

A CASE STUDY OF AUDIO VIDEO TECHNOLOGY
AND FILM TEACHERS' PREPAREDNESS

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

The purpose of this qualitative case study was to provide a deeper understanding of audio video technology and film (AVTF) teachers' preparedness to teach this curriculum in the state of Georgia. Their preparedness will generally be defined as the degree of formal training, or lack thereof, for teaching the AVTF curriculum in Georgia public schools. The research questions were as follows: Central Question: To what degree are current AVTF teachers' formal training experiences sufficient in teaching a CTE course offering? Sub-Question 1: What are AVTF teachers' training experiences? Sub-Question 2: What research-based teaching strategies are employed by AVTF teachers? Sub-Question 3: What kinds of teaching resources are available and to what extent are they obtained? In this qualitative case study, the sample included AVTF teachers from 12 schools across the state of Georgia. Teachers who have not received formal teacher education training in AVTF and have taught other high school courses at least five years were the focus of the study. The research questions were analyzed through the use of semistructured interviews, documentation, a written letter component to the state agency overseeing formal training, and an online focus group. The data revealed that teacher preparedness, with regard to the training that was available to them, as well as the teaching strategies and teaching resources that are utilized, is not sufficient based on current practices. The themes that were developed in this study that were used to determine that preparedness included instruction, teaching experience, resources, certification, and prior experience. The qualitative data collected through this study provided a deeper understanding of the instructors' situation by examining the context of the problem through a bounded system.

Keywords: case study, audio video technology and film, career technical education, constructivist theory

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Dedication

In memory of my Dad, Ronald Olen Holt (1948–2017). I wish you could be here to celebrate this accomplishment with me. Thank you for your example to me and our family.

Thank you to my Mom, Janice Pate Holt, for encouraging me and reminding me to stay the course and get it done.

Thank you to my sister Nancy. I have made it here. It's now your turn.

To my wife Melissa and our children Audrey, Zachary, and Levi: What would I do without you? You have been my encouragers and supporters since I began this journey a few years ago. You have watched me at all hours of the day and night working on this, and I cannot thank you enough for your love and patience with me when I didn't have any patience for myself.

To Dr. Harold J. Loyd, former president of Abraham Baldwin Agricultural College, thank you for providing me with your business card and challenging all of us in that class to write our ultimate educational goal, sign and date it, and put it in our wallets. That card has reminded me numerous times to get my doctoral degree finished.

To my Lord and Savior: Thank you for saving me from my sins and loving me in spite of myself. You loved me when I was unlovable and provided the path to Liberty to realize a dream of an 18-year-old college kid in Tifton.

To you all: I love you and appreciate you more than you will ever know. Thank you for everything!

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List of Abbreviations

Audio video technology and film (AVTF)

Career technical and agricultural education (CTAE)

Career technical education (CTE)

End of Pathway Assessment (EOPA)

English Language Arts (ELA)

Georgia Assessments for the Certification of Educators (GACE)

Georgia Department of Education (GaDOE)

Georgia Professional Standards Commission (GAPSC)

Georgia Teacher Academy for Preparation and Pedagogy (GaTAPP)

Institutional Review Board (IRB)

New Teacher Institute (NTI)

No Child Left Behind (NCLB)

Professional learning community (PLC)

Rural Educational Service Agency (RESA)

Student Television Network (STN)

CHAPTER ONE: INTRODUCTION

Overview

The area of broadcast video production has developed into one of the largest career technical programs in the state of Georgia, according to the Georgia Department of Education's (GaDOE, n.d.) Career Pipeline website. The audio video technology and film (AVTF) courses are currently taught at nearly all high schools in the state of Georgia, similar to more traditional programs like construction or health care (GaDOE, n.d.). Students involved in AVTF courses are more likely to experience a movie set, perform video and audio editing, and work behind the scenes on movies when those productions are underway near their home or school.

