the ability for the student to review or rewind the material and given checks for understanding along the way (Havens, 2014).

The Scholar Academic Ideology

In most classrooms, there is a mixture of theoretical approaches used to determine curriculum. When it comes to direct instruction, or simply the teacher delivering content to the students, it generally falls under the scholar academic ideology. In this ideology of curriculum development, the adult (the teacher) transmits the information to the student. By doing this, the goal of the teacher using this ideology is to focus on the content or discipline that is being taught. The learning is solely a function of the teaching, and the curriculum is less focused on the child's mind and more on the content itself (Schiro, 2013). Sometimes, this type of teaching is referred to as a teacher-centered classroom and is seen in a wide array of classrooms, especially in college courses. In their 2010 study, Kahl and Venette described that some professors are starting to abandon the teacher-centered classroom and are moving towards student-centered classrooms. They found that this traditional method of teaching does not meet the needs of all students, and implementing a mixture of methods can improve student achievement on activities such as outlines (Kahl & Venette, 2010). Although there seems to be a growing movement away from the scholar academic ideology in today's education system, the teacher-centered classroom is still used by many. In Pathamathamakul's (2016) study on challenges of moving away from teacher-centered classrooms in science, it was found that the teacher-centered method is sometimes the preferred method of teaching, especially in large classrooms, where carrying out student-centered activities is more difficult (Pathamathamakul, 2016).

In typical video instruction, the transmission of content from the teacher to the student is often the goal, and videos provide a fantastic medium for the transmission of

content (Bahnnson & Olejnikova, 2017; McGovern & Baruca, 2013). The students watch the video and learn through both listening and viewing. Even when these videos are teacher created, they can be focused on a specific content and discipline. This is why video instruction is often used as a supplement or replacement for face-to-face lecture. Even though video instruction in its simplest form would fall under the scholar academic ideology umbrella, it would be unfair to place video instruction solely under this theory, as it offers many other possibilities.

Learner-Centered Ideology

Video instruction can do so much more than simply transmit knowledge, which is why it could fall under so many different theoretical ideologies, depending on how it is used. As mentioned before, with the addition of components in videos, such as adding a teacher's face (Kizilcec et al., 2015) or imbedding assessments (Schacter & Szpunar, 2015), videos can become a dynamic form of instruction. In the learner-centered ideology, the needs of the learner are considered first before the content. In this ideology, students are often the ones that choose topics that interest them. Teachers can utilize this ideology by giving students a multitude of different content or activities from which to learn (Schiro, 2013). Video instruction has the potential to work well with this ideology. As teachers create and build a library of different topics and content that students can view, they can then allow students to choose which videos they want to watch based on the content that interests them. As Xue Zheng (2017) found in his study, the learner centered approach leads to more time for in-class activities, which students often find to be beneficial (Xue Zheng, 2017). Video instruction can be a fantastic tool to use either

outside of class or during class to cut down on teacher-centered lecture and to give more time for engaging in-class activities.

Another component of the learner-centered ideology is that it assumes that students learn at different rates and should be afforded the opportunity to learn at their own pace (Schiro, 2013). The learner-centered ideology can also help meet the needs of a diverse student population by focusing on the specific needs of students and adapting to their learning styles (Brown, 2003). Video instruction allows students to work at their own pace and rate based on their ability levels and stages of development (Johnston & Karafotias, 2016). For example, this sentiment was shown especially by ESL learners in a study done by Johnston and Karafotias (2016). These students watched different types of videos, such as PowerPoint with teacher video in a separate window, voiceover demonstration and teacher video, PowerPoint with voice only, and voice-only videos. The ESL students found it advantageous that they could go back and see content more than one time (Johnston & Karafotias, 2016). Videos not only offer advantages to remedial learners but to students classified as g/t as well (Holland, 2014; Lo & Hew, 2017). In a research study done by Holland (2014), it was found that students classified g/t in politics and international relations courses preferred videos such as current affairs and fictional TV that related to their content because it allowed them to take the basic content learned in lecture-based videos and further analyze it using critical thinking skills (Holland, 2014).

Through the studies explained in the previous paragraph, it is clear that video instruction offers the flexibility of properly engaging the individual student, regardless of their cognitive or developmental level. The next section will further analyze how video

instruction works with different types of learners, specifically students classified as gifted and talented, and how it enhances the ability to appeal to multiple learning modalities in the classroom.

Video Instruction and Learning Modalities

Students learn in a multitude of ways. They often come from a variety of backgrounds, and have different learning styles. They are all true individuals, and teachers must treat them as such. This leads to a push towards differentiated instruction, or simply put, presenting students information in several ways, allowing students to take different avenues to understand content (Tomlinson, 2001). Learning modalities often play a large role in differentiating instruction. Some of the different learning modalities included in VARK, a popular learning styles inventory including: aural, visual, verbal, and kinesthetic (Chick, n.d). Video instruction allows for several of these learning modalities to be incorporated, specifically audial, as these students prefer to learn by listening to spoken word, which video allows for. It also inherently applies to visual learners, who want to be visually shown something to learn, such as videos.

Video instruction inherently is great for both audio and visual learners. In a study conducted by Crews and Neill (2014), students preferred vodcasts (both video and audio instruction) to podcasts (audio only). This shows that the added visuals of a video often reach more students than solely audio information does. In an aforementioned study, students were vocal via questionnaires and focus groups about how videos helped them visualize the content, which helped visual learners, and is one of the key upsides of videos (Holland, 2014). Textbooks have been utilized as a primary teaching source in classrooms throughout history but lack some of the capabilities that videos possess. In a

study of physical therapy students, survey results indicated that students preferred watching videos to simply reading texts because of the use of images. This appealed to visual learners, who also expressed that they preferred how videos allowed for moving pictures as compared to still pictures often found in textbooks (Greenberger & Dispensa, 2015). In Alexander's (2013) study to determine the preferences for different types of videos, it was found that students preferred videos when they used a combination of visual, verbal, and auditory instruction (Alexander, 2013). As the literature suggests, videos appeal to both aural and visual learners, and in many cases, provide an improved and more diverse learning experience for students with different learning modalities.

Social Justice in Video Instruction

Social justice is a key component of many action research studies. Specifically, when it comes to social justice, action researchers work to "address the underlying causes of inequality while at the same time focusing on finding solutions to specific community concerns" (Bryndon-Miller & Maguire, 2009, p. 81, as cited in Herr & Anderson, 2015). Efron and Ravid (2015) said that the goal of social justice is to expose discrepancies such as domination, repression, and inequities to help bring social change while raising the consciousness of those that are marginalized in society. With video instruction, social justice must be kept in mind, as with any action research study. Throughout this study, the specific population that I am studying is students classified as g/t, as they comprise a large portion of the population that is prevalent in the school in which I teach. Although they may not be the first group commonly associated with social justice, they are a unique set of learners that are often neglected as teachers try to teach to the "middle" of their students and spend a lot of time after class remediating students that are lower

performing and attempt to challenge students classified as g/t (Finegan, 2017). As a result, of the typical standardized school climate, students classified as g/t often express behaviors of boredom or frustration (Dias Carvalho & Cruz, 2017). However, although the class utilized in my study has a high population of students classified as g/t, it is also important to analyze video instruction through the lens of all students that are represented in my school, including diverse populations such as special education students, students from different socioeconomic backgrounds, and ESL learners.

Learners with Disabilities

The effects on special education students and video-based instruction can be found when examining the literature. Video instruction can be effectively used in a variety of settings with students with disabilities (Clintona, Galletta & Zanton, 2016; Ohtake, Takahashi, & Watanabe, 2015). Video-based instruction is constant and does not change, which allows for consistency. In face-to-face instruction, there is more variation from one lecture to another. Another positive factor is that certain students with disabilities do not like the social interactions of face-to-face instruction, and video instruction takes away this interaction. These students also may view this as a new, exciting way to learn as opposed to traditional methods such as lecture (Clintona et al., 2016). Video instruction has been successful in teaching students with specific disorders, such as autism spectrum disorder. In Ohtake et al. (2015) study, it was found that video instruction helped a student with autism with certain bathroom-related behaviors. This student was previously having issues with these behaviors, and rejecting prompts from his teacher. To help solve this problem, the video used a cartoon character to help teach the student about these behaviors, which worked well. The student showed interest and

engagement with the video instruction, focusing nearly 100% of the time, smiling while watching the videos, and sharing his experiences with the video to his mother (Ohtake et al., 2015). Another study on four students with autism spectrum disorder showed that the usage of video instruction helped with developing social skills. In this study, the students watched a video about social skills several times, referred to as the social story video, which included voiceover instructions of appropriate greetings. Throughout this study, there was an improvement in the students' social behaviors, such as greeting others over time (Halle, Ninness, Ninness, & Lawson, 2016). As these studies indicate, video instruction allows learners with disabilities to benefit from this medium.

Remedial and ESL Learners

Throughout the literature, remedial learners and ESL learners overwhelmingly expressed that they found video instruction to be useful due to ability to rewind and watch videos more than one time. In Lo and Hew's (2017) study of flipped classrooms, remedial learners expressed that they liked video instruction because it allowed them to revisit the information as many times as they needed and freed up class time to complete collaborative activities. All of the students in a math study indicated that they benefited from being able to watch the videos multiple times, especially lower performing students (Kinnari-Korpela, 2015). In Snyder et al.'s (2014) study, 98% of students indicated that they liked the ability to pause, and 94% of overall claimed they benefited from rewinding. This shows that in Snyder et al.'s (2014) classroom, although remedial students were not identified, the overwhelming support of rewinding shows that multiple student populations, including remedial students, benefit from the ability to rewind videos. Together, these studies all indicate that most students, especially remedial

students, enjoy having the opportunity to revisit material, as they may need to see or hear the material more than one time to comprehend it. This is one area where video instruction is superior to face-to-face instruction.

However, students who are lower performing not only prefer video instruction for the purpose of rewinding but also because it helps them achieve at higher levels in the classroom, as in Giannakos, Chorianopoulos, and Chrisochoides's (2015) study, which indicated that videos that were watched multiple times in comparison to just once yielded higher assessment scores. Other students found that videos were useful to watch multiple times for review purposes for exams and for help with homework (Vadnjal, 2017), to prepare for tests, for tutoring purposes, or to analyze the content further (Brecht & Ogilby, 2008). Another case of students who were lower performing interactions with video instruction is Kobayashi's (2017) study that indicated that these students who were remedial found online slide presentations with images and text more useful than students who were higher performing did. All of these examples reveal that video instruction offers interventions and components for students who were remedial that are not always offered in a traditional face-to-face environment without video instruction.

ESL students are another group the literature addresses that often benefit from the components of video instruction (Johnston & Karafotias, 2016; Van Der Zee, Admiraal, Paas, Saab, & Giesbers, 2017). In Johnston and Karafotias' (2016) study, when allowed to decide how many times to watch a video, students often openly chose to watch them more than once for repetition or note-taking purposes. ESL students, in particular, found the ability to watch videos more than once as helpful to understanding material (Johnston & Karafotias, 2016). This is most likely due to the fact that English is their second

language and they are still acquiring the language, which makes repetition helpful. Another study on ESL learners indicated that subtitles are not necessarily the answer for ESL students watching videos but that the complexity of the content of the video should be taken into consideration for these students (Van Der Zee et al., 2017). Although teachers may not want to necessarily "water down" the content for ESL students, they may want to look at each individual student's language acquisition levels and make video content decisions using this data.

Considerations of Socioeconomic Status and Access to Videos

One of the key arguments against video instruction, especially with videos that are streamed online, is that students from lower socioeconomic backgrounds may not have equal access to these videos due to a lack of Internet connection or device availability. According to the Perrin and Duggan (2015), it was found that only 53% of households that had salaries under $30,000 had access to broadband Internet at home, compared to 71% for households with incomes ranging from $30,000–$49,999, 83% for households with salaries ranging from $50,000–$74,999, and 93% of households with salaries of $75,000 or more (Pew Research Center, 2017). This reveals that students without Internet access at home tend to be the students from lower socioeconomic backgrounds. If only 53% of students in this lowest range have access to the Internet at home, they cannot use online video instruction in their homes, which puts them at a distinct disadvantage.

Yet, it is worth noting that smartphones have helped alleviate some Internet issues, especially for the lowest socioeconomic groups (Pew Research Center, 2017). Many lower-income households are dependent on their smartphones for Internet access,

with 12% of people being smartphone-only Internet users in 2016. Once again, the lower the salary of the household, the more likely the people are to be smartphone dependent, meaning they do not have access to Internet elsewhere (Pew Research Center, 2017). The use of smartphones as the source for playing videos was seen in Greenberger and Dispensa's (2015) study, which showed that although a lot of students accessed videos on computers, 50% of students also accessed them on mobile devices during 2012, as compared to only 23% in 2009. This shows that although students from disadvantaged backgrounds have a lesser chance of having Internet access at home, mobile devices have helped give more disadvantaged students access to the Internet.

Schools and communities have been taking other measures to ensure that students have wireless Internet access outside of school (McMahon, 2017). Many schools have open media center hours both before and after school for students to use the school's Internet to complete assignments, including those that incorporate video instruction. Also, schools districts around the United States have turned to other creative measures, such as having school buses equipped with wireless Internet for students to use. In Beekmantown Central School District, a rural school district in upstate New York where 30% of students do not have Internet at home, wireless networks are available on several busses, which allows students to complete online assignments on the bus. The district's director of 21st-century learning also began to offer Wi-Fi hotspots for students to sign out and use at home as well (McMahon, 2017). This shows that although there still clearly is a technology divide in our country between socioeconomic classes, there are measures being taken to solve this issue and make Internet connectivity available to all students, which will impact the ability for all students to access online videos as well.

Video Instruction for Students Identified as Gifted and Talented

Students also have mixed abilities in the classroom. For example, a first-grade class may have students reading at third-grade levels, whereas other students are still working on concepts such as reading from left-to-right (Tomlinson, 2001). At the school being studied, there is a high amount of students that are academically and artistically classified gifted and talented. The literature suggests that these students classified as g/t can indeed benefit from video instruction (Lo & Hew, 2017; Potts & Potts, 2017). In a study that focused on the effects of video instruction on students classified as g/t versus students classified as remedial, Lo and Hew (2017) found that students classified as remedial enjoyed having a flipped classroom model with videos due to the fact that they could rewind and review these videos. However, these students faced difficulty because they could not ask the instructor for help or clarification instantly. On the other hand, 87.5% of surveyed students classified as g/t preferred a flipped classroom, with 70.8% expressing that they liked watching the instructional videos. Some of the key takeaways from this study were that learners classified as g/t enjoyed the freedom of watching videos and learning at their own pace, which created a more autonomous classroom environment (Lo & Hew, 2017). Learners classified as g/t often thrive in these types of environments, where they are treated as individuals that often learn at quicker paces. They also seek the opportunity to be challenged. This can be seen in Holland's (2014) study, where learners classified as g/t enjoyed videos such as current affairs and fictional television that allowed them to further analyze the content. In an article about students classified as g/t and online learning, Potts and Potts (2017) stated that video programs such as Massive Open Online Courses and Khan Academy could serve as great

supplements and enrichment to students classified as g/ts' learning. Yet, most online classrooms today still include other components than video instruction for which students classified as g/t must prepare, such as cohort and digital peer interactions (Potts & Potts, 2017). This shows that in many cases, videos can be used to take the content a step further and provide a positive learning experience for students classified as g/t. Although not all learners may be ready for these levels of learning, video instruction gives the ability to teachers not only to serve the students classified as remedial, or teach to a student with average scores, but to also engage their students classified as g/t.

Student Engagement with Video Instruction

Through these different ideologies that video instruction utilizes, it has immense potential for engaging students, as the following literature suggests. In a five-point Likert scale survey given in an online Economics course that utilized the program Explain Everything for video instruction, students rated class materials such as videos at a range of 4.31–4.6 among multiple classes (Litao, 2017). Classroom comments indicated that the videos made content from the textbook clearer (Litao, 2017). College marketing students showed similar findings, as surveyed students rated their satisfaction of video instruction at 4.62 on a five-point Likert scale (Suzanne, 2015). Continuing at the university level, mathematics instructors in Finland conducted research on the relation between video instruction and student motivation towards math. Statistics from a questionnaire revealed that 89% of students found videos useful for learning, and 65% found that the videos increased their motivation to learn about mathematics (Kinnari-Korpela, 2015). These studies all reveal that students at the college level can be effectively engaged with video instruction.

Although face-to-face lecture has been under attack in education, many students appreciate a blended model of both face-to-face lecture and video instruction as well. In the area of political science, video instruction was once again a successful motivator for students. In a study of senior undergraduates, different types of videos were analyzed, including teacher-created lecture summaries, current affairs clips, and fictional television shows. Overall, student interest increased, as was recorded in questionnaires and focus group comments (Holland, 2014). The teacher-created lecture summaries were held in high regard. Students commented that these summaries allowed them to pay more attention to lessons in class instead of note taking, and that they could use them to revisit the material later (Holland, 2014). This shows that although face-to-face lecture should not necessarily be the center of a classroom curriculum, students enjoy the ability to have access to a blended classroom. Students shared their affinity for a blended classroom approach once again in a study done by Lancellotti, Thomas, and Kohli (2016). In this scenario, undergraduate marketing students were given different experiences with videos and face-to-face lecture opportunities. Some were offered video modules to watch course content, and other students were not. Out of the surveyed students, 73.5% of students preferred a combination of both face-to-face lectures and online videos. Students found videos to be an effective and convenient way to review concepts learned in class (Lancellotti et al., 2016).

Video instruction has engaged students outside of traditional academic classrooms as well. One example is Leslie's (2014) study on embedding video clips in PowerPoint presentations to increase student engagement in face-to-face lectures in an undergraduate fashion class. Using classroom observations, the researcher noticed that students were

consistently more engaged and reacted positively to the video clips. Students often times asked for the links to the video clips to watch again. In an open-ended questionnaire, participants noted that the videos helped them put the lessons into real-world applications and were an effective alternative way to view the information presented in lectures (Leslie, 2014). Another instance is in a study of the use of video in nursing education, where several studies have shown that video instruction has a positive relationship on student engagement (Wirihana, Craft, Christenson, & Bakin, 2017).

Online classrooms are places where video instruction is commonplace as well and have also shown promise in student engagement. In Evans and Cordova's (2015) research study using lecture videos in online courses, student surveys indicated that students were more satisfied with classes with video lecture compared to those without. The class with video instruction scored both the course (36% compared to 31.7%) and the instructor (60% compared to 53.7%) as excellent in a mid-semester survey (Evans & Cordova, 2015). This shows that video instruction (the experimental difference in the groups) was likely the factor for these differences. In a study done by Kobayashi (2017), 106 education majors were surveyed about their online learning. Out of the students surveyed, 72.6% of students found online videos very useful, and the remaining 27.4% found them somewhat useful. Also, it was found that online videos were preferred over DVDs and CDs due to easier access (Kobayashi, 2017). This indicates once again that students enjoy video instruction and many prefer the ease and familiarity with this medium of instruction. In a blended college classroom in Norway, where students watched video lectures online and then came to class to complete activities, it was found that students who regularly attended class found the videos to be helpful in preparing them for the

activities held in class (Fredriksen, 2015). One of the key components of running a blended or flipped classroom is that it allows for more active learning in the classroom, which can further engage students.

Video instruction studies have also been conducted in high school classrooms, where it once again had a positive effect on student engagement and motivation, as is noted in the following studies. In a study to determine the effect of videos on the motivation of Korean students learning English, researchers Park and Jung (2016) found that these students openly enjoyed and were engaged by videos. These students, several of whom had low motivation toward learning English at the beginning of this course, became increasingly motivated due to the use of video instruction, and their desire to learn English increased as well. Participants in this study found the video clips to be interesting and entertaining, which in return improved the amount of student interaction in the classroom (Park & Jung, 2016). In another high school classroom, a ninth-grade social studies class, researchers quantified the relationship between video instruction, specifically the use of screencasts, and student engagement over several years of implementation. This study focused on analyzing the effects of these videos on student engagement. Surveys revealed that 62% of students enjoyed the videos during the first year, followed by 70% in the second year, and 95% in the third year. Open-ended responses demonstrated that participants found the videos to be convenient and reliable, and made it so there was more time for active learning and less time with face-to-face lecture (Snyder et al., 2014).