Georgia continues to grow as a leader in the filmmaking industry (Project Casting, 2021). The state was named as the number-one production area in the US (Wenk, 2018). Because of its ranking, its inexpensive cost for film production, and the various tax credits provided by the government, Georgia has become an industry leader in filmmaking. More film production companies continue to move their productions from California to Georgia (Galuppo, 2017). The move of production companies to Georgia has increased the popularity of, and need for, courses in audio and video production. Finding highly qualified instructors to teach these courses has proven difficult as the state of Georgia provides alternate means of certification (Devier, 2019).

In order for students to have the necessary skills for current industry demands, AVTF teachers should have the ability to teach industry standards to students in their classrooms. However, while licensing teachers provides a standardized way to ensure quality teachers, those teachers who do not have knowledge of both content and pedagogy will likely may not be as effective in the classroom. Devier (2019) and Hasselquist and Graves (2020) suggested that teachers who are certified in other areas—not the course they are teaching—are more likely to

have students who perform at lower achievement rates than those students who are taught by certified content teachers. Therefore, teachers who have training in AVTF are more likely to have students that achieve at higher rates and are more likely to be employed in Georgia's film industry.

This chapter will focus on the historical background of the AVTF teaching field and its social and theoretical impacts on curriculum, teachers, and students. The chapter will also review the interest of the researcher in this particular topic, reasons for this study to be conducted, the research questions that will be answered, and a list of definitions for terms used in this study.

Background

The numbers of teachers departing the teaching profession continues to increase each year and school districts across the country must grapple with finding quality, certified candidates to fill the gap (Bryner, 2021). According to a U.S. Department of Education study, nearly 20% of all beginning teachers leave the profession within five years of starting their teaching career (Guthery & Bailes, 2022).

Finding highly qualified teachers to replace those departing the teaching profession leads school districts to recruit from universities. The effectiveness of teacher preparation programs has been the subject of studies to determine the effect teacher preparation has on rates of attrition (Mitani et al., 2022). While no significant differences have been found among the various teacher preparation programs, the achievement rates of students in the classroom are impacted by the number of teachers who change schools or leave the profession completely. Researchers note that the teachers who enter the profession are novices. These novices are hired to replace those teachers who are considered more effective (Mitani et al., 2022). Therefore, replacing highly

qualified teachers with those who are new to the profession has the potential to lower the achievement rates of students because of the new teachers' inexperience.

Historical Context

AVTF began as broadcast video production in the early 1990s as the state of Georgia began to develop Career Cluster courses, as the U.S. Department of Education was developing their Career Cluster initiative (GaDOE, n.d.). Some high schools were offering a communications class taught by English teachers to provide some public speaking skills and to produce a morning news show that would replace the traditional intercom announcements. In addition to this communications elective, several Georgia high schools began involving students in the video taping of their football games. The teachers who coordinated the videotaping were approached to expand this elective into multiple courses that would provide additional skills necessary to accurately and efficiently record those sporting events.

By 1996, the GaDOE recognized that several schools throughout the state had taken on this elective with various forms of curriculum and implementation (GaDOE, n.d.). The GaDOE decided to standardize the curriculum by bringing in six educators from across the state to discuss the basic skills that would be necessary to be successful in the industry (GaDOE, n.d.). From this meeting, the broadcast video production pathway was created and was offered to schools across the state. From this beginning, the state offered a grant totaling \$100,000 to allow school systems to purchase equipment and outfit studios in order to provide the level of training needed. By 2012, the GaDOE recognized the growing influence of the movie industry and revamped the broadcast video production curriculum and gave it a new name: audio video technology and film (GaDOE, n.d.).

Finding qualified replacement teachers to fill the gaps in career technical education (CTE) courses has been particularly difficult through the years, and because of additional responsibilities outside of the classroom, teachers in CTE courses cite time and family as issues in recruiting and maintaining employment in the field (Devier, 2019). The increased number of hours required by career technical student organizations like Future Farmers of America and events related to this and other organizations, discouraged teachers from taking CTE-related content courses in college (Hasselquist & Graves, 2020).

States have instituted alternate certification programs to find teachers to fill the many job openings in the education field each year. The alternate certification programs provide a teaching certificate to someone from the industry who has not completed a post-secondary teacher education program (Devier, 2019). These alternative certification programs work well to fill vacant positions but do little to increase teacher efficacy or student achievement until teachers take ownership of their classrooms and develop a balance of personal and professional life (Graves & Hasselquist, 2021).