Some instructors use video instruction as a means of delivering instructions to their students. In a study conducted by Alexander (2013), students liked the fact that

videos allowed for a combination of verbal, visual, and auditory instruction. They found the videos easier to understand, and felt that they remembered the instructions better than printed instructions. In open-ended responses, students expressed that they enjoyed having visual examples of how to carry out steps (Alexander, 2013).

Although the information pulled from these studies has shown overwhelming support for student engagement in video instruction, this is not always the case. As I have seen in my own problem of practice, students are not always engaged with video instruction, as can be seen in the following research studies. In a study done by Schacter and Szpunar (2015) to determine ways to keep student attention during video-based lectures, the researchers observed that many students were often self-admittedly "mind wandering" during videos, which led the researchers to implement questions into their videos to help focus the students. This observed and admitted mind wandering reveals that videos are not always engaging, and therefore students will not always pay attention to the videos. In Holland's (2014) study, some students, especially students classified as lower-level, did not care for the current affairs clips or the fictional television shows as they saw these as primarily content that was for additional information, and some displayed skepticism in the validity of the fictional television medium. In Lancellotti et al.'s (2016) study, despite 73.5% of students preferring blended online and face-to-face instruction, 24.2% of participants preferred traditional lectures only to a combined video and face-to-face lecture approach.

Another key example of the downfalls of student engagement with video instruction is in Fredriksen's (2015) study. This study was designed to determine the positives and negatives of streaming video lecture material to college students in Norway.

The researcher found that making the lecture videos available online led to a low attendance rate in class. Many students who were missing class or not watching the online videos before class were struggling with the collaborative activities. Unfortunately, utilizing videos in this scenario created more fully online students that skipped class rather than active students who were able to complete collaborative activities due to the video instruction (Fredriksen, 2015). In Alexander's (2013) study, students had many preferences for receiving directions via video. However, the survey also found that students preferred printed instructions for the convenience of locating information quickly (Alexander, 2013). This shows that although video instruction has a lot of positives, going back to watch a video to find specific parts and components can be time-consuming and frustrating for students. Not all students see video instruction as a better alternative to face-to-face lecture. Despite an increasing amount of student satisfaction with videos and certain components of video instruction, many students in Snyder et al.'s (2014) study found the videos to be boring and emphasize passive learning. Another negative that was mentioned is that the videos did not help build rapport with the instructor and were too factual and not as engaging as the stories that were told by the face-to-face instructor (Snyder et al., 2014).

In summary, these articles show that students can either be very engaged in videos or not engaged at all. A lot of this depends on the type of videos that are used and the perceived value of the videos in the specific situation. Where some students may prefer video instruction, other individuals may not enjoy this type of learning. As future research in this review will suggest, by incorporating the right components of video

instruction, educators can create videos that have the highest chance of engaging students.

Student Achievement with Video Instruction

In many cases, student achievement in a classroom can impact student engagement and motivation (Dyer, 2015). In a study that focused on the effects of teacher-created videos versus videos made by sources that were not their own teacher in face-to-face and online college marketing students, via questionnaire, it was found that 85% of students agreed or strongly agreed that teacher-created videos helped to expand their knowledge. Seventy-five percent of these students preferred learning from videos to textbooks (McGovern & Baruca, 2013). This perception held true in other studies as well. In Bahnnson and Olejnikova's (2017) study of recorded lectures in comparison to traditional instruction for law students, although there was little statistical difference in student performance, 38 out of 39 surveyed students perceived video lectures as useful for learning (Bahnson & Olejnikova, 2017). In another study meant to analyze video instruction as a teaching method and its impact on student achievement, this time for accounting students, Brecht and Ogilby (2008) found that 68.5% of students agreed that video lectures helped them understand the course material and prepare for tests. Also, 72.2% thought the videos assisted them with homework completion, and 63% expressed that the videos were useful for tutoring purposes. This held true when analyzing course grades. Out of the students that did not have access to the videos, 24.2% failed the course, whereas only 6.8% that had video access failed, which is a 71.9% pass-rate improvement with videos (Brecht & Ogilby, 2008). In a study of undergraduate science majors analyzing the usage of videos to see different interests and viewing patterns of

undergraduate science majors, Giannakos et al. (2017) reached a positive correlation between student attitudes and engagements with videos and student achievement. A questionnaire utilizing a 7-point Likert scale revealed that students overwhelmingly found their success in class as tied to the videos. The Likert scores were 6.1/7 for ease of use and 6.4/7 for the usefulness of videos. It was also found that students test scores were higher when videos were watched multiple times and that student achievement increased throughout the course as students became more comfortable with the medium (Giannakos et al., 2015).

Even though students often have positive perceptions of video instruction, it is worth exploring the actual effect that video instruction has on student achievement. In Amosa Isiaka Gambari et al.'s (2014) study to analyze the effects of video instruction on secondary biology student achievement and retention, the researchers found that students from Nigeria expressed that video-based instruction that incorporated animation, narration, and on-screen text greatly enhanced student achievement on their assessment, the Biology Achievement Test. However, the researchers also found that this relationship was not as strong when the material was tested four weeks later. This possibly shows that video instruction may not be as effective of a tool for retention as it is for post assessments given right after covering the material (Amosa Isiaka Gambari et al., 2014). Video instruction was once again beneficial for exam performance in a research study done by Caviglia-Harris (2016) on blended and flipped classrooms in undergraduate economics. In this study, students were in one of three groups: a traditional, non-flipped classroom group, a blended classroom group, and a flipped classroom group. On the final exam, the traditional group scored an average of 61.3%, the blended classroom scored an

average of 66.6%, and the flipped classroom scored an average of 71.63% (Caviglia-Harris, 2016). This study shows that video instruction, which was incorporated more into the blended and flipped classrooms, led to higher achievement on tests. Yet, it also could reveal that although students who used more video instruction performed better than traditional classroom groups, video instruction may not have been the primary factor of success. Students in flipped and blended classrooms were given the ability to spend more time on more challenging, higher cognitive-leveled tasks**,** which could have also made a key contribution to student success on the exam. Once again, a positive correlation was found between video instruction and student achievement, this time in Evans and Cordova's (2016) study of an American government course. Students who were taught in a face-to-face group scored lower on exams than those in a class that had access to video lectures (Evans & Cordova, 2015). In Lancellotti et al.'s (2016) study, classes with video modules scored better than the class without videos on both of the two exams given in a marketing class. Overall, there is much evidence in the literature that suggests that students from a variety of content areas achieve at higher levels with the incorporation of video instruction.

Video instruction has yielded positive results in the realm of student achievement in performance-based assessments as well. In Brown, Mao, and Chesser's 2013) study of culinary students, two different methods were used. The researchers gave one part of the class video instructions on specific cooking skills, and they gave the other part of the class these instructions via live demonstration in class. Although both groups gained cooking skills, the students in the video instruction group performed better than their counterparts in group settings (Brown, Mao, & Chesser, 2013). Although student

achievement is often measured in traditional assessment scores, this study shows that videos can also have an impact on performance assessments as well.

In a research study by Devlin, Feldhaus, and Bentrem, (2013), middle school students who watched assignment instructions via video compared to face-to-face yielded better results. Although only 1.51% of students in the video instruction group felt they understood the assignment better than the face-to-face group, other indicators suggested a vast difference between the comprehension levels of the two groups. Students in the video group asked 10 questions to clarify the instructions of the assignment, as compared to 16 questions asked by the face-to-face group about the instructions. Students given instructions via video were also able to explain the instructions much more accurately and in more detail than their counterparts, and the perceptions of the instructions given via video were much more positive than the ones delivered by the teacher (Devlin et al., 2013). Once again, student performance was enhanced with the use of video instruction.

Role of Video Components

Video instruction allows for the instructor to include many components in videos that enhance both engagement and achievement. Yet, selecting which components to use can be difficult for teachers, as there are so many different options (Adams & Porter, 2016; Buzzetto-More, 2014; McGovern & Baruca 2013; Park & Jung, 2016). This section will analyze how specific video components such as the instructor's face, video length, embedding questions, and how researchers use video content to further engage students.

With video instruction, the teacher is not always directly associating with students during the instruction in a physical environment, which can lead to a decrease in student-instructor contact (Harrison, 2015). One of the most studied video components in the literature that can improve the relationship often missing between students and teachers in video instruction is the instructor incorporating their own face into the video. In Kizilec et al. (2015), sociology students were split into groups that watched videos with the face of the instructor included and others without the face included. A significant number of students, when given the choice, chose the videos with the instructor's face compared to the videos without the face present. The key findings of this study were that many students preferred having the professor's face in the video because it provided social cues, made videos more personalized, and created a connection with the presenter. These videos also increased student motivation and students' perceptions of how well they were learning the content. However, not all students preferred having the face. Many students claimed that the face was distracting (Kizilec et al., 2015).

In another study, Crews and Neill (2014) found that students preferred having the instructor's face versus not having it available. Out of the students surveyed, 35% of the students found the inclusion of the instructor's face to be somewhat effective and 31% found it to be very effective to building a relationship with the teacher. Also, 32.5% believed the instructor's face impacted learning, with 44% expressing that it was effective or very effective for helping them learn material. This study shows that although not all of the students found it to be beneficial, the instructor's face component has a perceived impact on both building a relationship with the instructor and helping with student learning. This positive correlation also appears in McGovern and Baruca's (2013)

research of online college marketing students, in which student comments given via questionnaires indicated that students liked seeing their teacher in videos because it made the content more relatable, and it was nice to see a familiar face. Another example is in Johnston and Karafotias' (2016) study, where students found that the inclusion of their teacher's face in the video made it seem like a more natural classroom environment. Yet, as indicated in Kizilec et al.'s (2015) study, many students found the face to be distracting rather than helpful. Overall, the incorporation of the instructor's face in videos elicited many positive feelings about building a positive relationship between the instructor and the students. This component is worth studying further as a possible way to engage students in the classroom via video instruction.

Another key component of video instruction is the length of videos. As the literature suggests, the length of videos can play a large role in student engagement, as seen in Buzzetto-More's (2014) study on utilizing YouTube videos in the classroom. In a survey, 85.2% of students expressed that video length impacts whether or not they will watch a specific video. When asked to select the ideal length of videos, 48.1% of in-class students preferred videos from 1.5–3 minutes long, and 55.6% of online students showed a preference for videos that were 3–7 minutes in length. When analyzing all of the results from this part of the study, the vast majority of both online and in-class students preferred videos shorter than nine minutes long (Buzzetto-More, 2014). There were similar findings in Lo and Hew's (2017) study, in which students were most engaged with videos that were under six minutes in length. Also, in Leslie's (2014) study, the researcher found that video clips that ranged between 3–8 minutes were optimal for enhancing student engagement. This indicates that although there may not be a single answer for how long

videos should be, students seem to prefer shorter videos to lengthy videos. In Johnston and Karafotias' (2016) study, the vast majority of students (80%) believed that videos should be kept between 5–10 minutes. Part of the reasoning behind this expressed sentiment is that longer videos can lead to a loss of focus or boredom with the videos (Johnston, & Karafotias, 2016). Another study conducted by Harrison (2015) also revealed that students preferred shorter videos. In this study, students watched videos that were mostly over 20 minutes in length, which many felt were too lengthy. In a survey, 53.8% of students indicated that 5–10 minutes is ideal for video length. The reason that they made this claim is due to the fact that they prefer concise videos (Harrison, 2015).

A way of both keeping student attention and measuring academic progress on concepts covered in the videos is to embed questions in the videos. As my problem of practice suggests, many students are not always fully engaged with video instruction. In Schacter and Szpunar's (2015) study, many students were observed or even self-reported that they were often "mind wandering" during videos (Schacter & Szpunar, 2015). This could indicate that students were not interested in the videos and, therefore, were thinking of something else during the videos. This could impact the amount of information learned and the overall success of the videos on student performance in the classroom. As a result of this observed behavior, the researchers decided to imbed questions throughout the videos to examine the effect on student engagement and achievement. Participants noted that they focused more when these questions were embedded, and they also scored better on assessments than their counterparts that were not provided with embedded video questions (Schacter & Szpunar, 2015). This reveals that imbedded questions could indeed be a way to increase student engagement in videos. Holding students accountable for

answering questions throughout the video not only serves as a formative assessment opportunity but also as a way to ensure and track that students are paying attention to the videos and understanding the content. Embedding questions into videos can also increase student achievement. A study by Griswold, Overson, and Benassi (2017) revealed students who had embedded quiz questions in their videos performed better in class than those who did not. This suggests that this quizzing is a positive strategy to prepare students for tests and that embedding questions into video instruction can have a positive impact on student test scores. When it comes to assessment, questions can enhance the usefulness of videos, but videos can enhance questions as well. In a study by Adams and Porter (2016), assessment questions included video support, and when students missed a question, a video would be provided to help explain why the question was missed. This helped students fill gaps of knowledge, and they also reported that it helped them seek assistance and that they would benefit from using videos embedded in quizzes in the future (Adams & Porter, 2016).

Student-Created Video

So far, this literature review has focused on the usage of instructor-created video instruction for content delivery. Although the literature provides ample research on the positives and negatives of this type of video instruction and recommendations for how to use it, there are other ways in which video instruction can be incorporated in the classroom. With the SAMR model in mind, teacher-created videos in the studies covered thus far have primarily been at the substitution and augmentation levels. There are many instances in which using substitution and augmentation in the classroom will enhance current practice (Puentedura, 2016). Yet, to go higher on the SAMR model and reach the

modification and redefinition levels, where learning is transformed through technology (Puentedura, 2012), having students create their own videos is a tremendous way to do this.

There have been many studies that link student engagement to the use of student-created videos in the classroom. In Mackay and Strickland's (2018) study of a classroom at an at-risk middle school that utilized student-created videos and culturally responsive teaching, the researchers found that student-created videos engaged students. By students having the ability to create videos on their iPods, they were able to bring the context of their homes to share with their teachers, which increased engagement (Mackay & Strickland, 2018). In another middle school study in which student-created video podcasts were utilized for foreign language students to learn about grammar acquisition, the researcher found similar engagement results. With focus group interviews, students reported that through creating video podcasts were beneficial, interesting, and helpful (Parra, 2016). These students specifically enjoyed learning by watching other student's videos and by teaching others through their own videos. They also found this project helped them understand the material better (Parra, 2017).

Researchers have studied student-created videos outside of K–12 as well and have produced similar results. In Clemmons and Posy's (2016) study on the use of student-created videos in college courses, it was found that this medium was valuable in a variety of ways. Students expressed that video creation led to a higher level of thinking and learning. Furthermore, Clemmons and Posy (2016) stated, "well-designed student-created videos assignments can have a profound effect on student learning, motivation, and student engagement" (Clemmons & Posy, 2016). In another university study conducted

by Talley and Smith (2018), which focused on students in a construction estimating course, the researchers found that student-created videos were useful as a way to promote peer-to-peer learning. After creating the videos, students were surveyed on their enjoyment and informational value of the video creation process. The survey demonstrated an overwhelming sense of enjoyment, with only a mere 4% of students expressing dislike for this project. In addition, 100% of surveyed students found video creation to be informational (Talley & Smith, 2018).

Conclusion

From a historical perspective, it is clear that the teaching of social studies is shifting from what used to be the "chalk and talk" method, which relies on the usage of constant lecture (Nair & Narayanasamy, 2017), to new ways such as technology integration. With the incorporation of technology in the classroom came the opportunity for teachers to utilize new forms of instruction. Among these new forms of instruction was video instruction, which has been used in a multitude of ways, as this literature review has shown.

Theoretical perspectives addressed in this review show that video instruction is a way of instructing that correlates with several different learning ideologies, such as the scholar academic ideology, which focuses on content, and even the learner-centered ideology, which focuses on the learner having a choice of what they learn and how they learn it (Schiro, 2013). This reveals that video instruction can be used in a variety of ways in many different classrooms. Through the use of the SAMR model and David Havens' framework for engagement in technology, instructors can effectively plan and implement video instruction in a variety of ways.

Furthermore, the literature suggests that video instruction appeals to multiple learning modalities and preferred styles of learning (Crews & Neill, 2014; Holland, 2014). From a social justice standpoint, video instruction has the potential to lend itself well to all types of learners, including students classified as remedial, ESL students, students with disabilities, and students classified as g/t (Halle et al., 2016; Johnston & Karafotias, 2016; Lo & Hew, 2014; Potts & Potts, 2017). This makes video instruction a holistic approach that can truly be used with any type of student. With Internet access becoming more available to students from different socioeconomic backgrounds, video instruction is becoming more readily available for all students (Perrin & Duggan, 2017).

As video instruction is becoming commonplace in education today, it is clear that teachers need to determine how to effectively utilize it in the classroom. As mentioned in the literature, video instruction is a method of teaching that has a lot of potential benefits. Using video instruction can lead to increased student achievement and student engagement when used correctly (Amosa Isiaka Gambari et al., 2014; Evans & Cordova, 2015). However, as noted in the literature, video instruction is not always engaging to all students (Snyder et al., 2014; Schacter & Szpunar, 2015). For these reasons, it is vital that further studies be conducted.

Video instruction has also been analyzed through the lens of student-created video in the classroom. When students are able to create their own videos, it can often lead to higher engagement levels (Mackay & Strickland, 2018). In addition, student-created videos allow the use of video instruction to climb the SAMR model, leading to higher levels of learning and teaching.

This study will further examine video instruction as a medium for teaching and engaging students. By analyzing different ways of using video instruction, including both instructor and student-created videos and measuring student engagement, the literature will be expanded through this action research study. Overall, although there are a lot of studies available on video instruction, this study will take the literature one step further and make new contributions to the strategy of using video instruction in the classroom.

Chapter 3

Research Design and Methods

The purpose of this action research study was to identify how strategies of video-enhanced instruction foster higher levels of student engagement for students with varying levels of academic ability. At first, I used video-enhanced instruction as a means of replacing my direct instruction. This led to some initial engagement but ultimately failed to continuously engage students after several uses. Although both students classified as g/t and students not classified as g/t had waning interest, this was more commonly found with students classified as g/t. To better understand this problem, I constructed an intervention to determine the best ways to engage students with video instruction. By using video on multiple levels of the SAMR model, I was able to study how to make the usage of video most engaging for students and measured engagement on each level of the model.

The research study, broken into three sections, started with video lessons on the augmentation level (in which students interacted with video for content delivery), and continued upwards to the more integrated modification and redefinition levels of the SAMR model (where students created their own videos). This study sought to answer the research question: How do different strategies for video-enhanced instruction support or challenge engagement in learning for students with diverse academic abilities?

This chapter is presented in several sections. The first part of this chapter provides a detailed description of the 23 seventh-grade participants involved in the study. Next, I discuss the research design and intervention. I detail how the research process was designed and provide specifics about why I used the intervention of climbing the SAMR model ladder. In the data collection, measurement, and tools section, I explain the data collection of both qualitative and quantitative methods, along with the main tools, such as exit tickets and semi-structured interviews. Next, in the research procedure section, I discuss the mixed method design that was utilized for this study and why I chose it. This chapter ends with a section on how I analyzed and processed both the qualitative and quantitative data, followed by a summary of the entire chapter.

Context

On the macro level, I carried out this study in the southeastern United States in my social studies classroom. The school I studied is a middle school with an enrollment of 460 students. On a micro level, the school is a magnet school for military students and students classified as gifted and talented in art. This school is identified as a school of the arts, which includes multiple opportunities for students to participate in art classes. In this school, all students have access to an electronic device (a Google Chromebook) they utilize for technology purposes in and out of the classroom.

Participants

For this study, 23 students from one section of seventh-grade (typically ages 11–13) social studies participated in this study. This social studies course was a world history course that spanned from the age of European exploration of the Americas to modern history. This group of students consisted of 12 boys and 11 girls. Out of the 23 students, 9

were state identified as gifted only academically, two students were state identified as gifted solely in the arts, and five students were identified as gifted in both academics and arts. These students were part of a purposive sample, which is defined as when "participants are chosen deliberately according to a predetermined purpose" (Maxwell, 2013, as cited in Efron & Ravid, 2013, p. 62). I chose this class due to the makeup of the class being relatively consistent with the overall characteristics of students in the grade-level and school population. Fourteen out of 23 students (60.9%) of students in this class identified as g/t academically, whereas the school population rate was 40.2%. In the seventh grade, there was nearly an exact match of students academically identified as g/t in comparison to the entire school (Grades 6–8) population. Out of a total of 141 students in seventh grade, 56 (39.7%) were state identified as g/t academically. Although my selected first class had a higher percentage (60.9%), a high representation of students academically identified as g/t was justified, as they were the focus group of this study. This type of purposive sampling is often referred to as representative sampling, where the participants selected have characteristics that connect to the issue being studied (Efron & Ravid, 2013). As previously mentioned, the number of students academically identified as g/t selected in this study was higher than both the school average and the seventh-grade average, making this a representative, purposive sample.

I taught a total of 95 students, who were divided into four different classes. As a typical class of seventh-grade students would have roughly 39.7% students state identified as academically g/t, I chose a class with a higher number of students that were classified as academically g/t. This choice was made to assist in answering my sub-question of what are the various ways g/t and non-g/t students respond to the use of video

instruction. When analyzing the demographics from my four classes of students, I selected my first class because I determined they were the best fit for this research study. My second and third classes had a smaller population of students that were classified as g/t than the population of the school and the seventh grade. My second class had 29.2% of students that are classified as academically g/t, and my third block was even lower at 28%. My fourth block was a potential second choice, with 46.2% of students classified as academically g/t (the closest to the 39.7% average in the seventh grade), but there were a few limiting factors for this group of students. The first factor was gender. This class had 20 female students and only 5 males, whereas my first class had 12 boys and 11 girls, much more consistent with the student population. Another limiting factor of the fourth class is that it was the last class of the day. This causes issues with attendance, as students commonly miss the fourth class completely or leave class early for a multitude of reasons. On the other hand, my first class typically had the best attendance. Even though it was the first class of the day, the school had a built-in "flex time," a 25-minute period of time from 8:00–8:25 each morning in which students were able to get remediation, participate in club meetings, or complete work. This 25-minute flex time made it so most students that arrived late due to traffic problems or other issues were usually in class when the first class started. It was for all of these reasons why I selected this sample for this study.

I made the choice to study 23 participants due to the mixed-methods approach (the use of both quantitative and qualitative data) I utilized in this study. In quantitative studies, sample sizes are typically at least 30 or more. The larger numbers in these studies provide more robust findings and to make valid inferences (Mertler & Charles, 2011, as

cited in Efron & Ravid, 2013). Creamer (2018) stated that quantitative research often includes large sample sizes so results are more generalizable. Considering that this study relied heavily on qualitative data and specifically focus group and open-ended response data, which requires a lot of time to code, I wanted to be selective with my sample size. As Efron and Ravid (2013) stated, qualitative action research can utilize sample sizes as small as one to four individuals. Typically, 20 or fewer participants are used in qualitative research (Castro, Kellison, Boyd, & Kopoak, 2010, as cited in Creamer, 2018). According to Creamer (2018), "In mixed-methods studies, a sample of between 20 and 40 respondents is necessary to conduct an integrated mixed methods analysis" (p. 120). Judging by these guidelines, 23 students is both a recommended and feasible number of students for a mixed-methods study of this nature.

Attrition occurred in this research study for multiple reasons. During the first set of video instruction at the augmentation level, all 23 students participated in each of the three days. The second video activity at the modification level experienced some very minor attrition, with one student not being there for any of the three days due to being absent from school. The redefinition video activity is where most of the attrition in this study occurred. Due to a student being sick during these three days, in addition to two students having technical difficulties with the animation program used, 20 out of the 23 students ended up completing the redefinition lessons.

Researcher Positionality

In this study, I was a lone insider. A lone insider is a researcher who studies her own practices in her own setting and often studies how an implemented program relates to this practice (Herr & Anderson, 2015). In this study, I interacted with the class of

students on a daily basis while integrating video in a multitude of ways. I designed all of the lessons that were taught throughout the unit of instruction, including all of the lessons and activities that utilize video. During the lessons, I interacted with students to help guide them through the activities and encourage or assist them when needed. I also created and facilitated the methods of data collection for the study. In addition to interactions with students, I discussed and planned components of the research study with my dissertation advisor, who provided key guidance. Furthermore, another teacher coded both the qualitative Google Form data and the semi-structured interview data to establish inter-coder reliability.

Research Design and Intervention

This research study was an action research study that used a case study design. During this four-week study, I implemented video into one class of seventh-grade social studies to determine the most engaging ways of using video. Action research fit this study as I was the practitioner that conducted the research in this case, and the goal was to improve practice, which is a common goals of action research (Efron & Ravid, 2013). In action research, the researcher is often a practitioner and an insider to the study, which was true of this research study (Herr & Anderson, 2015). Also, the size and scope of the study was small (which is typical of action research) because it spanned over a four-week period and followed 23 students. This action research study was also cyclical and helped generated new knowledge, another key component of action research (Herr & Anderson, 2015).

A case study design was most appropriate because case studies allow researchers to focus on a single entity, such as one class of students (Efron & Ravid, 2013). Case

studies are also typically used to describe a specific phenomenon such as a program or a concept (Efron & Ravid, 2013). In this case study, a single entity, my first class of 23 students was studied. As is described in the previous section, this sample was purposively selected due to its high number of students classified as g/t, a critical part of the phenomenon that was being studied. The phenomenon in this case study was the usage of video instruction, a program that needed further evaluation.

As is described by Creamer (2018), case studies are about understanding a specific time frame and setting. She also stated, "the purpose of a case study is often to understand some abstract phenomenon or the interrelationship of a set of constructs" (p. 132). In relation to these characterizations of a case study design, in this study, I utilized a small group of students to better understand video instruction. The set of constructs that I used in this study was student engagement, more specifically the three measures of student engagement, focus, success, and enjoyment. I chose a case study to follow one class of students that best represented the characteristics of the entire population of the school. This class also had diversity in terms of students classified as g/t and students not classified as g/t, a key component of the study. This allowed me to better understand my own usage of video instruction in my own specific setting to improve my practice.

I used the intervention for this case study to better understand student engagement with the usage of video instruction. I intentionally planned the intervention in this study to solve the problem of practice and answer the research questions. I conducted this study over a four-week span, a time frame typical of action research. During those four weeks, I enacted video lessons at various levels of SAMR. Step 1 of this study was to carry out the video lessons, as is referenced in the Figure 3.1. The lessons were developed to target

specific levels of SAMR and content learning objectives. The sequence of lessons steadily climbed toward the more integrated use of SAMR. Since I used video as a substitution prior to this study, the first lesson in this intervention was an augmentation lesson. The subsequent lessons were modification and redefinition.

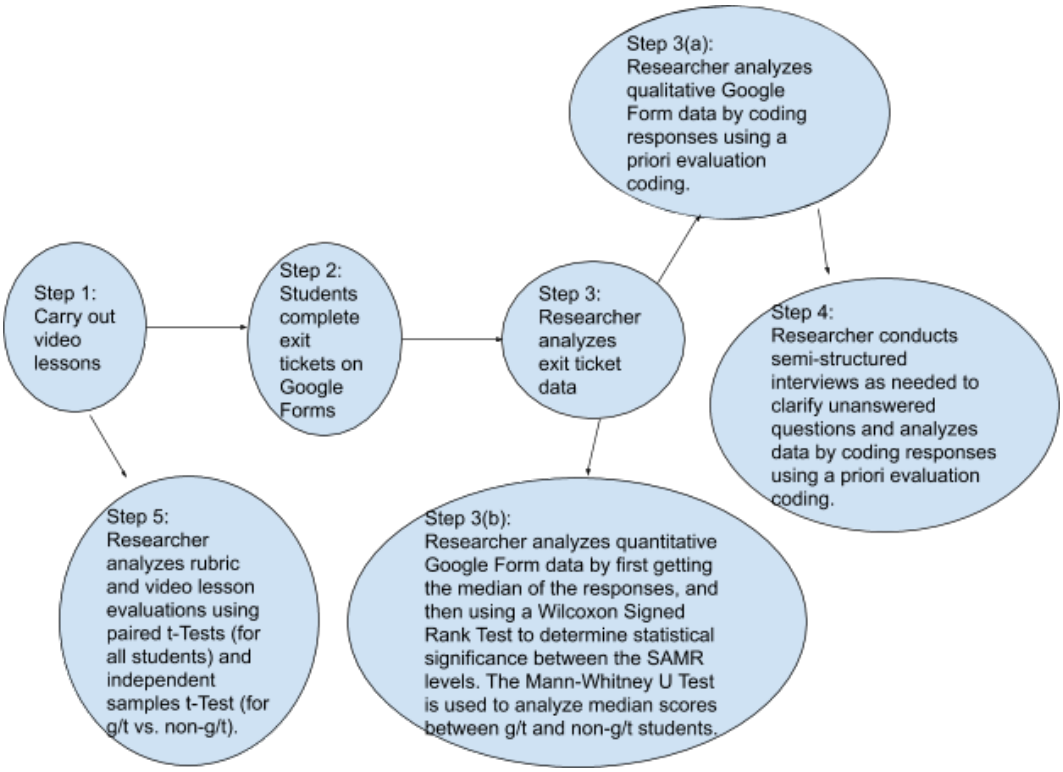

Figure 3.1 Intervention steps.

As I was having issues engaging students on the substitution level in the pilot study, which was used for video instruction for means of content delivery, the intervention was to use the upper levels of the SAMR model with videos to further engage students. Although I used video instruction for content delivery and other forms of substitution in this study, I used video instruction on higher levels of the SAMR model

and measured student engagement in this mixed-methods study. To implement video instruction on higher levels, I provided several ways for students to interact with video in the classroom. For example, on the augmentation level, students watched videos, took notes, and answered short answer prompts embedded within the videos. On the modification level, students created their own videos to demonstrate knowledge of topics learned in class and included technology tools that allowed for task redesign. The redefinition level, the highest level of SAMR, required students to create animations with added technology tools, post them to a shared workspace, and then comment on other students' videos to answer questions and respond to one another. These lessons are discussed in more depth in the research procedure section of this chapter. By integrating video with multiple steps of the SAMR model, the students interacted with video on several levels, which engaged them further than simply using video instruction for content delivery on a substitution level.

In addition, students completed tasks and activities outside of video instruction within these lessons. These tasks and activities included but were not limited to face-to-face direct instruction, simulations, graphic organizer creation, and primary source analysis. Although the purpose of this study was not to differentiate, differentiation was inherently used with different video lessons, along with the other activities and tasks throughout this unit of study. Student evaluation scores were also given for each video.

All of this qualitative and quantitative data were analyzed using methods described more in the treatment, processing, and analysis of data section of this chapter. Creamer (2108) stated that the linking of qualitative and quantitative methods is common in case studies. Furthermore, case study research is both amendable and well suited for a

mixed methods approach (Creamer, 2018). As my study was a case study that utilized mixed methods, I chose the usage of both qualitative and quantitate methods deliberately.

There were many constructs in this study. Among them were students' engagement levels. Student engagement was broken down into three separate factors in this study: focus, success, and enjoyment. Therefore, focus, success, and enjoyment were all additional constructs measured in this study. Student evaluation scores on the video assignments were a variable in this study. I scored students on each of the video assignments to determine their success with meeting the objectives of each assignment.

According to Herr and Anderson (2015), a form of validity known as "catalytic validity" is an important quality criterion when determining the participants for studies similar to mine. Catalytic validity is a type of validity that focuses on the researcher staying grounded in the reality of the situation, rather than trying to change it for the benefit of the study. Herr & Anderson (2015) argue that action research is not meant to prove a preconceived reality but to welcome change in the understandings of both the researcher and participants. In this specific study, I stayed true to the school's population when using purposive sampling to include my first block. By doing this, I was grounded in the fact that there is a high percentage of students identified academically as g/t and analyzed them as a key group to study rather than forcing the use of other groups that may not correlate with the population of my school.

Data Collection Measures, Instruments, and Tools

I used three different data collection tools in this study. The first tool that I used was an exit ticket. This exit ticket included both qualitative and quantitative measures. Exit tickets are brief reflections students complete at the culmination of a lesson where

they report about what they learned in the lesson. Exit tickets can also be used for students to reflect on how they learned the content or skills (Amaro-Jimenez, Hungerford-Kresser, & Pole, 2016). The exit ticket for this survey included two different components: Likert scales and open-response questions. Due to their brief and formative nature, I determined that exit tickets were an effective way to easily collect student responses to see how each video lesson engaged them. I used Google Forms to both develop and distribute these exit tickets. Google Forms allow anyone to create surveys that they can send out to anyone they would like. They also provide the creator of the form with data that can be downloaded into spreadsheets and analyzed. The participants in this study all have Google Chromebooks, which work seamlessly with Google Forms.

Likert Scales

Likert scales are commonly used in survey research, specifically when evaluating attitude, beliefs, or behavior (Losby & Wetmore, 2012). Likert scales, first developed in 1932, are used to measure attitudes in an accepted and validated way (Joshi & Pal, 2015). Likert scales are a popular survey design scale. A 5-point Likert scale is used to measure attitudes and has five different points of measurement, called anchors (Chyung, Roberts, Swanson, & Hankinson, 2017). Likert scales have values at each end of the scale and can have values at each point in between as well. They can measure many attitudes and aspects of a lesson, such as agreement, value, frequency, relevance, importance, quality, and likelihood. The meaning of these values is often dictated by the researcher but can include phrases such as *strongly agree* to *strongly disagree* in agreement statements/questions, *high* to *none* when using value, *excellent* to *poor* when using relevance, *very frequently* to *never* when using frequency, and *very important* to *not*

important when using importance, to name a few. Also, Likert scales are not always 5-point scales; some can be as much as 7-point scales and some can be as few as 2 points, such as dichotomous scales (Brown, 2010).

A unique Likert scale was developed for this research study. The first part of the exit ticket included three Likert scales that measured student engagement through focus, student learning, and enjoyment of the video lesson. The first statement was: "Technology helped me stay focused on the lesson today." Students selected a number from 1 to 5 for how focused they were in the lesson. A score of 1 was not at all, and 5 was very much. The second statement was: "The technology in today's lesson helped me feel successful with today's lesson." Students selected a number from 1 to 5 for how focused they were in the lesson, where 1 was not at all and 5 was very much. The third and final statement was: "I enjoyed the lesson today." Once again, 1 represented not at all and 5 meant very much.

The rationale behind using Likert scale exit tickets was that they allowed me to collect data about student engagement, as it was defined for this study. Using the three different statements explained, the Likert scale produced quantifiable data about each component of engagement, focus, student learning, and enjoyment. With the data collected from the Likert scale responses, I was able to determine how engaged students were with each video lesson. I was also able to compare how students felt about video lessons that were on different levels of the SAMR model. According to Joshi and Pal (2015), "validity of Likert scale is driven by the applicability of the topic concerned; in context of respondents' understanding and judged by the creator of the response item" (p. 399). Concerning validity with the Likert scales used for my research study: The

questions and response choices are applicable to the study and clearly developed to be understood by the participants. Furthermore, I orally explained the exit ticket and Likert scale with the students and answered any questions to ensure that the participants understood the Likert scale.

Open Response Survey Questions

Open response survey questions were conducted as a second part of each exit ticket. Singer and Couper (2017) defined open questions as "any question where the respondent's answers are not limited to a set of predefined response options" (p. 117). In this research study, as students were already choosing predetermined values for specific statements on the exit tickets, I used these open-ended responses for students to explain their Likert scale responses, while not being limited to certain responses. For each of the three statements, students were required to post open-ended responses for why they selected their Likert scale rating. All three of the Likert scale questions were followed with the question, "why did you respond to this statement this way?" Both the Likert scale and open-ended portions of these exit tickets were submitted via Google Forms each time video instruction was used.

Semi-Structured Interviews

The third tool that was utilized in this study was semi-structured interviews. Semi-structured are verbal interviews in which there are several questions that are created to elicit certain answers from the participants. Fraenkal et al. (2015) recommends that these surveys be given towards the end of a study (Fraenkal et al., 2015). In these semi-structured interviews, I chose participants to clarify data collected from the exit tickets. In these semi-structured, focus group interviews, I asked students about their responses on

the exit ticket that warranted further explanation to understand. I recorded the students' responses via Microsoft Word so I could code the interviews at a later time.

Although I am utilizing familiar measurement tools with Likert scales, focus groups, and open-ended responses, I created all of the data collection. I developed the exit tickets and corresponding questions with suggestions and input from my dissertation advisor. During a pilot study, I used focus group interviews. I posed three questions during the pilot study to three different groups of students. The questions asked were: What did you initially like about video instruction for content delivery, did your interest wane about multiple uses, why did that change, and what suggestions do you have for improving video instruction? After recording and coding the answers from the focus group interviews, I was able to determine that video instruction for content delivery waned for the majority of students, and at a higher rate for students that were academically identified as g/t. Furthermore, I was given a lot of insight into why students were engaged or disengaged with video instruction. By utilizing focus group interviews, I was able to collect vital information from my pilot study that ultimately guided my actual research study. In the following sections, I present the details of the research procedure, followed by a discussion of I analyzed the data gathered from this study.

Research Procedure

During the four-week action research study, the students engaged in a variety of video-based lessons. Appendix B details the lesson plans, which include the standards, objectives, SAMR alignment, Havens' framework for engagement with technology alignment, rationale, and a detailed summary of the video lessons. The lesson plans included are only the lesson plans that utilized video instruction and do not provide

details on other learning activities that were done throughout this unit. I incorporated three class periods with video lessons for each indicator (explained as follows).

I spent the four weeks teaching the students about World War II. The standards used to teach were from the current 2011 South Carolina Social Studies Academic Standards. The overarching standard utilized to teach this unit was Standard 7-4: "The student will demonstrate an understanding of the causes and effects of world conflicts in the first half of the twentieth century" (Zais, 2011, p. 56). More specifically, the indicators, which are more descriptive parts of the curriculum that are taught in this study, are:

> 7-4.3—Explain the causes and effects of the worldwide depression that took place in the 1930s, including the effects of the economic crash of 1929; 7-4.4—Compare the ideologies of socialism, communism, fascism, and Nazism and their influence on the rise of totalitarian governments after World War I in Italy, Germany, Japan, and the Soviet Union as a response to the worldwide depression; and 7-4.5—Summarize the causes and course of World War II, including drives for empire, appeasement and isolationism, the invasion of Poland, the Battle of Britain, the invasion of the Soviet Union, the "Final Solution," the Lend-Lease program, Pearl Harbor, Stalingrad, the campaigns in North Africa and the Mediterranean, the D-Day invasion, the island-hopping campaigns, and the bombing of Hiroshima and Nagasaki. (Zais, 2011, p. 56)

To teach these standards and unit of study, I used the state support document for Grade 7, Contemporary Cultures: 1600 to the Present. This support document details the aforementioned standards and indicators into the pertinent information that is essential

for students to know (South Carolina Department of Education, 2011). I used information from this support document as the basic primary content that the students learned. I expanded on this information in each indicator to further challenge students and have them explore the information at a higher level than simple recall.

I used several types of video to assist the teaching of this unit. At the beginning of this unit of study, I used video instruction for content delivery, primarily at the augmentation level of the SAMR model. I created three videos to teach the essential information from state indicator 7-4.3, which centers on the causes and effects of the Great Depression. As there is a lot of information in the "essential for students to know" section for this indicator, the video was broken up into three parts. I also did this due to comments from students during my pilot study that long videos were more difficult to stay engaged with. Each video was recorded with Screencast-O-Matic, a web tool that allows a user on a device to record their screens, faces, or a combination of the two. I recorded both the screen and my face for each of the videos. These videos included mixtures of PowerPoint narration, where I would instruct students about the material from the section and explain it in detail. The students filled in skeleton notes (notes with blanks embedded within) as I typed them into the PowerPoint on the screencast. Also, I instructed students to highlight specific material that I deemed as the most essential information from the indicator by modeling it on the PowerPoint by changing the desired text from black to red.