Those teachers who complete a traditional certification program tend to have higher self-efficacy with regard to pedagogical theories and other learning strategies that assist them in finding resources, determining course content, and evaluating the overall curriculum (Hasselquist & Graves, 2020). Hasselquist & Graves (2020) also noted that those teachers who received teaching certification through alternate means—occupational related—tended to have higher rates of self-efficacy with regard to technology and other content-related materials even though they had little to no pedagogical experience. Therefore, individuals who come from other industries perform better than those who have an educational pedagogical background.

Social Context

Like all career technical courses in the state of Georgia, the emphasis is upon employability skills and soft skills needed in the industry (GaDOE, n.d.). These skills are useful in all areas of life and are beneficial to all students. With the ever-increasing number of movies and television shows that are filmed in the state of Georgia, the AVTF pathway has become an important source of workers for the film industry. In addition, students who enroll in this course have opportunities to develop public speaking skills and technical skills that will serve them well in post-secondary education.

Theoretical Context

The constructivist theory works best with this case study because of the focus on building knowledge in cognitive development (Gash, 2020). Teachers who have no formal training in their content area must utilize their pedagogical skills to find and develop resources as they learn the curriculum. These applied skills provide a basis for which knowledge can be constructed as the teacher works through the social context of the course.

Without content area courses in teacher preparation programs, teachers will not receive the basic knowledge needed to instruct students in CTE-specific courses (Etim et al., 2020). Using the idea of mediation, teachers interact with their classroom environment, using the tools necessary to develop the curriculum and alter the known strategies to teach the standards for the course (Gash, 2020). Teachers are able to use their pedagogical skillsets to create a curriculum they can use; however, the content material can be difficult and beyond what the teacher can fully comprehend.

The constructivist theory suggests that building knowledge in cognitive development provides learning opportunities for those to experience content materials. Therefore, teachers who are not prepared to teach the AVTF course are less likely to produce students who are thoroughly

trained. Teachers who received college degrees in education have the pedagogical skills to teach students and are able to develop various instructional strategies necessary to help students learn. However, if teachers have not been trained in the various aspects of AVTF, they will have a difficult time teaching the curriculum standards in such a way to convey this material to their students.

Situation to Self

I am a former Georgia public high school AVTF teacher. I became involved with broadcast-related activities in 2000 when I was hired by a public high school to teach world history and a combination speech/video production class. After this speech/video production class ended in 2002, I continued to help students perform basic video recordings and explained my limited editing skills after school to student volunteers. I continued helping various student volunteers on a limited basis after school until 2010. Because of my basic knowledge in video-related matters at school, the school administration asked me to take a teacher certification assessment in the field of technology education to be considered certified and highly qualified (Hiler & Erickson, 2018).

The nature of the AVTF courses that I taught was one of increasingly difficult standards. Many of the standards listed vocabulary and other concepts that I had never seen before or had only minimally heard of previously. Because I was the only AVTF teacher in the building, as is typical for Georgia public high schools, I felt completely alone in my situation. I was not sure how to contact others for assistance and the resources provided by the state did not fully address my content questions. I was sure that other instructors had different experiences, but my lack of understanding of the material made me less likely to say anything for fear of embarrassment or ridicule. I certainly did not want to admit my inexperience to my school administrator for fear of

reprisal.

I presume ontologically that the members of the study perceive multiple realities (Creswell, 2013). My focus for doing this study is to use my personal relationships that have been developed with other AVTF teachers to document their experiences and views on the subject of teacher preparedness in these courses. Being able to discuss their individual situations while at conferences or on their campuses will provide me with an opportunity to get to know the participants and understand the context of their experience. Epistemologically, I can be near the individuals of the study in order to determine what knowledge is known (Creswell, 2013).

This study discussed many aspects of AVTF teachers' preparedness and deepened the understanding of each situation. Axiologically, this study represented the ideas and values I have regarding teaching, as well as my ideas and values regarding this content area. Biases were present in this case study as the data were collected and themes were developed. I believed that the teachers who participated in this study were dedicated, consummate professionals whose only interest was to provide students with a quality education using the content knowledge and resources available to them. Each teacher valued education and the importance of a quality education for each student. Performing job-related tasks each day and completing these tasks to the best of their ability were the goals of all efficient and effective teachers. Because of my experience in teaching the content and having minimal expertise in the field, my role in the research was to act as a participant researcher while conducting semi-structured interviews, facilitating discussions in focus groups, and analyzing collected data.

Problem Statement

The numbers of teachers departing the teaching profession continues to increase each year and school districts across the country must grapple with finding quality, certified candidates to

fill the gap (Bryner, 2021). Finding highly qualified teachers to fill CTE positions, such as the AVTF course in Georgia, is equally difficult. (Fletcher et al., 2017). Having highly qualified teachers in every area of a school building was a requirement under No Child Left Behind (NCLB) and continues to be a state certification issue (Brownell et al., 2018). Ensuring quality candidates for each open teaching position is a necessity in order to meet the needs of students. Significant numbers of teachers are leaving the profession, making replacement much more difficult (Mitani et al., 2022). Therefore, finding highly qualified and certified teachers to fill the AVTF positions across the state of Georgia will fill a need that continues to grow.

Purpose Statement

The purpose of this case study was to develop an understanding of the level of preparedness of audio video technology and film (AVTF) teachers in the state of Georgia who have been hired to teach the AVTF course. At this stage in the research, this level of formal training was generally referred to as a preparedness issue with regard to content knowledge. The theory guiding this study was the constructivist theory that suggests people construct knowledge and this knowledge leads to additional cognitive development (Gash, 2020).

Significance of the Study

There was limited empirical research that gives a voice to the lack of formal training AVTF teachers receive in content knowledge. Using Vygotsky's 1978 constructivist theory, this study developed a deeper understanding of the level of preparedness in content knowledge from AVTF teachers in the state of Georgia. From a practical standpoint, the results of this study could develop additional training and workshops for beginning AVTF teachers in order to help them understand the course content and deliver this content more effectively.

Practical

Content knowledge was lacking among some alternately certified CTE teachers (Etim et al., 2020). Moving from academic subjects into the area of CTE to teach these AVTF courses was accomplished through the administration of a certification test. Once the certification test was completed and teachers received a passing score, teachers were considered highly qualified to teach those CTE courses. This added certification allowed this career pathway to be added to the school district's curriculum but did not provide basic content knowledge or teaching strategies for teachers to be successful (Etim et al., 2020). As a result, AVTF teachers had increased difficulty in providing quality instruction because of a lack of formal training in the content. This study is most significant for those administrators interested in finding highly skilled teachers for these teaching positions. Having highly skilled, qualified AVTF teachers will benefit the students by providing them with the skills necessary to be successful in the industry.

Empirical

Developing a deeper understanding of the lack of content knowledge in teachers of AVTF provided high quality instructors preparing students for higher achievement opportunities as compared to those students who had teachers with extensive content knowledge (Devier, 2019). Those teachers with a minimum number of years of experience provided a good starting point for understanding their expertise and how it developed over time. Various factors in improving their expertise were analyzed and measured to determine significance.

Theoretical

A lack of formal training in the area of AVTF could be viewed through the lens of the constructivist theory to determine how teachers create knowledge using their prior pedagogical skills while relating this knowledge to new concepts (Gash, 2020). Teachers who are able to build

confidence through their abilities in the classroom—especially in subjects they feel most confident in teaching—will improve their overall efficiency and impact their students’ achievement levels in positive ways (Etim et al., 2020). Additionally, providing training and workshops for beginning AVTF teachers will positively benefit the students in their classrooms. Students who are planning to pursue this career will be adequately prepared for the job skills required because their teachers have more content knowledge of the field (Mitani et al., 2022).

Research Questions

The following central research question and three sub-questions guided the inquiry into the experiences of Georgia public high school AVTF teachers:

Central Research Question

To what degree are current audio video technology and film teachers’ formal training experiences sufficient in teaching a career technical education course offering?