In addition, I included one or two videos from outside sources such as YouTube in each video that further explained concepts from the indicator. Once these screencasts were completely recorded, I uploaded them to Edpuzzle.com, a video hosting and editing

website. This website allows educators to upload their own videos and make changes to them, such as cropping, conducting voiceovers, and adding questions. For each video, I added six or seven open-ended questions that tested comprehension of the material, elicited prior knowledge, or had students critically think about the content. The accuracy of the answers submitted served as the evaluation tool for these videos.

The augmentation video lessons for indicator 7-4.3 were carried out over a six-day period. The first video lesson was conducted on a Monday, the second on a Thursday, and the third on the following Tuesday. I purposely separated the videos, as feedback from the pilot study indicated that student engagement waned after frequent (daily) use of video instruction for content delivery. At the conclusion of each video lesson, the students submitted an exit ticket on Google Forms, which measured student engagement. This form is included in Appendix A.

For the second indicator (7-4.4), I used video instruction at the modification level of SAMR. The video lesson for this indicator required students to create their own screencast video using Screencast-O-Matic. In this lesson, students first learned about four different political/economic systems via face-to-face direct instruction and creating comparison charts. After acquiring the basic content knowledge about the four different systems (socialism, communism, fascism, and Nazism), the students created a screencast video on Screencast-O-Matic. For this activity, the students had to first create a presentation on Google Slides. This presentation was required to include the following slides: introduction, socialism, communism, fascism, Nazism, explanations of differences between the systems (including a digital table), and a works cited list. They also had to find and include at least one table and video and a minimum of four pictures that helped

them further explain their topic within their presentation. Students used information from their class notes (taken during direct instruction) and from an online virtual library that includes several research databases called Discus to complete these slides and demonstrate knowledge of the indicator.

After creating their Google Slides presentations, the students recorded a screencast of themselves presenting the material. They had three class periods to complete this assignment. Students were evaluated on this assignment based on a six-point rubric, which included two main categories: ideas and content, and technology/video tools. To see the directions and rubric for this assignment, see Appendix C.

The final lesson in this study was at the modification level of the SAMR model. In this assignment, students created an animation video to explain a concept taught in indicator 7-4.5. After learning essential information via face-to-face direct instruction and primary source analysis, the students were tasked with developing an animation video about one of the events discussed in the section. After choosing an event from a pre-selected list, students used an animation tool called Powtoon to summarize that event. Students were required to include text, characters, props, sound, and media (pictures from the Internet) in their animation. These were all tools available on the Powtoon platform. To summarize the event, students had to answer the following questions: What caused the event? Who fought in the event? How did the fighting occur? How long was the event? How many people were killed and injured in the event? Who won the event?

After finishing their cartoon, students then were required to share it online. To do this in a controlled manner, I created a shared Google Slides presentation for Block 1 (the

research group) and Block 4. In this presentation, there was a slide with a name on it for each one of the students. Students located their slide and imported their cartoons to the slide for others to see. After uploading their cartoons, students then used the comment tool on Google Slides to pose questions to their classmates. I required each student to comment at least two other students' Powtoons from a different block, answering the questions that I posed. I evaluated students on this video assignment in three areas: ideas and content, technology/video tools, and sharing and collaboration. For directions and rubric for this assignment, please see Appendix D.

After each time students completed a video assignment or watched a video for content delivery, they completed the exit ticket in which they provided Likert scale answers and open-ended responses about their focus, success, and enjoyment of the lesson. I administered these surveys at the end of video instruction during class to ensure a high rate of return. At the end of the study, certain students were parts of semi-structured interviews, where I questioned them about engagement with the usage of different types of video. I purposively selected these students for these semi-structured interviews based on which students had written information on their Google Forms that needed additional clarification. These interviews lasted roughly five minutes each. I conducted these semi-structured interviews in person after class, and I transcribed the speech by entering the text into a Microsoft Word document.

In this research study, the protection of sensitive information was a paramount concern of mine. To ensure the protection of information, I never used the names of specific students in the study. Although I used basic demographics such as gender and g/t status to describe the sample used in this study, I did not disclose more intricate student

information such as IEP or 504 accommodations or medical conditions. I used quotes from students when describing information from semi-structured interviews and open-ended responses, but once again, I protected the identities of the students.

For the semi-structured interviews, I entered all conversations into a word processor for later coding. For exit tickets, using Google Forms allowed for information to be transcribed with ease, as the written data was automatically collected and exported to be coded. Furthermore, the quantitative Likert scale data was collected via Google Forms, which allowed me to analyze this data. I cross-referenced the Likert scale data with the level of the SAMR model used in the lesson to determine if engagement increased or decreased based on the level of the SAMR model that was used. This was organized into separate tables, graphs, and charts using Excel and Google Sheets. I then transferred this data to a statistical analysis program called IBM SPSS, in which IBM SPSS analyzed the data through several different tests.

The main quality criteria used for the research procedure was transparency, which is used when a researcher "explicitly identifies a reason for using mixed methods" (Creamer, 2018, p. 152). While explaining the research procedure, it was clear that there was a clear use for both quantitative and qualitative data in this research study. I used the quantitative data to provide a measure for student engagement, which included the focus, success, and enjoyment of the lesson. I also used quantitative data to examine student scores on each of the video assignments to analyze how well students comprehended the material using each type of video instruction. On the other hand, the qualitative data in the form of open-ended questions on the exit ticket allowed the students to explain the quantitative data by elaborating on their Likert scale responses in words. I used the semi-

structured interviews as a way for me to clear up any confusion from the Likert scale responses or open-ended responses from the exit ticket as well.

Treatment, Processing, and Analysis of Data

I analyzed each of the research questions using three different data collection tools: exit tickets, semi-structured interviews, and evaluation scores (from rubrics or short-answer video question responses) from video instruction. Both of my research questions correlated to all three methods of data collection. The exit tickets had two parts, a Likert scale (quantitative) section and an open-ended response (qualitative) section. For the quantitative Likert scale data, I used non-parametric tests, which are used when you cannot make many assumptions about the data (Fraenkal et al., 2015). I did this because I was comparing medians instead of means. The determination of comparing medians was due to the fact that in the Likert scale on the Google Form, the students had the choice of choosing a number value from 1 (*not at all*) to 5 (*very much*). However, there were no values assigned to the 2, 3, or 4 ratings. Therefore, I could not make the assumption that the distance between a 1 and a 2, or a 2 and a 4, for example, were the same.

I used the Wilcoxon Signed Rank Test to analyze the quantitative data among the different SAMR levels. The Wilcoxon Signed Rank Test is a nonparametric test that is generally used to "test the null hypothesis that the median of a distribution is equal to some value" (Shier, 2004, p. 1). Through this test, I compared the augmentation level with both the modification and redefinition levels, and the modification and redefinition levels were compared as well. After conducting the Wilcoxon Signed Rank Test, I was able to determine if there was any statistical significance in the Likert scale responses across the three levels of the SAMR model.

The Mann-Whitney U Test is a nonparametric alternative to a t-test that is used to compare two different groups (Fraenkal et al., 2015). I used this test to analyze the quantitative Likert scale scores between students classified as g/t and students not classified as g/t to see if there was statistical significance. Just as in the Wilcoxon Signed Rank Test, I compared the augmentation level with both the modification and redefinition levels, and I compared the modification and redefinition levels as well.

The final piece of quantitative data that I analyzed was the evaluation scores from each of the video lessons. I used parametric tests were used to analyze the evaluation data. Researchers use parametric techniques when assumptions about the nature of the population can be made (Fraenkal et al., 2015). In this case, I analyzed means instead of medians due to the nature of the data. The first test I used to compare the evaluation scores among the different levels of the SAMR model was the paired t-Test, which is used to determine if the difference between the means of two samples is significant (Fraenkal et al., 2015). To analyze the difference between the scores of students classified as g/t and students not classified as g/t, a different t-Test, the independent samples t-test, was used. Researchers use an independent samples t-test to compare the mean scores of two independent groups (Fraenkal et al., 2015). This test fits this data because I was comparing the evaluation scores of two independent groups (g/t and non-g/t).

For the open-response part of the exit tickets and for the semi-structured interview questions, I used a priori coding. A priori coding is coding that is determined beforehand to align with research questions and goals of the study (Saldana, 2009). Also, I used evaluation coding to further analyze this data. Researchers often use evaluation coding for program evaluation as they seek to judge the effectiveness of a program. Furthermore,

a value of either a "+" or a "-" is applied to the qualitative data to determine if the data is a positive or a negative statement (Saldana, 2009). I chose this type of coding because I was trying to determine what specific parts of video instruction either engaged or disengaged students.

Quality criteria such as the amount of mixing and interpretive comprehensiveness were represented in the research procedure section. For the amount of mixing, there should be mixing of quantitative and qualitative data at several points during the study. This mixing should be integrated "during the design, data collection or sampling, analytical, and/or interpretive phases" (Creamer, 2018, p. 156). As was apparent in this section, the mixing of qualitative and quantitative data was constant in this research procedure. Interpretive comprehensiveness is when the researcher makes the contradictions between quantitative and qualitative data apparent and explains them. This is a way to portray the credible inferences of data collected between the two models and should also occur at the different phases in the research study (Creamer, 2018). As I compared the qualitative and quantitative data after being analyzed, I met these quality criteria as well.

Summary

In this research study, I analyzed video as a method of instruction. With video instruction for content delivery yielding results of disengagement in the pilot study, I tested alternative methods of video implementation in this study. In accordance with the SAMR model of technology integration, I utilized video in the classroom in a multitude of ways to determine how to best engage students with video. Specifically, this study focused on students classified as g/t, who made up a large part of the school population

and sample group, to determine how video could best engage them. I used video in several ways including for basic content delivery, as well as for student-created projects. Through the usage of exit tickets that included Likert scales and open-ended questions, along with the use of semi-structured interviews, I analyzed the engagement levels of students while interacting with video using both parametric and non-parametric analysis methods. In Chapter 4, the results of these different data analysis tests are broken down to explain the significance found in the data. The analyzed data in the next chapter helps answer the main research questions of this study.

Chapter 4

Findings

The purpose of this action research study was to identify how strategies of video-enhanced instruction foster higher levels of student engagement for students with varying levels of academic ability. Prior to this study, my use of video consisted mainly of content delivery, replacing in-class lecture with video lecture that could be completed either inside or outside of classroom-based instructional time. While this method of video instruction showed some short term impact on student engagement, the effect tended to wane quickly for the students classified as academically gifted and persisted only a bit longer for students not classified as academically gifted. Based on these experiences and my need to learn more about how video-enhanced instruction can foster student engagement across ability levels, I enacted an intervention that consisted of several forms of video-enhanced instruction, each at a different level of technology integration according to the SAMR model (Puentedura, 2012). The design of this mixed-methods action research study was guided by the following research question: How do different strategies for video-enhanced instruction support or challenge engagement in learning for students with diverse academic abilities?

This chapter presents the findings of this mixed-methods action research study. Both qualitative and quantitative data were collected and analyzed at several points in the

research process, as this created more robust findings (Creamer, 2018). To collect data, I used an exit ticket with a 5-point Likert scale and open-ended responses to measure student engagement in terms of focus, success, and enjoyment. Also, I used semi-structured interviews at the end of the study to answer any unclear responses from the exit tickets. I first present the data and my interpretations of the student data that were generated during each video-enhanced lesson. The presentation of these findings is organized according to the lesson's level of technology integration. I then present a comparison of each lesson according to the level technology integration and discuss the patterns that became evident from this comparison. The chapter concludes with a synopsis of the key findings from the study.

Findings/Results by SAMR Level

Augmentation

In this section, I present the findings from the augmentation level of my study. The following two sections present data from the modification and redefinition levels. The SAMR model is a way for teachers to evaluate their technology-integrated lessons. It is a ladder that starts with substitution and augmentation, which enhance technology lessons, and goes higher to modification and redefinition, which transform technology lessons (Puentedura, 2012). My study began with a lesson at the augmentation level of SAMR, followed by a lesson at modification, and then redefinition. In this section, I compare the median scores of Likert scale responses of students at the augmentation level, as well as the differences between students classified as g/t and students not classified as g/t. In addition, I analyze the coded qualitative data collected in this study by

paraphrasing and quoting student responses from their exit tickets, as well as from the semi-structured interviews.

As previously discussed, the augmentation level was a critical aspect of the SAMR model used in the design of the intervention for this action research study. Augmentation describes a lesson in which technology enhances a non-technology enhanced aspect of a classroom lesson and, in so doing, offers some functional improvement over the non-technology enhanced aspect of the lesson (Puentedura, 2012). In this study, the intervention included a set of three teacher-created videos on the Great Depression (see Appendix B for a more complete lesson description). These videos represented a technology-based augmentation of the classroom lesson by making the lessons more accessible to students of various ability levels. Furthermore, augmentation is when the technology acts as a substitute with functional improvement (Puentedura, 2012). I created the videos using a video recording program, Screencast-O-Matic, that captured a narrated PowerPoint containing embedded pictures, video clips, and six or seven open-ended questions to which students were required to respond. This is considered augmentation because the technology is substituting for a typical lecture but adding in the functional improvement of students being able to answer open-ended questions at the same time, record responses, and rewind the video lecture at their own discretion. The three video lessons took place on separate days throughout the Great Depression unit. After students completed each video, I graded the questions the same day and the students could see their scores and feedback on each question that they missed. I collected qualitative data from these lessons through the use of a questionnaire given to students as a Google form. The questionnaire asked students to rank their focus,

success, and enjoyment (the three measures of engagement used in this study) on a 5-point Likert scale, which was another use of quantitative data. Open-ended response questions that sought details about each Likert scale response were also included. Lastly, semi-structured interviews (see Appendix E) were used to clear up any questions that remained from the Google form responses.

Table 4.1

Augmentation Medians

G/T					Non-G/T			
	Day 1	Day 2	Day 3			Day 1	Day 2	Day 3
Focus	4.5	NA	4		Focus	4	NA	4
Success	4.5	NA	4		Success	4	NA	4
Enjoyment	5	NA	4		Enjoyment	5	NA	5
All students					Totals	G/T	Non-G/T	All
Focus	4	4	4		Focus	4	4	4
Success	5	5	4		Success	4	5	5
Enjoyment	5	4	4		Enjoyment	4	5	5

Table 4.1 displays the median scores for each item Likert scale item from the student questionnaires that followed each augmented video lesson. I chose to present the medians this way to be able to easily identify trends in the medians between the days and different measures of engagement. For Tables 4.1, 4.2, and 4.3, the data is divided into

G/T (students classified as academically gifted and talented), Non-G/T (students not classified as academically gifted and talented), and all students. Also, there is a fourth label for totals, which includes the median all of the data from the three days of video lessons. It is important to note that there is no data for G/T and Non-G/T for Day 2 of augmentation due to an error in collecting student names for these Google forms.

For the augmentation level, the students classified as g/t started at higher medians of 4.5 for focus and success, and at a 5 for enjoyment, which all decreased to medians of 4s by Day 3. This decrease between Day 1 and Day 3 is partially due to students losing interest in completing the same activity at the augmentation level several times. This is supported by evidence from the qualitative data. For example, on Day 1, a student classified as g/t scored all three measures of engagement at 5s and said, "I felt like this helped me stay focused without anyone interrupting" and "I understood everything very clearly." However, on Day 3, the same student's scores dropped to a 4 for focus, a 4 for success, and a 3 for engagement. When asked to explain his response for enjoyment, he said, "It was the same as last week". Another student classified as g/t ranked his focus level on Day 1 at a 3, success at a 4, and enjoyment at a 5. This fell to a 2, 3, and 4, respectively for Day 3. To express this change, the student said on Day 3 that, "I was getting really tired toward the end" and "The lesson was good but the way it was presented wasn't as good." These two students are both examples of students classified as g/t whose engagement decreased after multiple uses of video instruction at the augmentation level. Their comments demonstrate that they lost engagement by the third use because they were repeating the same type of lesson multiple times.

The median scores for focus, success, and enjoyment of students not classified as g/ts stayed the same between Day 1 and 3. Both the Likert-scale data and the open-responses in the Google form data for students not classified as g/t shows that most students were engaged and stayed engaged throughout the three days. One of the students not classified as g/t rated all three levels of engagement 5s for both Day 1 and Day 3. On Day 1, he said, "I heard nothing else just the lesson," "This really helped me focus. I feel very good about my answers and like the quiet," and "I loved the lesson today because of all the quiet and just the screen to look at." Day 3 garnered more concise but similar comments such as "It was quiet," "I could focus," and "I feel successful." Another student not classified as g/t, who had scores of 4 for focus, 5 for success, and 5 for engagement on Day 1 only had one change in scores for Day 3, which was a 4 instead of a 5 for enjoyment. As another consistent case, on Day 1, she said, "It helped me because the clips helped to really show what was happening at this time in history," and "I enjoyed the lesson because of the way we learned it." On Day 3 there was similar positive feedback such as "The video clips really helped explain what was really going on during this time in history," and "The lesson was helpful in learning about the Great Depression." The constant positive responses of these students not classified as g/t demonstrate that there was a lot of consistency not only in the Likert scale data but also in the open-response data these students provided.

When looking at the total of the three days of medians of students not classified as g/t and students classified as g/t, there is a difference between the medians. Whereas students classified as g/t had median scores of 4s for all three measures of engagement, students not classified as g/t had median scores of 4 for focus (the same as non-g/t

students), 5 for success, and 5 for enjoyment. The difference in success was partially due to pacing, something that was frequently found when doing evaluation coding for the augmentation level.

In this study, I collected qualitative data through the Google forms students completed after each video lesson. They completed three separate Google forms for each of the SAMR model levels. I took this data from an Excel spreadsheet and put into a Word document file to be coded. According to Saldana (2009), "A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (p. 3). For this study, a priori coding was used. A priori coding is when codes are determined before the coding process begins (Saldana, 2009). A priori coding was used in this instance to break down engagement into separate themes that were apparent in the pilot study process. These thematic codes included the following codes, followed by their definitions:

- Audio: The use of audio through headphones or the electronic device either helped or hindered focus, success, or enjoyment of the lesson.
- Personalization: The lesson made the student feel like they had the ability to express themselves personally or that the lesson was made personally for them, which either helped or hindered focus, success, or enjoyment of the lesson.
- Pacing: The features of the video lesson allowed students to go at their own pace, which either helped or hindered focus, success, or enjoyment of the lesson.

- Proximity of instruction: The instruction was nearby or right in front of the student, which either helped or hindered focus, success, or enjoyment of the lesson.
- Content/Information: The actual content (what was learned in the lesson) or subject (social studies/history) either helped or hindered focus, success, or enjoyment of the lesson.
- Understanding: The video lesson helped or hindered the students' ability to learn or understand the content, concepts, or material from the lesson.
- Multimedia resources: The multimedia resources, including but not limited to: video clips, Google Slides, PowerPoint, online pictures, research sites, DISCUS, etc., either helped or hindered focus, success, or enjoyment of the lesson.
- Collaboration: The presence or lack of opportunities to collaborate with other students either helped or hindered focus, success, or enjoyment or the lesson.

To code this data, I assigned each thematic code a color. After reading each statement from the student, I either coded it a color equal to the thematic code if applicable or chose to not code the statement if it did not fit a theme. Another level of coding I used was evaluation coding. Evaluation coding is typically used for program evaluation and seeks to judge the effectiveness of a program. Furthermore, the coder applies a value of either a "+" or a "-" to the qualitative data to determine if the data is a positive or a negative statement (Saldana, 2009). After color coding the thematic codes, I went back and assigned a + or – value to each of the codes.

For reliability purposes, I used inter-rater reliability in this study. Inter-rater reliability is when two coders either agree or disagree with one another when coding a set

of qualitative data. Inter-rater reliability is crucial because "it is regarded as the primary test of objectivity in content studies" (DeWever, Schellens, Valcke, & Van Keer, 2006, p. 9). For this study, a fellow teacher coded the same data as I did. Before the coding commenced, I trained the other coder on how to code qualitative data using a priori codes and explained the a priori thematic codes and their definitions in two separate training sessions. After both I and the other coder coded the data, the percent agreement test was used to determine if there was substantial inter-rater reliability. The percent agreement test is when the two codes are analyzed to see the ratio between similar and differing codes (DeWever et al., 2006). Generally, a 0.80 intercoder reliability is acceptable, while a 0.90 are nearly always acceptable (Lombard, Snyder-Duch, & Bracken, 2010). After both researchers completed the coding, they went over the codes together. Upon collecting this data, the percent agreement test was done, which revealed a 90.48% agreement, well above the 0.80 cutoff.

When looking at Table 4.2, it is clear that pacing was of key importance in the augmentation level. Pacing made up 21.5% of the codes in the augmentation level, the highest percentage in any of the levels. When evaluating pacing codes, 92.9% were positive on the augmentation level, showing the approval of the ability of self-pacing as something that added value to video instruction. Student not classified as g/t made comments such as, "I liked being able to answer the questions in my own way and pace," "it would let me go back if I need to watch it over again," and "I feel like being able to pause or go back helps."

Although some students classified as g/t also mentioned pacing in a positive manner as well, many of them did not feel successful with the videos, stating, "Technology does not help me stay focused on the lesson and that means that I retain less of the information" and "I don't know if my answers were 100 percent correct when I just answer so that's a minus." Judging by the feedback, students classified as g/t were not always confident in the usage of technology on the augmentation level and did not like the fact that they had to wait for feedback on whether or not they got answers correct.

Table 4.2

Augmentation Qualitative Codes

Audio	17 (13.1%)
Personalization	4 (3.1%)
Pacing	28 (21.5%)
Proximity of Instruction	6 (4.6%)
Content/Information	19 (14.6%)
Understanding	34 (26.2%)
Multimedia Resources	17 (13.1%)
Collaboration	5 (3.8%)

When looking at the median score data overall in Table 4.1, overall, students were engaged at the augmentation level. In Table 4.2, the qualitative codes show that other than the aforementioned pacing code, students commonly referred to their ability to

understand the material at the augmentation level. Understanding, which was defined in the coding process as, the video lesson helped or hindered the students' ability to learn or understand the content, concepts, or material from the lesson, was scored positively when doing evaluation coding 97.1% of the time on the augmentation level. The frequency of positive understanding codes in the augmentation level demonstrates that students felt as if they understood the material being taught. When writing about understanding on their Google Forms, students said, "I was able to recall everything I learned with no trouble", "I could answer every question with ease and I felt like ever answer I gave was correct" and "The technology helped me understand the lesson more in detail."

The total data in Table 4.1 suggests a key takeaway that with overall median scores of 4 for focus, 5 for success, and 5 for enjoyment, that students overall were engaged with the augmentation level. This median data matches the students who are not classified as g/t perfectly but is higher than for the students who are classified as g/t, whose scores were 4s for each measure of engagement. Due to the difference in the median data, other key takeaways are that students classified as g/t lose engagement after multiple augmentation lessons and students that are not classified as g/t enjoy and feel more success with augmentation, which can be partially attributed to the pacing and ability to understand the lesson at this level.

Modification

In the next section, I present and analyze the findings of the modification level lesson I used in this research study. In the SAMR model, the modification level is where the technology allows for significant task redesign. This is the first step in the SAMR model that transforms lessons rather than just enhancing them (Puentedura, 2012).

The modification video lesson required students to create screencast videos with a partner (see Appendix B for more details). The goal of this lesson was for students to compare the systems of communism, socialism, fascism, and Nazism. To complete this lesson, students first created a Google Slide presentation, in which they had a different slide explaining each system, using a reputable online database for research. This was followed by a slide in which they had to create a table that compared the four systems. I also required students to include multimedia resources, such as pictures and a video from the Internet that enhanced the message of their presentation. Then, the students had to record their presentation through a program called Screencast-O-Matic and then upload it to Google Classroom for me to evaluate. This is a prime example of modification because as opposed to a typical PowerPoint or Google Slides presentation that students could create and present, by creating a screencast, they could incorporate multimedia elements not offered by these platforms. Students also could share these screencasts with me, which allowed me to grade them without the students being present instead of watching and grading a presentation in front of an entire class.

The same data collections methods from the augmentation level were used for the modification level. The only difference was that students completed this activity in consecutive days, instead of being spread out. They received their evaluation scores for this activity via a 6-point rubric (see Appendix C) the day after they completed the assignment. Students were also required to work with partners for this activity. After getting into an argument on the second day of the activity, I made one partnership work as individuals, which could have affected their scores. In addition, one student was absent for all three days of this assignment.

In Table 4.3, the median scores for modification are listed. When I first looked at the trend between days, I noticed it was pretty stagnant for this lesson. For students classified as g/t, the biggest change between days was at the focus measure of engagement, which started at a median score of a 5 for Day 1, dropped to a 4.5 for Day 2, and then again to a 4 for Day 3. When I analyzed the Google Form open-ended responses, I concluded that there were several reasons behind this drop in focus. One reason was that students were recording either in the hallway or the classroom. In the hallway, there were some external noises that caused certain groups issues. For example, one student said, "It was hard to focus since the guy outside was using a vacuum and it made a lot of noise." This comment demonstrates that the focus did not drop because of the lesson but because of external factors such as noise. Other students classified as g/t had issues focusing due to trying to get the video done perfectly. As the regular version of Screencast-O-Matic only allows for single-take videos, you cannot edit the recording if you make a mistake. Some frustrations with the recording program were revealed in responses such as "We had a pretty easy job of recording the video, but if either my partner or I messed up then we would try and stop the recording which would sometimes crash the Chromebook" and "I was worried the whole time about getting it perfect and forgot about basic things I had to do." This demonstrates that once again, external factors such as the video recording program itself played a role in the drop off for the median score of focus between Day 1 and 3.

Table 4.3

Modification Medians

G/T					Non-G/T			
	Day 1	Day 2	Day 3			Day 1	Day 2	Day 3
Focus	5	4.5	4		Focus	4	5	4
Success	5	5	5		Success	4.5	4.5	4
Enjoyment	5	5	5		Enjoyment	5	5	5
All students					Total	G/T	Non G/T	All
Focus	4.5	5	4		Focus	4.5	4	4
Success	5	5	5		Success	5	4	5
Enjoyment	5	5	5		Enjoyment	5	5	5

The biggest difference in the median scores can be found between the totals of the students classified as g/t and students not classified as g/t. The largest difference in median scores between students classified as g/t and students not classified as g/t was with success with the lesson. This can be mostly attributed to outside factors such as issues with technology. For example, students not classified as g/t wrote, “My Chromebook kept being stupid and was lagging half of the time” and “I wasn’t able to find the right amount of information that I originally wanted for my slides” when asked about their success with the lesson.

Table 4.4

Modification Qualitative Codes

Audio	10 (8.2%)
Personalization	12 (9.8%)
Pacing	12 (9.8%)
Proximity of Instruction	1 (0.9%)
Content/Information	5 (4.1%)
Understanding	13 (10.7%)
Multimedia Resources	36 (29.5%)
Collaboration	33 (27%)

When looking at the quantitative data overall, it clear that students were highly engaged at the modification level. Table 4.4 shows the breakdown of the qualitative codes for the modification level. The two most frequently used codes were multimedia resources and collaboration. Multimedia resources, which students referred to positively 75% of the time at the modification level, were used heavily in these lessons. For the coding process, multimedia resources were defined as: resources including but not limited to video clips, Google Slides, PowerPoint, online pictures, etc. One student stated, "I could change the slides to my liking, add and take away videos and pictures, and get the information in. This helped me focus and made the lesson more enjoyable." Other students said, "It made me feel successful because I feel like I found some good media for the slides and that our slides look really good because of the extra media and details

added in" and "I liked being able to look up videos and find pictures." These comments all represent that using multimedia resources was one of the key engaging parts of the modification lesson.

Collaboration was the second most used code for modification, making up 27% of all codes. In this assignment, students were allowed to collaborate with a partner. When analyzing the evaluation coding, I found that 81.8% of collaboration codes were positive at the modification level. Some positive comments regarding collaboration included: "It was fun because you could communicate with someone while working together," "The ability to work with a partner helped me focus," and "Using technology and working with a classmate makes everything more enjoyable because you won't get bored." The ability to collaborate with other students on the modification level was something that students overwhelmingly enjoyed and helped contribute to their overall engagement in the lesson.

Once again, the total data in Table 4.3 represents that students were engaged overall. However, when I analyzed the difference in the medians between students classified as g/t and students not classified as g/t, a key takeaway that I found is that students classified as g/t felt more focused and successful with the modification level than their non-g/t counterparts.

Redefinition

The redefinition level is the highest step of the SAMR model. This level is reached when the technology in the lesson allows for the creation of new tasks that were previously inconceivable. Just as with the modification level, the redefinition level transforms lessons that utilize technology (Puentedura, 2012).

For redefinition, the students created animation videos on a World War II event (see Appendix B for more details). The students were able to pick the event for which they wanted to create the animation video from a list of five different topics. At this level, students were encouraged but not required to work with a partner. Some students decided to work alone instead of with a partner. To complete this project, the students used a website called Powtoon.com to make their cartoons. Students had to include characters, props, text, and media (pictures from the Internet) in their animations to answer five different questions about the event. Students were required to get the information from their notes that they had taken throughout the section and from a reputable online database. After completing their animation, the students had to share their animations on a shared Google Slide presentation for other groups to watch and comment on. Each student was required to watch two other groups'/students' videos from another class, post a comment, and ask a question about the animation videos. This lesson fits with redefinition because students in my first class would not be able to present to students in my last class without this technology. Furthermore, they would also not be able to ask each other questions or comment on each other's presentations, which the use of this animation program and Google Slides allowed them to do.

Data collection was done the same way as the augmentation and modification levels. This activity was done on three consecutive school days. I evaluated this redefinition activity using a 9-point rubric (see Appendix D), which I scored the day after the final day of the project. The majority of students worked with partners on this assignment. Three students were absent during all three of these lessons, and therefore

did not complete them, and one student did not complete the lesson due to illness and technical issues with their Chromebook.

Table 4.5

Redefinition Medians

G/T					Non-G/T			
	Day 1	Day 2	Day 3			Day 1	Day 2	Day 3
Focus	4	4.5	5		Focus	4	4	4
Success	4	5	5		Success	4	4	5
Enjoyment	5	5	5		Enjoyment	4	4	5
All students					Totals	G/T	Non-G/T	All
Focus	4	4	5		Focus	4	4	4
Success	4	4	5		Success	4	4	4
Enjoyment	5	5	5		Enjoyment	5	5	5

In Table 4.5, I listed the median scores of the redefinition level. When I analyzed the difference between the medians of the three days, I found that students were more engaged with the redefinition level on Day 3 than on Day 1. This was especially the case for students not classified as g/t, who jumped from a median score of 4 on success and enjoyment on Days 1 and 2 to a 5 on Day 3. When analyzing the open-ended responses, there are many comments that suggest the students not classified as g/t were frustrated with using a new program, Powtoon, and it provided a learning curve for these students.

A prime example is through the comments of one of the non-g/t students. On Day 1, they said “It was hard because I have not learned all about Powtoon”; on Day 2, they said, “It is getting better but there is a lot on Powtoon so I am just trying to get it all in”; and on Day 3, they said, “Yes it was a lot easier and I did feel like I was successful today.” This shows that as students, especially students not classified as g/t, got more familiar with working the program, they were more engaged in the animation activity, which explains the different ratings between the days.

Although the totals of the scores for students classified as g/t and students not classified as g/t show identical medians for the Likert scale Google Form rankings, when looking at the specific days, the students classified as g/t were more consistently engaged with the redefinition lesson. Whereas the students not classified as g/t struggled at first with learning a new program, as was alluded to in previous paragraph, the students classified as g/t liked the challenge of using a new program. Students classified as g/t stated, “I got to do whatever I wanted the way I wanted to do it. It was really fun,” “Doing the animations made everything fun because it’s something new to try,” and “It’s cool trying out a new program to use for school work.”

When I looked at the total median rankings for the redefinition level, once again I discovered students overall rated this lesson at high levels, which demonstrates a high level of engagement for the redefinition level. As Table 4.6 shows, students commonly discussed multimedia resources and collaboration for the redefinition level. Multimedia resources was the most coded theme in the redefinition open-answer responses, accounting for 50.9% of all codes. The multimedia resources code was used positively 76.3% of time at the redefinition level. In this activity, students were creating a

multimedia presentation, an animation, which many students were excited about. Some positive comments about the use of multimedia resources for this activity were: “I thought it was fun working with the website and messing around with all the different tools to make a really cool video,” “I like this software, it has a lot of parts to it, and I think it will make a better video, than if it was just something like a power point,” and “I loved using all the different tools, characters, and scenes to make our video look good.”

Table 4.6

Redefinition Qualitative Codes

Audio	2 (1.7%)
Personalization	10 (8.6%)
Pacing	(15.5%)
Proximity of Instruction	0 (0%)
Content/Information	3 (2.6%)
Understanding	7 (6%)
Multimedia Resources	59 (50.9%)
Collaboration	17 (14.7%)

Collaboration was the second most used code in the redefinition level, making up 14.7% of the total codes. Students liked the ability to collaborate in this project, with 82.4% of collaboration codes being positive. Collaboration was used in multiple ways on this project. The first way was when students were working with their partners to

complete the activity. Some positive comments regarding this form of collaboration included: “I had fun with my partner to complete this animation project,” “It was fun working with others,” and “It was fun talking with my partner and working.” However, the redefinition level also allowed students to view and comment on other students’ videos from a different block. Several students wrote about how they liked this type of collaboration, stating, “It was nice that we got to look at other people’s animations as well as create our own animations” and “We got to comment on other people’s presentations and give them feedback on what they did.” When conducting semi-structured interviews, I questioned these students about the process of sharing and watching others’ videos. To better understand student responses from the Google Form data, I conducted semi-structured interviews. I coded this data the same way as the Google Form data, utilizing a priori thematic evaluation coding. I applied the same codes to these interviews. I used the percent agreement test to measure inter-coder reliability. The percent agreement test ended with a score of an 88.2%, over the 80% mark suggested for inter-coder reliability. An example of one of these interviews follows.

> Interviewer: “In the animation activity, you stated, It was easy to comment on other people’s videos. Did you enjoy watching and commenting on other people’s videos? Why or why not?”
>
> Student: “Yeah, because there is no right answer, so you can say the truth. Some people had really good videos, so it was entertaining.”

This student enjoyed the ability to freely comment on other groups’ videos without having to worry about giving a correct answer. She felt as if they could be

truthful in this commenting platform. The student also enjoyed watching other classmates' videos from other blocks, mentioning that they were entertaining. The following includes another part of a semi-structured interview that reveals more about student feelings of the video sharing and commenting process.

> Interviewer: "In the last day of the animation activity, you stated, 'It was nice that we got to look at other people's animations as well as create our own animations.' What did you like about the process of looking at other people's animations?"
>
> Student: "We got to critique or peers, but also in a nice way, because we got to say what we liked about their videos. We also got to critique them about a question like if we did not understand, we got to tell them."
>
> Interviewer: "In the last day of the animation activity, you also stated, 'We got to comment on other people's presentations and give them feedback on what they did.' Did you like being able to comment on other people's videos? Why or why not?"
>
> Student: "Yes, because it gave us a way to interact with them and let them know what we enjoyed about what they did."

This student liked the ability to both critique other students' videos and provide them with positive feedback as well. They also enjoyed being able to pose questions to others and have their questions answered to clarify any misunderstandings about the videos.

When analyzing the total data in Table 4.5, it is once again apparent that overall, students were engaged in the redefinition level video lesson. However, the key takeaway from the redefinition level was that the redefinition level was more engaging after multiple days, largely due to the fact it took longer for students to learn the multimedia program and more difficult task this level required.

Table 4.7

Total Medians Between SAMR Levels

Augmentation	G/T	Non G/T	All
Focus	4	4	4
Success	4	5	5
Enjoyment	4	5	5
Modification			
Focus	4.5	4	4
Success	5	4	5
Enjoyment	5	5	5
Redefinition			
Focus	4	4	4
Success	4	4	4
Enjoyment	5	5	5

When interpreting the data from the modification and redefinition levels, it is clear that engagement increased, especially for students classified as g/t, which can also be explained by educational theory as well. In both the modification and redefinition levels, students were given the task to create their own videos. In the educational theory of constructionism, students create and construct their own learning through creative processes. Constructionism is a powerful learning theory that allows students to learn by doing and through their experiences (Flores, 2016). As the modification and redefinition levels in this study emphasized constructionism, it is a possible connection that learning tasks that utilize constructionism may be more engaging.

Data Analysis Across SAMR Levels

The previous section focused on each level of the SAMR model. The following section analyzes the differences in both the quantitative and qualitative data across the SAMR levels. This analysis was conducted to see if engagement levels differed among the different SAMR levels and if there were significant differences among all students' responses and specifically students classified as g/t and students not classified as g/t responses.

In Table 4.7, I calculated the median scores of all of the Likert scale data combined from each level. I calculated the median separately for all of the students classified as g/t, students not classified as g/t, and all students combined and presented in this table. When comparing among the different levels, there are a few conclusions that can be drawn. The first conclusion is that students classified as g/t were more engaged in the modification and redefinition levels and least engaged in the augmentation level. This can be seen as the median scores are the lowest at four for all three measures of

engagement at the augmentation level, a 4.5 for focus, and 5s for both success and enjoyment on the modification level, and a 4 for focus and success, with a 5 for enjoyment at the redefinition level. Semi-structured interview data supports this conclusion and quantitative data as well. The example that follows shows how personalization is a key role in engaging students with video lessons.

> Interviewer: "You most consistently scored the second lesson, the screencast (modification) video lesson the highest. Was this your favorite of the lessons? Why or why not?"
>
> Student: "Yes, that was the highest because we got to be more engaged and we created our own for each social system."
>
> Interviewer: "Do you feel that creating videos was more engaging than watching videos? Why or why not?"
>
> Student: "I like creating better because you get to feel how you feel about the lesson in your words and how you want to put it in your own words."

This interview reveals to me that this student who was classified as g/t found the creation of videos, specifically in the modification level, more engaging than watching videos in the augmentation level. This is supported by comments that show the student enjoys the creative process and how the modification level allowed for more personalization of the content. In another interview with a different student who was classified as g/t, this sentiment was expressed as well:

> Interviewer: "During the Edpuzzle videos, you stated 'I could answer every question with ease and I felt like every answer I gave was correct.' Do you feel that it was more challenging and engaging for you to create your own videos (screencasts and animations) rather than receiving pre-recorded information? Why or why not?"
>
> Student: "Yes, because when you are creating it you have to think about what you want to use and how you are going to convey that so you have to take it to a deeper level versus when you are just hearing someone else talk about you are kind of just regurgitating the information into the questions and answers."

This student not only alludes to being engaged in the creative process but indicated that it the enhanced difficulty of the lesson when it is higher than the augmentation level. He specifically references this by saying that at the augmentation level, he was just "regurgitating information," but at the modification and redefinition levels, "you have to take it to a deeper level." This interview supports the notion that students classified as g/t prefer the challenge that the higher levels of SAMR can offer them.

This is the reverse for students not classified as g/t, who were the most engaged in the augmentation level and less engaged in the modification and redefinition levels. As previously mentioned in this section, some students not classified as g/t had issues with learning the new programs used on the modification and redefinition levels, whereas the students classified as g/t picked these programs up at faster rates. However, there are other possible explanations for the drop in scores at the modification and redefinition levels. Students not classified as g/t also struggled with some of the additional tasks

required in the modification and redefinition levels, which can be seen in comments such as, “I wasn’t able to find the right amount of information that I originally wanted for my slides.” This shows that students classified as g/t may need some scaffolding before doing projects that require new programs to be used. Another issue that many students not classified as g/t mentioned in the modification and redefinition levels was being able to stay on task while collaborating. Students said, “I could stay focused but I prefer to work alone,” “we kept getting off task but we got back on quickly,” and “I was focused most of the time, the only time I wasn’t was when I was talking with my partner.” This demonstrates that although students not classified as g/t generally enjoyed working with partners, the ability to collaborate impacted their focus and success levels in many cases, which also impacted their final engagement scores.