Sub-Question 1

Sub-question 1 asked, “What are AVTF teachers’ training experiences?” Devier (2019) suggested that teachers with certification in another subject area have pedagogical skills that are extremely useful in searching for resources and providing opportunities for student learning. Having formal training in teacher preparation programs provides teachers with the needed skills for managing classrooms and providing structured and individualized learning (Mitani et al., 2022).

Sub-Question 2

Sub-question 2 asked, “What research-based teaching strategies are employed by AVTF teachers?” Gash (2020) discusses in the constructivist theory that knowledge is constructed from prior social interaction and context. To understand the content, Vygotsky suggests that people

transform their world and themselves (Gash, 2020). Teachers transform their curriculum and their classroom into a representation of their content understanding based on their prior knowledge.

The teaching strategies that were discussed in teacher preparation programs provide a foundation by which teachers can utilize in additional content areas.

Sub-Question 3

Sub-question 3 asked, “What kinds of teaching resources are available and to what extent are they obtained?” Preservice teachers received training in teacher education programs to understand technical and pedagogical skills necessary in the classroom. Integration of new technology along with teaching strategies provided beginning teachers with a foundation for understanding classroom management and student learning (Shinas et al., 2015).

Definitions

1. *AVTF* - Audio video technology and film. The pathway name for courses related to broadcast video production and the film industry (GaDOE, n.d.).
2. *Career pathway* - A particular career area with three or four courses (GaDOE, n.d.)
3. *CTAE* - Career, technical, and agricultural education. The acronym for career and technical education in the state of Georgia. Formerly known as vocational education, or CTE (career technical education) in other states, this cluster includes all industry-related courses in the state of Georgia (GaDOE, n.d.).

Summary

Teacher attrition is a problem for school districts across the US and the difficulty in finding qualified, certified candidates does not lessen each year. Finding candidates who have completed teacher preparation programs has proven difficult as the number of graduates continues to decrease (Guthery & Bailes, 2022). As teacher candidates decrease in number from teacher

preparation programs, school districts are forced to seek alternate certification programs to produce more teachers to fill the openings in classrooms.

CTE courses are also experiencing the same kinds of attrition because of additional demands on teachers' time and family. School districts must also seek alternative certification programs to satisfy the need for teachers. Many times, teachers who become certified in CTE areas lack the content knowledge to be effective teachers in the classroom (Mitani et al., 2022). As a result, students achieve at lower rates because of this lack of formal training and teacher efficacy is low. Teachers with a lack of content knowledge utilize the precepts of the constructivist theory to construct new knowledge of the curriculum based on their existing skills and knowledge from their pedagogical training.

The purpose of this study, then, was a focus on the lack of formal training that exists for AVTF teachers in Georgia. Being able to gather their comments through interviews and focus group discussions provided a better understanding of the problem that led to various solutions. Developing a deeper understanding of this phenomenon and providing a discussion of possible solutions to this phenomenon was the goal of this study.

CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter consists of literature related to the preparedness of high school teachers in the career technical education (CTE) field and their relative inexperience as they begin work in a particular field, and what steps are taken to address their lack of preparedness. This study is based on several theories involving CTE that were used as a framework for understanding the essence of audio video technology and film AVTF teachers' experiences in teaching the curriculum with a lack of formal training in the content. These theories will describe the ways in which certified teachers construct content knowledge to teach AVTF courses.

Theoretical Framework

The constructivist theory was developed by Jean Piaget to understand the way in which people construct knowledge through perception and social experience (Bardakci et al., 2021). The epistemological view of constructivism considers this perception and these experiences and determines what one's view is and how that view came to be understood (Gash, 2020).

Leś et al. (2021) worked to understand the origins of knowledge and how this knowledge was created. They suggested more critical thinking concepts in the classroom to see if the direct experience of a situation provided a better understanding than a situation in which there was only an indirect experience. Furthermore, Piaget suggested that change only happens when people are able to interact with situations beyond someone's usual worldview (Gash, 2019).

Active engagement is key to successfully build new knowledge based on prior experiences (Murry et al., 2021). When challenged by a specific situation, the learner is faced with determining how to resolve the situation while using their current knowledge. Increased mental

activity, as well as adjusting previous ideas, allows the challenge to be met and a resolution reached.