When looking at educational theory, Bloom’s Taxonomy could offer another explanation for this data. In Bloom’s Revised Taxonomy, the remember and understand levels at are the bottom, whereas the create level is at the very top of the model (Armstrong, n.d.). The augmentation level in this study required students to remember and understand, the lower levels of Bloom’s Revised Taxonomy. As these tasks are less difficult, and therefore led to easier success and understanding, which built confidence, this could explain why students not classified as g/t were more engaged the augmentation level. On the other hand, the modification and redefinition levels both required students to create videos of their own, the very top of Bloom’s Revised Taxonomy. This activity provided a larger challenge to students identified as g/t in which they could be engaged in the creative process yet still be successful.

To analyze the Likert scale data for statistical significance, I used nonparametric techniques. Nonparametric techniques are used when you cannot make many assumptions about the data or the population from which the data is taken (Fraenkal et al., 2015). In the Google Form, the students had the choice of choosing a number value from 1 (*not at all*) to 5 (*very much*). However, there were no values assigned to the 2, 3, or 4 ratings. Therefore, I could not make the assumption that the distance between a 1 and a 2, or a 2 and a 4, for example, are the same.

Although analyzing the median scores tells part of the story, statistical tests were run to seek statistical significance between the three levels of engagement and the three levels of SAMR between students classified as g/t and students not classified as g/t. To compare the Likert scale responses from the Google Forms, I used a type of nonparametric statistical analysis test. The Mann-Whitney U Test is a nonparametric alternative to a t-test that is used to compare two different groups (Fraenkal et al., 2015). Since there are two different groups of students, I used the Mann-Whitney U Test to analyze the differences in the medians of students classified as g/t students versus students not classified as g/t. I conducted this test across the three different levels of engagement, focus, success, and enjoyment among the three levels of SAMR. For the areas of focus and success, there was no statistical significance found in the Mann-Whitney U Tests between g/t and non-g/t students at any of the three levels of the SAMR model. The *p*-values (signified by the Asymp. Sig. 2-tailed label), which are considered statistically significant at a value of 0.05 or less, are all well above this threshold. This shows that although there may be differences in the median values between students classified as g/t and students not classified as g/t in the focus and success measures of the

different SAMR level activities, they are not different enough to warrant statistical significance.

Table 4.8

Mann-Whitney U Test—Focus

	Focus-Augmentation	Focus-Modification	Focus-Redefinition
Asymp. Sig. (2-tailed)	0.896	0.503	0.187

Table 4.9

Mann-Whitney U Test—Success

	Success-Augmentation	Success-Modification	Success-Redefinition
Asymp. Sig. (2-tailed)	0.434	0.303	0.714

The final Mann-Whitney U Test in Table 4.10, which measured enjoyment, shows statistical significance was not found on the modification or redefinition levels, but was found at the augmentation level, which yielded a *p*-value of 0.033. This demonstrates that the difference between the rankings of students not classified as g/t students and students classified as g/t for the enjoyment of the augmentation level was not only noticeable when comparing medians earlier in this section but was different enough to be

statistically significant. This supports the notion that students not classified as g/t enjoyed the augmentation level at much higher rates than students classified as g/t.

Table 4.10

Mann-Whitney U Test—Enjoyment

	Enjoyment-Augmentation	Enjoyment-Modification	Enjoyment-Redefinition
Asymp. Sig. (2-tailed)	0.033	0.536	0.146

Although there are clear differences between the two groups of students in the median scores, the overall medians do not differ very much between the three levels. When I analyzed the data in Table 4.7, the medians are almost identical when I looked at the overall scores between the SAMR levels. To compare the three levels on the SAMR model (augmentation, modification, and redefinition) to the measure of engagement (focus, success, and enjoyment) among all students, I utilized the Wilcoxon Signed Rank Test. This nonparametric test is generally used to "test the null hypothesis that the median of a distribution is equal to some value" (Shier, 2004, p. 1). The null hypothesis in this case is that there is no statistical significance in the medians between the levels of the SAMR model. The Wilcoxon Signed Rank Test allowed me to compare the medians of all students' responses across each measure of engagement.

Tables 4.11 and 4.12 show the statistics from the Wilcoxon Signed Rank Test. These tables show that there was no statistical significance between the three SAMR levels for either focus or success, with *p*-values all well over the 0.05 measure.

Table 4.11

Wilcoxon Signed Rank Test—Focus

	Focus Modification-Focus Augmentation	Focus Redefinition-Focus Augmentation	Focus Redefinition-Focus Modification
Asymp. Sig. (2-tailed)	0.236	0.509	0.341

Table 4.12

Wilcoxon Signed Rank Test—Success

	Success Modification-Success Augmentation	Success Redefinition-Success Augmentation	Success Redefinition-Success Modification
Asymp. Sig. (2-tailed)	0.449	0.550	0.127

When I ran the Wilcoxon Signed Rank Test on enjoyment data, I found statistical significance. In Table 4.13, the *p*-value computed between the modification and redefinition levels were not nearly statistically significant with a value of 0.959. However, the *p*-value computed between the augmentation and modification levels was

nearly statistically significant with a value of 0.077. When analyzing the *p*-value between the augmentation and redefinition level, at a 0.040, it is statistically significant as it is under the 0.05 threshold. This rejects the null hypothesis that all groups have the same median enjoyment between the three levels of the SAMR model and demonstrates that there was a significant difference between enjoyment on the augmentation and redefinition levels. This shows that enjoyment is the one measurement of engagement that had large increases as students climbed the SAMR model, indicating that students overall enjoyed the more integrated uses of SAMR than the lower levels.

Table 4.13

Wilcoxon Signed Rank Test- Enjoyment

	Enjoyment Modification- Enjoyment Augmentation	Enjoyment Redefinition- Enjoyment Augmentation	Enjoyment Redefinition- Enjoyment Modification
Asymp. Sig. (2-tailed)	0.077	0.040	0.959

Although engagement was the key variable in this research study, I analyzed evaluation scores as well. Student achievement is important, but the lack of statistical significance and the small amount of collected data regarding evaluation made it less important. There were two different t-tests used in this study to compare student evaluation scores. A t-test for means is a parametric test used to determine if the difference between the means of

two samples is significant (Fraenkal et al., 2015). Due to the sample population being consistent across all three levels and evaluations, a paired t-test was used to determine statistical significance between augmentation, modification, and redefinition.

In Table 4.14, I analyzed and listed the mean scores from the paired t-test. I conducted the test between each of the levels. There was some attrition in the redefinition level, which is why there are different percentages and number of participants in the sample for Pair 1 in comparison to Pairs 2 and 3. As these statistics show, the average scores between the levels were very close, within 2% of each other.

Table 4.14

Paired t-Test Means

		Mean	N	Std. Deviation
Pair 1	Aug	97.0435	23	4.96890
	Mod	96.3043%	23	7.16960%
Pair 2	Aug	97.0833	20	5.02959
	Redef	96.3000%	20	5.21233%
Pair 3	Mod	95.7500%	20	7.55245%
	Redef	96.3000%	20	5.21233%

Table 4.15 shows the t-test that I ran between the several levels of activities. Since the mean scores were so close to each other, the *p*-values are all far above the statistically significant cutoff of 0.05. Therefore, this data is not statistically significant.

Table 4.15

Paired t-Test Significance

		Sig. (2-tailed)
Pair 1	Aug - Mod	0.695
Pair 2	Aug - Redef	0.566
Pair 3	Mod - Redef	0.751

To analyze the difference between the scores of students classified as g/t and students not classified as g/t, I used a different t-test, the independent samples t-test. Researchers use an independent samples t-test to compare the mean scores of two independent groups (Fraenkal et al., 2015). There was no statistical significance between the mean scores of students classified as g/t and students not classified as g/t on any of the SAMR levels.

The data that I collected and analyzed between the three levels of the SAMR model used in this research study demonstrates that overall, although focus and success

was relatively stagnant, students enjoyed the modification and redefinition levels more than the augmentation level. It also confirmed that students who are classified as not g/t enjoyed the augmentation level much more than students who are classified as g/t.

Key Findings

Through the presentation and analysis of data in this chapter, there are several key findings.

1. Although all groups of students are engaged in the augmentation level, students classified as g/t lose engagement after multiple augmentation lessons and are least engaged in augmentation lessons.
2. Students not classified g/t enjoy augmentation more than students classified as g/t (statistically significant), which can be partially attributed to the pacing and ability to understand the lesson at this level.
3. Overall, both groups of students enjoy the higher levels of SAMR, modification and redefinition (statistically significant) more than the augmentation level, which can be attributed to higher rates of collaboration and multimedia resources incorporated into these levels. This is especially true of students classified as g/t.
4. The redefinition level was more engaging after multiple days, largely due to the fact it took longer for students to learn the multimedia program and more difficult task this level required.

Summary

Students completed nine days of video lessons in this study, which started off at the second point of the SAMR model for technology integration, the augmentation level,

and then climbed to the modification and redefinition levels. As students completed these lessons, data was collected on a regular basis. Through the data analysis presented in this chapter, I identified four key findings.

The first key finding is that although all groups of students are engaged in the augmentation level, students classified as g/t lose engagement after multiple augmentation lessons and are least engaged in augmentation lessons. Through the median scores gathered via questionnaires, the engagement levels of students classified as g/t on all three measures (focus, success, and enjoyment) all dropped between Day 1 and Day 3. This data exhibits that these students lost engagement after multiple uses of video for content delivery at the augmentation level. When I analyzed the differences in the median scores between the three SAMR levels for students classified as g/t, I noticed their scores were generally higher in the modification and redefinition levels than the augmentation level.

The second key finding was that students not classified g/t enjoy augmentation more than students classified as g/t. When I compared the scores of students that were classified as g/t versus their non-g/t counterparts among the three levels of the SAMR model using the Mann-Whitney U Test, I deduced the enjoyment measure of the augmentation level was the only place where statistical significance was found. This test revealed that students not classified as g/t enjoyed the video lessons at the augmentation level much more than their g/t counterparts.

The third finding was that over all, both groups of students enjoy the higher levels of SAMR, modification and redefinition, more than the augmentation level. This was

discovered when using the Wilcoxon Signed Rank Test, which showed that although focus and success were not statistically significant between the three levels, students enjoyed the modification and redefinition level (which was statistically significant) more than the augmentation level.

The final key finding was that the redefinition level was more engaging after multiple days, largely due to the fact it took longer for students to learn the multimedia program and more difficult task this level required. When I analyzed the total median scores for students at the redefinition level, I saw there was an increase for both groups of students from day one to day three. Open responses from the questionnaires indicated that learning a new program was difficult and that it took students a while to fully understand the animation program.

These four key findings lead to my final section, Chapter 5, in which I link the results of my study to the literature covered in this dissertation, as well as present new literature that is relevant to these results. This chapter also includes a detailed description on how these findings will impact my own practice, followed by how I will utilize these findings in a second study.

Chapter 5

Implications for Future Practice

The purpose of this action research study was to analyze how different ways of implementing video-enhanced instruction foster higher levels of student engagement among students with differing academic ability levels. This study stemmed from previous experiences in the classroom, in which I replaced my teacher-led lectures with video lectures that students watched both inside and outside of class. This led to some initial student engagement but often left students disengaged after multiple uses, especially for my students classified as academically g/t. Due to this problem of practice, I designed an intervention which allowed me to measure student engagement among multiple uses of video instruction, which extended from video lecture to student-created video projects. These lessons were developed using the SAMR model of technology integration, which allowed me to implement video lessons at multiple stages of the SAMR model to both enhance and eventually transform learning (Puentedura, 2012). In this mixed methods study, the key research question was: How do different strategies for video-enhanced instruction support or challenge engagement in learning for students with diverse academic abilities?

In this chapter, I analyze the key findings, as stated below. This will serve as a model to guide my discussion based on the existing literature. students. The key findings were:

1. Although all groups of students are engaged in the augmentation level, students classified as g/t lose engagement after multiple augmentation lessons and are least engaged in augmentation lessons.
2. Students not classified g/t enjoy augmentation more than students classified as g/t (statistically significant), which can be partially attributed to the pacing and ability to understand the lesson at this level.
3. Overall, both groups of students enjoy the higher levels of SAMR, modification and redefinition (statistically significant), more than the augmentation level, which can be attributed to higher rates of collaboration and multimedia resources incorporated into these levels. This is especially true of students classified as g/t.
4. The redefinition level was more engaging after multiple days, largely due to the fact it took longer for students to learn the multimedia program and more difficult task this level required.

In this chapter, I will reflect on the different aspects of the study. I will first explain the results and connect them to the literature, as well as introduce new literature that helps explain the results. This is followed by a section reflecting on mixed methods and action research and a discussion of video-based lessons and equity. This chapter concludes with a summary of the dissertation.

Results Related to Existing Literature

Using SAMR to Develop Video-Enhanced Lessons

In Key Finding 1, overall, all students were engaged in the augmentation level. I designed the augmentation level in this study as three video lessons that were narrated teacher PowerPoints and that included open-response questions and video clips. On the 5-

point Likert scale on the Google Forms survey, students rated the augmentation at median scores of 4 for focus, 5 for success, and 5 for enjoyment. Other studies that have used video instruction have found similar results on 5-point Likert scale responses, such as Litao's (2017) study in which students from multiple classes ranked class materials such as videos from an average of 4.31–4.6, and Suzanne's (2015) college marketing study in which students rated their satisfaction with video instruction at a 4.62. In addition, university mathematics instructors in Finland found that 89% of their students found videos useful for learning in their study (Kinnari-Korpela, 2015). In Snyder, Paska, and Besozzi's (2014) three-year study of the use of video instruction in ninth-grade social studies classes, they found that students enjoyed video instruction at a rate of 62% the first year, 70% the second year, and 92% the third year. These studies all indicate that video instruction used as a replacement for direct instruction was effective for students. The literature agrees with my own findings that video instruction at this augmentation level is often very engaging for students.

The literature and my study both showed that video lectures can be used to enhance student engagement and learning in the classroom. Yet, when analyzing the data that led to Key Finding 1, not all of the data regarding the augmentation level was positive. In comparison to the modification and redefinition levels, focus and success on the augmentation level were all rated closely. However, in the area of enjoyment, the modification and redefinition levels were scored at much higher levels on the Likert scale responses. This was statistically significant for the enjoyment levels between augmentation and redefinition. This was especially the case for my students classified as g/t, who rated their enjoyment levels the lowest for augmentation. The difference

between their rating and the students not classified as g/t was statistically significant for enjoyment, showing that although the students not classified as g/t really enjoyed the augmentation video lessons, the students classified as g/t did not enjoy them nearly as much.

In my pilot study, six out of seven students classified as g/t in a focus group admitted that their interest in video instruction at the augmentation level waned, whereas only three out of eight students not classified as g/t's interest decreased after watching multiple videos. Students mentioned that it was repetitive, they got tired of it, lost attention, and it was hard to focus. In the semi-structured interviews for this study, this sentiment was also expressed. When posed with the question, "You scored both the screencast project and animation project much higher in terms of engagement compared to the Edpuzzle video lessons. What were the main reasons behind this?," a student classified as g/t answered, "Because the video we had to watch it made me kind of tired, and when we got to make our own videos it was more engaging because I got to do my own thing." In another interview of a different student classified as g/t, I asked the question, "You mentioned that you were bored by the Edpuzzle videos. Why was this the case?" The student responded with, "Because they were just talking and you weren't allowed to skip ahead to the questions." Both of these interview answers demonstrate that g/t students are not always engaged by the augmentation level videos.

The literature has some similar findings as well. In a study of video-based lectures done by Schacter and Szpunar (2015), they observed that many students' minds were wandering. In another study, 24.2% of students responded to a survey saying that they preferred regular face-to-face instruction in comparison to video instruction (Lancellotti

et al., 2016) In Snyder et al.'s (2014) study of video instruction, some students reported that learning by video was boring and emphasized passive learning. In the same study, students also commented that it did not allow them to build the type of rapport with the instructor.

Key Finding 2 was that students not classified as g/t enjoyed video instruction at the augmentation level much more than the students classified as g/t. The literature supports the notion of remedial learners enjoying the augmentation level of video instruction for various reasons. In Lo and Hew's (2017) study of flipped classrooms, they found that remedial learners enjoyed the ability to pause and go back to information that they needed to see again. Data collected from lower-level students in a math study suggested that they liked the ability to watch the videos multiple times when needed (Kinnari-Korpela, 2015). Although rewinding and watching videos more than once is helpful for remedial learners, studies such as Kobayshi's (2017) revealed that remedial learners enjoy having visual material more than g/t students. As can be seen in these studies, the literature supports the notion that students not classified as g/t commonly like video instruction at this level.

To continue the discussion of Key Finding 2, there are also many connections to be made between the qualitative data in the literature and the qualitative data collected in my study. The area of pacing was one of the most frequent codes found in the qualitative Google Form that I collected. Comments on pacing made up 21.5% of all codes in the augmentation data, the highest of all three of the SAMR levels used, indicating that this was a key factor of engagement for students on this level. Students made comments such as, "It allowed me to rewatch the parts I missed or don't know," "I could go at my own

pace and if I don't hear something I can replay," and "I feel like being able to pause or go back helps." The positive data gathered in my study is also found in the literature. In Holland's (2015) study of students in a political science course, students indicated that they enjoyed the fact that they could revisit the material later. Lo and Hew (2017) found that students in their class liked the ability to rewatch and review videos.

Another component of Key Finding 2 on the augmentation level in my study was that students felt that it helped them better understand the material. This was the most frequent code found in my augmentation results, accounting for 26.2% of all codes. Students expressed that through the video lessons on the augmentation level, "I was able to recall everything I learned with no trouble," "The technology helped me understand the lesson more in detail," and "I could answer every question with ease, knowing that I would get the right answer." The literature supports the findings in my study. For example, students in Litao's (2017) aforementioned study stated that the videos used in the course made the content from the textbook clearer. In a study of online college marketing students, 85% of students agreed or strongly agreed that teacher-created videos helped to expand their knowledge (McGovern & Baruca, 2013). Another prime example is Brecht and Ogilby's (2008) study of video instruction, where 68.5% of students agreed that video lectures helped them understand the course material and prepare for tests. Also, 24.2% of students that did not have access to the videos failed the course, whereas only 6.8% of students will access to the videos failed the course, suggesting the videos helped tremendously in the understanding of the material.

Overall, it is clear that video instruction used to replace direct instruction at the augmentation level has its positives and negatives. The literature and my study support

that it can be a very engaging way to use video instruction, and students commonly enjoy the ability to revisit and watch the material multiple times. This also can be a great way to engage non-g/t or remedial learners. Yet, when it comes to engaging students classified as g/t, video instruction at the augmentation level is not always effective, which is supported both by the literature and this research study.

In the modification level, students created their own screencast video with a partner about the four political and economic systems learned about in the section. This video had to include a screencast with outside video clips, pictures, and a comparison chart as well. The redefinition level required students to work with a partner or by themselves to create an animation about one of the topics learned in the section. This animation was created using a platform called Powtoon, and required students to include pictures, props, and characters. Furthermore, students had to share their animations to a shared Google Slides presentation and then comment and pose questions to students' videos from other classes. Just like the augmentation level, student engagement on the modification and redefinition levels were scored highly by students in this study. For the Google Form 5-point Likert scale responses on the modification level, students scored focus with a median of 4, success at a 4, and enjoyment at a 5. For redefinition, students scored focus at a median of 4, success at a 4, and enjoyment at a 5.

For Key Finding 3, overall, both groups of students enjoy the higher levels of SAMR, modification and redefinition (statistically significant), more than the augmentation level, which can be attributed to higher rates of collaboration and multimedia resources incorporated into these levels. Mackay and Strickland's (2018) study of at-risk students making their own videos to learn showed increased engagement

in the classroom. In Parra's (2016) study of middle school students who created their own video podcasts, high engagement results were found as well. These students found that the process of creating videos was beneficial, interesting, and helpful and enjoyed learning by watching videos that other classmates had made. In Clemmons and Posy's (2016) study of college students that created videos for a course, students reported that video creation led to a higher level of learning and thinking and the researchers made the comment that creating videos could lead to improved learning, motivation, and engagement in the classroom.

Yet, the SAMR model, which is often displayed in form of a ladder, encourages educators to move up the ladder, which can lead to higher levels of learning and teaching (Hamilton, Rosenberg, & Akcaoglu, 2016). The results of my study support this idea. Although the data shows that the overall scores for focus and success were relatively similar among the SAMR levels, enjoyment was higher at the modification and redefinition levels than the augmentation level when running data analysis tests. For enjoyment, the Google Form data was statistically significant between the augmentation and redefinition levels and nearly statistically significant between the augmentation and modification levels. As a whole, this data supports the idea that higher levels of the SAMR model can be more enjoyable than the lower levels.

As Key Finding 3 suggests, this was especially true for my students classified as g/t. Although median scores and results from the Mann-Whitney U Test show that there were very little differences between the engagement levels among the different levels of SAMR, when analyzing the median scores of students classified as g/t at the

augmentation level in comparison to the modification and redefinition levels, it is clear that students classified as g/t were more engaged at these levels.

This can also be found in the qualitative data. The modification and redefinition stages allowed students to be more collaborative and creative, which many students enjoyed. On the modification level, multimedia resources were the top coded response from the Google Form at 29.5% of the total codes, followed by collaboration, which was at 27%. The redefinition level was similar, with multimedia resources at 50.9% of the total codes and collaboration at 14.7%. Overall, the multimedia resources code was used positively 77.7% of the time, whereas collaboration was used positively 81.8% of the time. The frequency and evaluation of these codes suggest that they were two of the key reasons that students enjoyed the modification and redefinition levels. Some positive responses for multimedia resources at the modification level include: “It was really fun to make a video presentation,” “It was really cool reviewing the video that we made and admiring it,” and “I liked working on the slides and finding pictures and videos.” For redefinition, some of the positive responses for multimedia resources included: “I like this software, it has a lot of parts to it, and I think it will make a better video, than if it was just something like a PowerPoint,” “I loved using all the different tools, characters, and scenes to make our video look good,” “I liked being able to animate our presentations,” and “creating something like an animation, is fun, so it makes it more interesting.” As can be seen by the aforementioned comments, students overwhelmingly enjoyed using the different multimedia resources to complete the project and present their knowledge on the topics.

For collaboration, the modification level garnered responses such as: “The ability to work with a partner helped me focus and I could stay focused on the project,” “I enjoyed it because it was fun working with a partner,” and “I feel successful because I got my things done and my partner was agreeing to my answers.” This feedback shows that with the modification level, collaboration can be a key way to motivate students. Students overall seemed to enjoy working with other classmates to complete this project. On the redefinition activity, some positive collaboration comments were: “I had fun with my partner to complete this animation project,” “It was fun to work on the computer and working with a partner so we could talk,” “We got to comment on other people’s presentations and give them feedback on what they did,” and “It was nice that we got to look at other people’s animations as well as create our own animations.” The responses for the redefinition level showed that not only did students enjoy working with others, they also that they enjoyed watching and commenting on other students’ videos. This collaborative feature of the project is what elevated this to a redefinition activity, and part of the reason that this was the most enjoyable of the three lessons for the students could be due to this collaboration.

Although there were a lot of positives to take from the modification and redefinition levels, there were some negatives as well. Key Finding 4 reveals that it took some students, specifically students not classified as g/t, a while to get used to using a new program on the redefinition level, which garnered lower engagement scores. This could demonstrate that students did not feel as if they were as successful or had an understanding in these higher levels of the SAMR model.

Summary

Overall, my study and the literature suggest that the modification and redefinition levels are typically very engaging for all students. Yet this study found that students classified as g/t especially prefer these two levels over the augmentation level, which suggests that they may like the challenge, autonomy, and ability to create their own video projects and collaborate more than non-g/t students. With the key takeaways of the study being that all students overall were more engaged on the more integrated levels (modification and redefinition levels) of SAMR than the lower level (augmentation level), and that the students not classified as g/t enjoyed the lower level much more than my students classified as g/t, there is a lot of new research in the literature that could help further explore these findings. I will discuss new literature regarding the next cycle of research later in this chapter.

Mixed Methods in Action Research

As action research is defined by Herr & Anderson (2015) as when the researcher themselves have a lot of control over the study and are heavily involved (Herr & Anderson, 2015), this was the perfect type of research for this specific study. As the researcher, I was involved in all parts of the research study from the design to the implementation, to the collection and analyzing of data. The size (one class) and scope (four weeks) of this study were both very small, which is also typical of action research. The small sample size and the brevity of this study was conducive to this research study and allowed me as a lone insider to feasibly carry out this study while teaching full time. Through this action research process, I was able to generate new knowledge, get a better understanding of my situation, improve my own practices, and create a cyclical process

in which I can answer new questions in future studies. These are all characteristics of action research (Efron & Ravid, 2013). As these are several of the goals of action research, I was able to successfully carry out an action research study and yield results helpful to my own practice and my setting as well.

However, there are several aspects of the study I could change when enacting a second round of studies. The first aspect would be to control the rigor of the assignments as they climb the SAMR model. In this study, as the SAMR model levels climbed, the rigor did as well. This likely caused some differences in the engagement levels of students. This makes it difficult to truly know how engagement levels were affected by rigor of the assignments. Therefore, it would be beneficial to actively monitor the rigor level of the assignments among each activity to ensure that they do not have a drastic effect on the engagement levels of students. Another aspect of the study that I would change in the future would be to analyze different groups of students. This study measured the engagement level of all students and specifically two groups, g/t and non-g/t students. In future studies, other groups such as students with disabilities or gifted arts students (as they make up a large percentage of the population in my setting) could be analyzed as well to see how they are most engaged with video instruction.

Transferability

The findings of this study are not generalizable but are transferable to other settings. Transferability is simply when the findings of a study can be transferred from a sending context to a receiving context. The determination of what settings are transferable are often not from the writer of the study but from the person applying the study to their own setting. Knowledge generated from dissertations that create new theory

can help explain similar problems in other settings (Herr & Anderson, 2015). Transferability is often mistaken with validity, which is defined by Efron and Ravid (2013) as "the degree to which the study, the data collection tools, and the interpretation of data accurately represent the issue being investigated" (p. 70). It can be also mistaken for reliability, which is "the consistency of the tools used to gather data" (Efron & Ravid, 2013, p. 73).

With these distinctions made, the findings in this action research study can not only be used to help my own practice but can indeed be transferred to similar settings. Due to the small size and scope of the study and the action research design, the results are not meant to be generalizable across all settings. Yet, for teachers with similar demographics as the ones I had in this study, the results could certainly be transferable. For example, in my study, I analyzed a class with a high percentage of g/t students. If another teacher or researcher was to conduct a study or want to improve their practice, and they had a similar population in their classroom, the results in my study could be used to help improve their practice as well. These practitioners could use my study as a starting point for how to utilize video instruction in a classroom that has a large number of both g/t and non-g/t students and determine how to properly engage them in relation to the SAMR model of technology integration.

Influence Findings Will Have on My Practice

The findings in this study will help me improve my practice in many ways. Video instruction is a large part of my teaching, as I will continue to use video instruction at all levels of the SAMR model. This study has impacted my own perspective when implementing video instruction. Originally, I treated video instruction as a means for

content delivery and an approach that would engage all students, regardless of their ability levels. As this study showed, the differences in the engagement levels between students classified as g/t and students not classified as g/t challenges the belief that students from all ability levels will be engaged in the same way.

As I will continue to teach a high number of students classified as g/t and students not classified as g/t in my classroom, it is important I know how to best use video instruction to maximize their engagement. In the future, I will be able to better personalize instruction for students classified as g/t and students not classified as g/t. When it comes to video instruction, my study has shown that students not classified as g/t are very engaged in the augmentation-level video lessons and feel more successful with these lessons. However, the engagement data showed that these students may need more scaffolding and help when transitioning to the modification and redefinition levels, which will be discussed more in the implementation plan later. For students classified as g/t, the augmentation level is something that can still be engaging for them, but they are likely to lose engagement after multiple uses of it and like the challenges of the higher levels of the SAMR model. For my future practice, this shows me that I can still use the lower levels of the SAMR model with my students classified as g/t, but I need to do so sparingly and intentionally. Also, I need to give my students classified as g/t the opportunity to create their own videos and utilize video at the higher levels of the SAMR model to continue to challenge them and maximize their engagement levels. With one of the key takeaways being that all students enjoy the higher levels of video instruction on the SAMR model in comparison to the lower levels, I can now strive to incorporate video instruction at the modification and redefinition levels more frequently than I used to.

This study also impacted me as a teacher-leader. The findings in this study will allow me to lead teachers, administrators, and curriculum developers into thinking more critically about how they are implementing video instruction into their curriculum. As I continue to develop and deliver professional development sessions for school districts and lead committees that discuss best practices, I will be able to use the knowledge gained in this study and spread it to others. These professional development and training sessions will help disseminate ideas of how to use the SAMR model when planning video instruction and provide details of how to decide what level of the SAMR model to use depending on the teachers' classroom setting. The findings in my study will also allow me to divulge information to others in the field of education on how students that are classified as g/t and students that are not classified as g/t react to different types of video instruction.

Video-Enhanced Lessons as an Issue of Equity

In this study, students classified as g/t and students not classified as g/t were studied together and separately. The classification of students that are deemed academically g/t in South Carolina depends on a test that measures their ability levels. The first issue with this process is that a single test is being used to determine if a student is classified as gifted and talented. A single test is arguably a limited way to classify these students and may leave out students who do not perform well on this test on a given day. This test often requires students and their families to sign up to take it. In my own experiences, this often leaves out students that should be identified as g/t because they do not choose to take the test. Furthermore, due to my school being a military magnet school, students from other states that should be classified as g/t are often not in South

Carolina because they have not taken the test after moving. With all of this noted, this process does classify worthy students as academically g/t, and this classification can be used to make informed decisions when there are a high level of students classified as g/t in a specific classroom.

To remedy this issue, I recommend two strategies that could make this classification a more holistic and fair approach to all students. The first prong of this strategy would be for all students to take the g/t test. This test should be administered to all students, regardless of whether their families sign up for it or not. Also, since there are a lot of students that move between states, this test should be given to all new students. The second strategy would be for the g/t classification process to be more holistic. This process should be based on more than a single test but instead include other measures of student ability. In addition to the g/t test, student's historical standardized testing grades and classroom grades could provide more quantitative data to justify whether a student is classified as g/t or not. Furthermore, performance assessments such as portfolios would be a way to incorporate not only how a student tests but also their level of work and ability to complete quality work that requires critical thinking at a high level.

Regardless of the process in which students classified as g/t are identified, remedial students are often the focus of educational reform, and many students classified as g/t are left behind and lack the ability to progress at their own rate or do not have the chance for personalization of content in many of their classrooms (Finn & Wright, 2015). In my study, students classified as g/t were one of the focal points when analyzing video instruction as a learning tool. I found that these students classified as g/t prefer to have

the challenge of more integrated lessons on the SAMR model and preferred to create videos rather than recall information from videos that already exist.

However, although students classified as g/t were the focal point of this study, there were a lot of takeaways for students not classified as g/t as well. Just as in my setting, students classified as g/t and students not classified as g/t are often together in the same classroom, so it is important to know how to teach effectively to both groups of students. In my study, I found that students not classified as g/t preferred the lower level of video instruction on the SAMR model, much more that their g/t counterparts. They felt successful with the augmentation-level lessons and liked the ability to review content when they needed. Also, I concluded that students not classified as g/t also are engaged with the higher levels of the SAMR model but may need additional scaffolding to reach their full engagement and be successful right away. These findings among both groups of students have been used to develop an implementation plan, which is the focus of the next section.

Limitations

An assumption that was made in this study was that students all knew how to use Chromebooks for educational purposes at a high level. Even though most students in this study have been using Google Chromebooks for two years in the classroom, some students still struggled with understanding using their devices for educational purposes versus entertainment purposes. Overall, students did a tremendous job of staying on task and completing their video lessons well, but there were times where students got distracted with the entertainment components that their Chromebooks offered.

A key limitation is that due to the students were analyzed as academically gifted and talented of non-academically gifted and talented. There are several other ways that students could have been identified and I could have conducted research on. For example, I had a population that allowed me to conduct research about students with learning disabilities, students that are gifted and talented in the arts, or students from different socioeconomic backgrounds. Yet, these additional factors would have made the research process too convoluted, and the study of academically g/t students was the most appropriate for my school population. These analysis of these other groups could certainly fit with other student populations in different educational settings.

Another limitation of this study was attrition. During the three augmentation level video lessons, all 23 students were in attendance. This number dropped to 22 students for the modification level video activity. Yet, attrition occurred the worst during the redefinition level, where by the final day, only 16 students completed the Google Form due to either being absent from school (five students) or having technical difficulties (two students). Although attendance cannot be controlled, the technical difficulty issues could have been solved by doing a pilot study with the PowToon animation program with a full class before this study. This way, I could have found potential issues with the program and how it worked with the Chromebooks early and fixed them in time for those two students to complete the lesson.

The data collection itself is another potential limitation of this study. Even though students were instructed on how to use Google Forms and had completed them in the past, several students completed the Google Form surveys very quickly, which makes me question the validity of their responses. I had a student who when asked to explain their

answer, responded with the same open-ended response for each of the nine surveys they completed, regardless of the activity. Situations such as this one could have led to misleading and misinterpreted information. Also, on day two of the augmentation level, student names were not collected on the Google Form due to a setting not being checked before administering the survey. This made it so the data could not be matched to g/t or non-g/t students, making this data not useful for comparing the differences between the two groups. A suggestion for future studies could be to pull students aside that are finishing the Google Forms rapidly or writing the same response every time and try to stress the importance of taking their time on the surveys and giving valuable feedback. However, as the researcher, I did not want to alter the results by suggesting how students should fill out these forms in any way, which is why I did not interject in this situation.

Implementing the Findings

Based on the findings of this action research study, the next round of studies on video instruction aims to study a few new aspects of engagement among both the students classified as g/t and students not classified as g/t groups. The experiences of these two groups of students were different in this study, which leads me to have different plans of action for how to implement video instruction in the future. This new plan is designed for teachers, technology integration specialists, or administrators who are planning on incorporating video instruction into the classroom. The key points of this plan are to provide students not classified as g/t with more modeling and scaffolding on the modification and redefinition levels to ensure that they fully understand the process and therefore are engaged throughout. Furthermore, the new plan will allow students who are

classified as g/t the ability to experience the modification and redefinition levels more quickly than this dissertation study.

Clarification of Problem

For students classified as g/t, the problem has continuously been that they are not as engaged in the lower levels of the SAMR model when it comes to video instruction. This was true when video lessons were used at the substitution level during the pilot study that preceded this action research study, and continued to be true when students classified as g/t interacted with video lessons at the augmentation level of this study. However, students classified as g/t were successful and engaged at the modification and redefinition levels, and assimilated with ease into these levels. This suggests that the higher levels are more engaging to them, and this knowledge helps to build the intervention in the next section.

For students not classified as g/t, the problem is quite the opposite. Where they were much more engaged at the substitution level during the pilot study and the augmentation level during the research study, they had issues with the modification and redefinition levels in comparison to the students classified as g/t. Students not classified as g/t had problems being successful in the early stages of both the modification and redefinition levels during the study. This reveals that these students need more scaffolding and instructional support when going to these levels. Suggestions for how this will be implemented in the next study are in the following paragraph.

The Next Intervention

As mentioned in the previous section, students classified as g/t were successful and engaged at the modification and redefinition levels, and assimilated with ease into these levels. On the other hand, the students not classified as g/t struggled during the beginning stages of the modification and redefinition levels. Therefore, the first part of the new plan would be to get students classified as g/t involved in these higher levels at a much quicker rate with less help from the teacher.

The findings from the students not classified as g/t shows that they need more support and scaffolding. Tomlinson's (2001) book defines scaffolding as "whatever kind of assistance is needed for any student to move from prior knowledge and skill to the next level of knowledge and skill" (Kindle Location 569–570). Whereas all students will certainly need some levels of scaffolding to reach the higher levels of the SAMR model and be successful with them, the amount of scaffolding should be different based on the g/t classification of the students. In this next round, I would make a much larger effort to provide more scaffolding to my students not classified as g/t. One of the key ways I would do this would be through modeling, in which I could show these students not only how to operate video creation programs but also how to apply the basic knowledge they have gained through other lessons into a video of their own.

Although I used Haven's (2014) model to help me plan my lessons, another model that would be worthy of looking more into would be the ARCS model of motivational design. The ARCS model, which stands for attention, relevance, confidence, and satisfaction, is often used to motivate students to learn (Malik, 2014). *Attentio*n refers to the learner's interest, *relevance* is the how the learning process is made useful to the

learner via bridging the gap between the real world and the content, *confidence* is building the expectation of success and giving students control of their learning, and *satisfaction* is when learners are satisfied with their achievement with their learning (Texas Tech University, n.d). I would implement the ARCS model of motivational design, which includes some of these key ideas in my new implementation plan such as scaffolding and modeling. By utilizing this framework, I could further discover ways to motivate all of my students. This could potentially solve the issues of getting my students classified as g/t more engaged with lower level video instruction and my students not classified as g/t engaged with the higher level lessons. I could use the guidelines of the ARCS model to both plan and implement my new round of video lessons to help increase motivation and engagement for all of my students.

There are numerous studies on the ARCS model and how it can be used to motivate learners that add to the literature review in Chapter 2 that I conducted for my own study. As Milman and Wessmiller (2016) postulated in the conclusion of their study on the ARCS model for distance education, the ARCS model is a way to increase motivation of learners, even those that are separated geographically. This reveals that the ARCS model could potentially be useful for settings that utilize technology such as video instruction. The ARCS model, as it pertains primarily to motivation, could be another way to further engage students with video instruction in the regular classroom as well. The ARCS model has been used in studies such as Karakis, Karamete, and Okcu's (2016) study on fourth-grade mathematics students, where ARCS model was used to design a technological intervention which caused student attitudes' to increase in a positive manner. Overall, using the ARCS model as a framework to analyze video instruction

could be an additional way to further explore the issues of lack of engagement of students classified as g/t at the augmentation level and students not classified as g/t at the modification and redefinition level.

Applications for Leadership Positions in Education

Although the findings in this study mostly applies to my own classroom, carrying out this study is useful for my career in education as a teacher leader as well. The findings in this study are applicable to my school, and therefore, I will be able to use them to disseminate best practice strategies to colleagues at my school. Furthermore, being able to successfully conduct this study reveals that I was able to diagnose and solve problems in a classroom setting. In a potential future position as an administrator or an instructional coach, the ability to an conduct action research demonstrates my aptitude for understanding problems and applying proper interventions to improve teacher practice in the classroom. The knowledge I gained in this dissertation process will allow me to help lead other teachers to solve classroom issues of their own.

Conclusion

In conclusion, the knowledge I generated when conducting this action research study will be beneficial for my future as a classroom teacher. In addition, my own students will benefit from the findings in this dissertation, as it will improve my teaching practices. Those conducting similar studies in transferable settings can use this generated knowledge to improve their own practice as well. Action research was the vehicle that allowed me to use my experience and skills conduct an intervention that led to action-oriented outcomes in my school. Furthermore, by doing this study, I learned that the teacher does not have be the center of the classroom, but that student centered lessons

lead to engagement. Designing this action research study empowered me to professionalize my craft as a teacher through practitioner research. The findings of this study will add valuable information to the literature, and the skills honed while working through this research study will improve my practice as a teacher and teacher leader for the rest of my educational career.

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Appendix A

Exit Ticket Form

Exit Ticket Form

Exit Ticket Form for Dissertation

* Required

Technology helped me stay focused on the lesson today *

	1	2	3	4	5	
Not at all	○	○	○	○	○	Very much

Why did you respond to this statement this way? *

Your answer

The technology used in today's lesson helped me feel a sense of accomplishment *

	1	2	3	4	5	
Not at all	○	○	○	○	○	Very much

Why did you respond to this statement this way? *

Your answer

I enjoyed the lesson today *

	1	2	3	4	5	
Not at all	○	○	○	○	○	Very much

Why did you respond to this statement this way? *

Your answer

Appendix B

Video Lesson Plans

Lesson #1- Video Lesson #1

I. State Indicator:

7-4.3 Explain the causes and effects of the worldwide depression that took place in the 1930s, including the effects of the economic crash of 1929.