These ideas of constructing knowledge and developing changes through interaction with new worldviews has translated into teacher education programs to develop teachers and students who use existing knowledge to develop new knowledge based on various phenomena (H. S. Lee et al., 2019). Utilizing this theory, teachers, as the lead learner in the classroom, must use their knowledge, as well as the prior knowledge of students, to develop meaning out of new concepts. The students are then expected to make this learning meaningful to create their own new understandings (Hendy, 2020).

Through this same process, teachers undergo a similar transformation as they attempt to teach courses in which they have not been formally trained. A re-conception on mathematics classrooms had teachers attend summer seminars to redevelop and rethink the teaching of mathematics to students to meet new challenges suggested by recent national reports on the state of mathematics education. Experiencing mathematics in the setting of a learner, teachers were able to build new knowledge and concepts from their peers and seminar leaders while reflecting on their experience (Murry et al., 2021).

Utilizing social media groups to discuss content and curriculum issues incorporates the ideas of Vygotsky (Gash, 2020) and his social constructivism. While constructivism focuses on the building of new knowledge, the aspect of social constructivism includes using peers and others within the environment and culture to develop the new knowledge. Utilizing new means of technology extends the environment in which interaction may take place.

New constructed knowledge through interaction with challenging situations builds motivation for the learner in the classroom (Hsin-Yun et al., 2022). This motivation is not

intrinsically developed but is manifested through the construct of social interaction. Internal motivation results from the personal desire to learn new content and to do purposeful work toward developing knowledge. The external motivation developed from social interaction acts as almost a peer pressure, encouraging the learner to work more closely with his peers to see what the new stimulus is and to produce something new. This externally developed motivation can be affected by poor behavior and destructive relationships. Ultimately, negative work environments and unsupportive peers create an environment in which people's competence and self-perception are affected (Berger et al., 2018). External motivation is important to encourage and develop as learners build knowledge through social contact and hands-on work if internal motivation is missing.

The social context of constructivism suggests that all new knowledge is part of a greater community of learning rather than one's own individual process (Gash, 2020). Through the learning process, learners are better able to connect their own learning and concepts to the new situation through the help of someone with more knowledge or experience, especially with game-centered approaches (Llobet-Marti et al., 2018). With this help from the more experienced person, learners are better able to undergo individual growth.

The theory of constructivism relates to the preparedness issue of AVTF teachers in Georgia by focusing on the learning context for teachers in this career pathway. Teachers are primarily learners themselves, focusing on the process of relaying specific concepts and important information to the students in their classroom. Each year brings with it its own challenges with new students, new curriculum, or new school improvement goals set to target a problematic area. Teachers must adapt to these challenges and reach students in the most efficient and effective way

possible. To that end, teachers must review the curriculum that they must teach, find research-based instructional strategies to help all students of varying abilities, and teach their classes.

When a teacher is presented with the AVTF curriculum, there are two different directions to proceed: with an extensive background in the career field, the teacher will use real-world examples and activities to convey the information and present it in such a way that students will be engaged and learn the material; or, the teacher will struggle with the information and search the internet for various lessons that have already been developed by others in the industry and will try to teach those in her classroom. Unfortunately, the teacher who lacks the skill set from the industry will struggle to teach concepts with which they are unfamiliar.

With the right instructor and the right training, teachers who have no training in this particular career path can get the instructional help they need. Using the theory of constructivism, it will be important to note how successful teachers can be in this career path if given the training and the instructional tools to be successful.

Related Literature

Related literature in the areas of career technical and agricultural education (CTAE) and career technical student organizations provides additional information into the history and functions of AVTF teachers. This study helps to fill the gap in the research regarding the experiences of AVTF teachers working with the course curriculum and their level of expertise with the content.

Historical Trends in CTAE

The federal government began investing in vocational education beginning in 1917 and throughout 20th century with the creation of the Smith-Hughes Act (Imperatore & Hyslop, 2017). The Smith-Hughes Act, along with George-Deen Act of 1936 and the George-Barden Act of

1946, established federal funding for the newly created vocational education departments in states all across the country. Agriculture, homemaking, and trade and industry were the first curriculum areas created by this legislation (Imperatore & Hyslop, 2017).