II. Objective(s):

I can explain what caused the Great Depression and explain the effects of this economic crash.

I can use video instruction for content delivery as a means to explain the causes and effects of the Great Depression.

III. SAMR Level and Explanation:

This would fit as augmentation based on the SAMR rubric by all three definitions. It is a tool substitute that offers functional improvement (collection of mass multiple-choice, short answer questions at once, ability to pause, rewind, and watch videos again); the task is not changed (students still take notes and answer questions like they would during regular direct instruction); and an effective tool (Edpuzzle/video) is being used to take notes, the common task.

IV. Haven's Student Engagement Framework:

Creativity: Enhances autonomy by students being able to watch the videos at their own pace. They can watch the videos multiple times, pause, and rewind videos. The open ended responses allow students to create their own responses when answering questions, which draws upon their prior knowledge and allows them to construct a personal response.

Personalization of Content: Although all students are watching the same videos, the students are watching the videos at different paces and answering questions at different rates of speed. As previously mentioned, students have the ability to rewind and watch videos multiple times to ensure comprehension before answering questions.

Educator Engagement: The educator is able to observe student screens as they are watching the video and answer any questions the students may have regarding the video. Furthermore, Edpuzzle collects responses and sends them back to the educator, allowing the educator to score answers and give timely feedback to the students about their comprehension of the video content.

Interactivity: Students are interactive with the video. Instead of simply passively watching the video, the students are interactive by taking notes during the video and answering questions. Edpuzzle will provide immediate feedback on multiple-choice questions and the educator provides feedback on open-ended response questions.

V. Strategies/Procedures:

TTW= The Teacher Will

TSW= The Student Will

Video Lesson:

https://edpuzzle.com/media/5bf9c9ce80cc3c4036313a30

Today's video lesson is on the state indicator described above and discusses the initial causes of the Great Depression. The content in this video specifically focuses on the beginning of the Great Depression and how the Treaty of Versailles and the economic devastation it created for Germany led to hyperinflation and ultimately economic devastation. The video includes two different outside videos, which show the catastrophic destruction that wars cause and explain the concept of hyperinflation and specifically how it impacted Germany.

This video is teacher-created and hosted on Edpuzzle.com. Through this platform, TSW the video, fill in the blanks on the skeleton notes, highlight the key information from the video as directed, and answer both multiple-choice and open ended questions. TSW all watch the video at the same time. TTW circulate the room and assist any students who have questions or need help with the videos. Early finishers will review material learned in the section on Quizlet.com. Students that do not finish within the time allotted will have the ability to finish the video outside of school. (25 minutes)

Lesson #1- Video Lesson #2

I. State Indicator:

7-4.3 Explain the causes and effects of the worldwide depression that took place in the 1930s, including the effects of the economic crash of 1929.

II. Objective(s):

I can explain what caused the Great Depression and explain the effects of this economic crash.

I can use video instruction for content delivery as a means to explain the causes and effects of the Great Depression.

III. SAMR Level and Explanation:

This would fit as augmentation based on the SAMR rubric by all three definitions. It is a tool substitute that offers functional improvement (collection of mass multiple-choice, short answer questions at once, ability to pause, rewind, and watch videos again); the task is not changed (students still take notes and answer questions like they would during regular direct instruction); and an effective tool (Edpuzzle/video) is being used to take notes, the common task.

IV. Haven's Student Engagement Framework:

Creativity: Enhances autonomy by students being able to watch the videos at their own pace. They can watch the videos multiple times, pause, and rewind videos. The open ended responses allow students to create their own responses when answering questions, which draws upon their prior knowledge and allows them to construct a personal response.

Personalization of Content: Although all students are watching the same videos, the students are watching the videos at different paces and answering questions at different rates of speed. As previously mentioned, students have the ability to rewind and watch videos multiple times to ensure comprehension before answering questions.

Educator Engagement: The educator is able to observe student screens as they are watching the video and answer any questions the students may have regarding the video. Furthermore, Edpuzzle collects responses and sends them back to the educator, allowing the educator to score answers and give timely feedback to the students about their comprehension of the video content.

Interactivity: Students are interactive with the video. Instead of simply passively watching the video, the students are interactive by taking notes during the video and answering questions. Edpuzzle will provide immediate feedback on multiple-choice questions and the educator provides feedback on open-ended response questions.

V. Strategies/Procedures:

TTW= The Teacher Will

TSW= The Student Will

Video Lesson:

https://edpuzzle.com/media/5bf9d649e3240c403cac6bab

Today's video lesson is on the state indicator described above and explains about the artificial economic boom in the USA during the 1920's and how the USA was brought into the Great Depression after the stock market crash. This video includes one other video within about the economic boom in the USA and the use of credit for purchases.

This video is teacher-created and hosted on Edpuzzle.com. Through this platform, TSW the video, fill in the blanks on the skeleton notes, highlight the key information from the video as directed, and answer both multiple-choice and open ended questions. TSW all watch the video at the same time. TTW circulate the room and assist any students who have questions or need help with the videos. Early finishers will review material learned in the section on Quizlet.com. Students that do not finish within the time allotted will have the ability to finish the video outside of school. (25 minutes)

Lesson #1- Video Lesson #3

I. State Indicator:

7-4.3 Explain the causes and effects of the worldwide depression that took place in the 1930s, including the effects of the economic crash of 1929.

II. Objective(s):

I can explain what caused the Great Depression and explain the effects of this economic crash.

I can use video instruction for content delivery as a means to explain the causes and effects of the Great Depression.

III. SAMR Level and Explanation:

This would fit as augmentation based on the SAMR rubric by all three definitions. It is a tool substitute that offers functional improvement (collection of mass multiple-choice, short answer questions at once, ability to pause, rewind, and watch videos again); the task is not changed (students still take notes and answer questions like they would during regular direct instruction); and an effective tool (Edpuzzle/video) is being used to take notes, the common task.

IV. Haven's Student Engagement Framework:

Creativity: Enhances autonomy by students being able to watch the videos at their own pace. They can watch the videos multiple times, pause, and rewind videos. The open ended responses allow students to create their own responses when answering questions, which draws upon their prior knowledge and allows them to construct a personal response.

Personalization of Content: Although all students are watching the same videos, the students are watching the videos at different paces and answering questions at different rates of speed. As previously mentioned, students have the ability to rewind and watch videos multiple times to ensure comprehension before answering questions.

Educator Engagement: The educator is able to observe student screens as they are watching the video and answer any questions the students may have regarding the video. Furthermore, Edpuzzle collects responses and sends them back to the educator, allowing the educator to score answers and give timely feedback to the students about their comprehension of the video content.

Interactivity: Students are interactive with the video. Instead of simply passively watching the video, the students are interactive by taking notes during the video and answering questions. Edpuzzle will provide immediate feedback on multiple-choice questions and the educator provides feedback on open-ended response questions.

V. Strategies/Procedures:

TTW= The Teacher Will

TSW= The Student Will

Video Lesson:

https://edpuzzle.com/media/5bfabce980cc3c403635f688

Today's video lesson is on the state indicator described above and centers around how the Great Depression in the USA worsened the depression around the world and how programs such as the New Deal helped get the USA out of the Great Depression. Furthermore, this video talks briefly about how leaders such as Hitler and Mussolini were able to gain power using the economic anxiety of their people. This video includes two different cropped sections of the same outside video, which focuses on the state of the USA after the stock market crash and the effects of the New Deal.

This video is teacher-created and hosted on Edpuzzle.com. Through this platform, TSW the video, fill in the blanks on the skeleton notes, highlight the key information from the video as directed, and answer both multiple-choice and open ended questions. TSW all watch the video at the same time. TTW circulate the room and assist any students who have questions or need help with the videos. Early finishers will review material learned in the section on Quizlet.com. Students that do not finish within the time allotted will have the ability to finish the video outside of school. (25 minutes)

Lesson #2- Video Lesson #1, 2, and 3 (This lesson is repeated over three days)

I. State Indicator:

7-4.4 Compare the ideologies of socialism, communism, fascism, and Nazism and their influence on the rise of totalitarian governments after World War I in Italy, Germany, Japan, and the Soviet Union as a response to the worldwide depression.

II. Objective(s):

I can compare socialism, communism, fascism, and Nazism and their influence on the rise of government systems in Italy, Germany, Japan, and the Soviet Union due to the Great Depression.

I can create a video presentation with technology tools that compares socialism, communism, fascism, and Nazism.

III. SAMR Level and Explanation:

This would fit as a modification lesson, because it allows for significant task redesign. Without technology, the task would have been for students to give a presentation comparing socialism, communism, fascism, and Nazism. With the use of video recording and technology tools, students are now able to record a video that can be watched at any point in time, and include digital tools such as a graphic organizer, other videos, and pictures from the Internet.

IV. Haven's Student Engagement Framework:

Creativity: This video lesson allows students to be autonomous by demonstrating their knowledge. It ties in technology tools such as video recording, digital images, digital graphic organizers, and outside video content. This video lesson also promotes originality, as students are allowed to choose their own way of presenting the content in their video recordings.

Personalization of Content: Students are able to work at their own pace to complete this assignment. Furthermore, students are able to find their own resources (articles, videos, images) that they understand to help explain the content. They will explain the content at their own level of comprehension and understanding.

Educator Engagement: The educator will circulate around the room while students are working to answer any questions, provide feedback on projects, or assist with any technology tools that students need help with. The educator can also proofread presentation slides before students record their videos.

Interactivity: Students have frequent checks for understanding as they complete this project. To be able to successfully finish their video, they must have an understanding of the concepts from this section.

V. Strategies/Procedures:

TTW= The Teacher Will

TSW= The Student Will

Video Lesson:

This video lesson is on the state indicator included in the beginning of this lesson plan. This video assignment challenges students to meet the objectives of the lesson, I can compare socialism, communism, fascism, and Nazism and their influence on the rise of government systems in Italy, Germany, Japan, and the Soviet Union due to the Great Depression and I can create a video presentation with technology tools that compares socialism, communism, fascism, and Nazism. To complete these objectives, students must record a screencast video with the usage of technology tools in which they compare socialism, communism, fascism, and Nazism.

This lesson is a student created video. TTW first post the directions and rubric (see Appendix) on Google Classroom for all students to read. In addition, TTW go over the directions and rubric with the students and answer any questions (this part is only done on the first day of the lesson). In addition, TTW model for the students how to download Screencast-O-Matic and how to use it for screen recording purposes.

Then, TSW begin working on this project. TSW begin by creating a Google Slides presentation that includes the following slides: introduction, socialism, communism, fascism, Nazism, explanation of the systems with a chart, and a works cited. They are required to embed at least one video, a graphic organizer, and at least four pictures in the presentation. After creating the presentation, TSW use Screencast-O-Matic to record a screencast of their presentation, explaining their Google Slides and technology tools. (45 minutes)

Lesson #3- Video Lesson #1, 2, and 3 (This lesson is repeated over three days)

I. State Indicator:

7-4.5 Summarize the causes and course of World War II, including drives for empire, appeasement and isolationism, the invasion of Poland, the Battle of Britain, the invasion of the Soviet Union, the "Final Solution," the Lend-Lease program, Pearl Harbor, Stalingrad, the campaigns in North Africa and the Mediterranean, the D-Day invasion, the island-hopping campaigns, and the bombing of Hiroshima and Nagasaki.

II. Objective(s):

I can summarize the causes and key events of World War II.

I can create an animation video that summarizes one of the key events from World War II and enhances the message with the use of technology tools.

I can collaborate with other students to demonstrate my knowledge from the section and answer questions about events from World War II.

III. SAMR Level and Explanation:

This would fit as a redefinition lesson because by using the Powtoon app to create a digital cartoon with multimedia resources and sharing this animation with students from other classes for collaboration purposes, this created a new task that was previously inconceivable without technology.

IV. Haven's Student Engagement Framework:

Social Motivation: In this lesson, there are several instances of collaboration, which is a key part of social motivation. For example, students are sharing their videos on a common workspace (Google Slides). They are also posted questions to other students, watching animations from other students, and commenting on their videos.

Creativity: Students have autonomy to choose their topic and create an animation that summarizes the topic chosen in the way they see best fit. Curiosity and originality are major components of this video lesson, as students must find resources on their own and use the art of animation to summarize their event.

Personalization of Content: Using information they have learned and information they find from the Internet that they are capable understanding based on their ability levels, students will develop their animation. This allows them to choose what tools they would like to use. For example, they can create characters and add in multimedia sources that have personal meaning to them that allows them to summarize their topic.

Educator Engagement: The educator is able to see what is going on during this entire process. During the three days that students work on this project, the teacher will circulate the room and assist students that have any questions or need help with the technology. Furthermore, the teacher will conduct progress checks with the students to ensure that they are on task, progressing at a pace in which they can finish on time, and give feedback on the content of their animations.

Interactivity: As students are completing this project, they must be able to summarize and explain the information about the topic they selected. This serves as a way to check for understanding throughout the project, because if a student does not understand what to do or how to summarize the event, the educator can intervene and assist. They will also give and receive feedback from other students as they post their cartoon on the Google Slides presentation and comment on others' projects.

V. Strategies/Procedures:

TTW= The Teacher Will

TSW= The Student Will

Video Lesson:

This video lesson is on the state indicator included in the beginning of this lesson plan. To meet the objectives from this lesson, I can summarize the causes and key events of World War II, I can create an animation video that summarizes one of the key events from World War II and enhances the message with the use of technology tools, and I can collaborate with other students to demonstrate my knowledge from the section and answer questions about events from World War II, the students must successfully complete this video project.

This lesson is a student created animation video that requires students to collaborate on a shared workspace. TTW first post the directions and rubric (see Appendix) on Google

Classroom for all students to read. In addition, TTW go over the directions and rubric with the students and answer any questions (this part is only done on the first day of the lesson). TTW also introduce students to the program being used (Powtoon) and train them on how to sign up and use the multiple tools that this app provides.

Then, TSW begin working on this project. TSW begin by going to their Powtoon apps on their Chromebook and starting their animation. Throughout the project, students are required to address the following questions at some point in their animation: What caused the event? Who fought in the event? How did the fighting occur? How long was the event? How many people were killed and injured in the event? Who won the event? To answer these questions, TSW create an animation that summarizes their event/topic chosen. TSW add in text, characters, props, sound, and media (pictures from Internet) to enhance their video. In addition, TSW include a Works Cited using reliable database and Internet sources.

Towards the end of the lesson, TTW post a shared Google Slides presentation for students to edit. TTW create a page for each student to post their animation videos to. Once students have completed their animation, they will save it and then embed it into this Google Slides presentation. TSW then post two questions on their Google Slide for other students to answer. After completing this, TSW watch two other students' animations and answer the questions that were posted on the Google Slides.

Appendix C

Screencast Video Lesson Directions and Rubric

Directions:

1. Using Google Slides, create a presentation about the differences between socialism, communism, fascism, and Nazism. In this presentation, you must insert videos and tables at least one time each. You must also include at least four pictures from the Internet.

   To find information on these topics, start with your notes. However, you must also include information found on DISCUS (at least two different sources) about the different systems.

   The presentation should be set up like this:

   Slide 1- Introduction (your name, title of presentation)

   Slide 2- Socialism (explain socialism)

   Slide 3- Communism (explain communism)

   Slide 4- Fascism (explain fascism)

   Slide 5- Nazism (explain Nazism)

   Slide 6- Explain how the systems are different (this is where your table should be)

Slide 7- Works Cited- Post links to every source you used for your information, including pictures and videos. Make sure you cite DISCUS sources (at least two)

2. Using your Screencast-O-Matic Chromebook App, sharing your screen only (do not include a video of your face), record your Google Slide presentation by going through and explaining each slide. Also, make sure that you show your video(s) and picture and that you explain them as you go.
3. When you are done, save your video to your Google Drive and download it as a file to your computer. Then, post your video the corresponding Google Classroom assignment page.

*These are the required components for this project. However, feel free to implement any other multimedia tools that would enhance your video!

Rubric

Political/Economic Systems Video

Points Possible = 6 Points Earned:_____

CATEGORY	3 Exceeds Standards	2 Meets Standards	1 Does Not Meet Standards
Ideas & Content	Presenter knows topic well AND Explanations and slides on socialism, communism, fascism, and Nazism are all included AND Table comparing the systems is included and explained very effectively and accurately	Presenter knows the topic OR Missing one explanation or slide on socialism, communism, fascism, and Nazism OR Table comparing the systems is included and is explained effectively and accurately	Presenter doesn't know enough about the topic OR Missing two or more explanation or slides on socialism, communism, fascism, or Nazism OR Table comparing the systems is either not included or is not explained effectively OR accurately

	AND Works Cited is included with all resources used, including two DISCUS sources	OR Works Cited is included but is missing some sources used or only has one DISCUS source	OR No Works Cited included or did not include any DISCUS sources
Technology/Video Tools	Presenter included all of the following: One table One video Four pictures AND The presenter explained these tools and the tools enhanced the content covered in the	Presenter was missing one or two of the following: One table One video Four pictures OR Presenter included a table, at least one video, and four pictures that were either not explained correctly or did not enhance the content	Presenter was missing three or more of the following: One table One video Four pictures OR Presenter included a table, at least one video, and four pictures that were either not explained or referenced or were

	video	covered in the video	unrelated the content covered in the video

Appendix D

World War II Animation Activity Directions and Rubric

Directions:

1. Choose a topic from the list below:
    a. The Battle of Britain
    b. Invasion of the Soviet Union
    c. Pearl Harbor
    d. D-Day Invasion
    e. Bombing of Hiroshima and Nagasaki

2. Using the Powtoon application on your Chromebook, follow the instructions to create a new Powtoon animation.

    Create a Powtoon that summarizes the topic that you chose. You must use the following tools in your animation: text, characters, props, and media (pictures from Internet). Also, include a Works Cited at the end of your animation- post links to every source you used for your information, including pictures and videos. Make sure you cite DISCUS sources (at least two)

3. Make sure that you include the following information: **What caused the event? Who fought in the event? How did the fighting occur? How long was the event? How many people were killed and injured in the event? Who won the event?**

4. On Google Classroom, go to the shared Google Slide presentation. Go to the slide with your name on it and upload your animation or link to your animation. Add in two questions that you would like to ask your classmates regarding your video.

5. Watch two other classmates' videos from other blocks. Create a comment on the slide with at least two sentences to answer the two questions they posed.

Rubric

World War II Animation Video

Points Possible = 9 Points Earned:_____

CATEGORY	3 Exceeds Standards	2 Meets Standards	1 Does Not Meet Standards
Ideas & Content	Presenter summarizes topic well AND All questions are answered and explained very effectively and accurately AND Works Cited is included with all resources used	Presenter summarizes the topic Missing one answer from the questions OR One question is not answered effectively or accurately OR Works Cited is included but is missing some sources used	Presenter doesn't know enough about the topic Missing two or more answers from the questions OR Two of more questions are not answered effectively or accurately OR Works Cited is not

			included
Technology/Video Tools	Presenter included all of the following: Text Characters Sound Props Media (Pictures from Internet) AND The presenter explained these tools and the tools enhanced the content covered in the animation video	Presenter was missing one or two of the following: Text Characters Sound Props Media (Pictures from Internet) OR Presenter included all required tools that were either not explained correctly or did not enhance the content covered in the animation video	Presenter was missing three or more of the following: Text Characters Sound Props Media (Pictures from Internet) OR Presenter all required tools that were either not explained or referenced at all or were unrelated the content covered in the video
Sharing and Collaboration	Presenter shared their animation video on Google Slides via Google	Presenter shared their animation video on Google Slides via Google	Presenter did not share their animation video on Google Slides via

	Classroom on time AND Presenter commented on at least two other classmates' videos from a different block with at least two sentences of thoughtful feedback AND Presenter posted two questions on their Google Slide for other students to answer	Classroom one day or less late OR Presenter only commented on one classmates' video or replied with comments shorter than two sentences OR Feedback provided did not answer the question(s) posted in a sufficient manner	Google Classroom or submitted it more than one day late OR Presenter did not leave any comments on classmates' videos OR Feedback provided was irrelevant in regards to answering the question(s) posted