In 1963 and continuing through amendments in 1968, the Vocational Education Act sought to fund vocational programs based on numbers of students rather than the programs themselves (Imperatore & Hyslop, 2017). This was done to target states with large populations of low-socioeconomic students, students with disabilities, and those who required necessary career skills. This legislation was further enhanced through the Career Education Incentive Act of 1977 and again in 1984 with the Carl D. Perkins Vocational and Technical Education Act (Imperatore & Hyslop, 2017). More priority was given to career exploration and guidance counselors to prepare students for their specific career field, as well as the modernization of vocational programs across the country (Imperatore & Hyslop, 2017).

With the start of the 21st century, legislation policy and state departments of education dropped the phrase *vocational education* in favor of *career and technical education*. Georgia added Agricultural to its acronym, creating CTAE (Imperatore & Hyslop, 2017). CTE provided a new naming system that is devoted to the growing technical knowledge and skills needed in a highly competitive job market. The U.S. Department of Education also developed 16 career clusters by which states can develop their programs of study that fit into the career clusters model (Duncan, 2018). Funding provided by the Perkins legislation is required to be spent in appropriate ways as it relates to the development of these programs and to their implementations (Duncan, 2018). The AVTF course was developed as a result of the expansion of the 16 career clusters and the need for additional technology-related programs.

Curriculum and Instructional Trends

Since the beginning of federal funding for vocational programs in 1917, curricula have long been focused on work preparation (Rojewski & Hill, 2014). Programs of study at secondary and post-secondary institutions were tasked with ensuring workers had the skills necessary to complete the task. This type of work at the same kinds of workplaces throughout the years has been mostly stable and predictable. This process of teaching a trade and sending the graduate into the world has served a vast number of people to meet the needs of the workplace. Unfortunately, finding qualified workers is increasingly difficult with the ever-changing job market and creation of new industries and technologies that did not exist until recently. The world of work has become increasingly unsure, with rapid changes and creative solutions in a competitive and complex work environment (Wise et al., 2019). Finding stability for students and providing necessary training in an uncertain time is the current state of the job market.

To meet the demands of this work environment reality, secondary and post-secondary institutions have developed multiple ways to reach students, to engage them in training for a specific career or related career field. One instructional method that institutions began using is the online virtual classroom. This digital classroom allows students to interact with each other and the instructor to share knowledge and provide a forum for discussions in the subject area no matter where students may be physically. This development allows students from various locations to enroll in courses that lead to a specific certificate or degree program. This online collaboration into the various subject areas provides the necessary exposure to new technology while still building the technical skills needed in the students' chosen program of study (Wise et al., 2019).

Licensure Trends

As the demand grows for more CTE programs, the licensure of administrators mirrors that of its teachers: general requirements. Fewer than half of all U.S. states now require a specific CTE degree for administrators and that number continues to decline (Zirkle & Jeffery, 2017). Many new CTE administrators are moving into the field from the academic side of the school which includes language arts, history, mathematics, and science.

New administrators in CTE, with their lack of formal training, are unable to provide for the needs of new CTE teachers. As a result, those teachers are leaving in large numbers, citing low support (Park & Johnson, 2019). The growing difficulty in finding highly qualified people to teach and administer CTE programs has caused states to reduce the number of licensing requirements in order to find people to fill open teaching positions.

The GAPSC created rule 505-2-.08 to specifically outline the certification requirements to become a CTAE teacher in the state (McBrayer & Melton, 2018). Agriculture, business, family and consumer sciences, marketing, and technology areas must meet requirements to receive a professional certificate once completing a four-year college degree (McBrayer & Melton, 2018). Those who teach courses that fall under trade and industrial education or health care science technology education must complete a state-approved alternative teaching program (NTI or GaTAPP). At the end of the three-year period or when the teacher completes either program, the GAPSC upgrades the teaching certificate to a regular professional (McBrayer & Melton, 2018).

Teacher Effectiveness

Understanding teacher effectiveness can be difficult to process because of the varied ways teachers can be assessed. Student growth percentiles, standardized tests, and behavior are all

processes by which teachers can be assessed on their effectiveness in the classroom. (S. W. Lee, 2018). Administrative consistency is important to adequately determine effectiveness.

Teachers who lack in content knowledge for the subject they teach demonstrate various red flags of ineffective teaching (S. W. Lee, 2018). These ineffective characteristics can include a lack of instructional methods, a lack of current standards and terminology, and provides minimal feedback to students. AVTF teachers who have no expertise in this subject area could be evaluated as ineffective even though they may be considered effective in a subject area in which they were trained.

Being an effective teacher in the classroom indicates that the teacher demonstrates high levels of knowledge with regard to teaching strategies and content mastery (Jakopovic & Gomez-Johnson, 2021). Teachers who no longer feel effective and experience exhaustion and cynical attitudes are more likely to experience burnout (Franco et al., 2022). These feelings stem from a perception of lower teacher ability or a lack of confidence in student achievement and ability while in the classroom.

Teacher Recruitment and Retention

All school systems are required to attract and keep the best, most highly qualified individuals to teach their students in order to have a positive effect on student achievement. One of the most critical pieces of teacher recruitment and retention tends to be remuneration and how to reward a teacher's contribution to the school (Ryu & Jinnai, 2021). The prevailing way that measures a teacher's worth in a school is the highest level of degree completion and number of years in the teaching profession.

All areas of the US struggle with the most appropriate way to pay teachers and how to recruit them. Rural districts struggle the most with smaller tax bases and smaller schools (See et

al., 2020). In smaller schools, however, teachers may be asked to teach multiple courses even though they are not certified in that particular area. Math and science are two areas that, like CTE, are searching outside the traditional teacher preparation programs and finding people in the math and science fields to join teaching through an alternative certification program (See et al., 2020).

In addition to difficulties in recruiting traditional math and science teachers, states also struggle to find highly qualified special education teachers each year. In North Carolina, teachers who are new to the profession, or those who are nearing retirement, were more likely to leave teaching or change schools because of conditions. Those conditions included the number of students with disabilities, higher percentages of minorities, and higher percentages of students who qualified for free or reduced lunch (Gilmour & Wehby, 2020). Teachers were also more likely to leave if they had been through an alternate certification program. Researchers have identified classroom management strategies and behavior interventions that can help teachers at risk of leaving the school or the profession (Gilmour & Wehby, 2020). Continued teacher attrition leads to lasting negative effects for the schools and the students they serve. Teacher attrition affects the entire staff with the loss of instructional knowledge and lower student achievement (Sorensen & Ladd, 2020).

The state of New York has made great strides in recruiting and retaining teachers in the career technical field by encouraging students who graduate from a CTE high school to join a training program that would have them teaching in their own classroom within five years (Wilkin & Nwoke, 2011). This program, called Success Via Apprenticeship, was created through a partnership with the New York City Department of Education, City University of New York, and the United Federation of Teachers (Wilkin & Nwoke, 2011). Although the program could take

more than five years, students are provided with paid internship, college classes, and work experience (Wilkin & Nwoke, 2011).

Retention seems to be the most difficult aspect of teacher employability, with 50% of teachers leaving the profession within the first five years (Guthery & Bailes, 2022). Working conditions, classroom management, and school morale are a few of the issues cited when teachers leave the classroom. The Success Via Apprenticeship program was created to “prepare highly motivated graduates of CTE high schools to become CTE teachers” (Wilkin & Nwoke, 2011, p. 27). Specifically, the program designers search for diverse populations to fill the roles of CTE teachers in New York. Special consideration is given to females and minorities who pursue careers in trade and industrial areas traditionally occupied by males. However, rural areas have seen the most difficulty in retaining teachers. Research shows that it does not matter whether the teacher is new or experienced (See et al., 2020). With no similar recruitment program in place, rural communities continue to suffer with teacher retention.

Some parts of Pennsylvania have adopted strategies that are similar to New York through the use of program promotion and recruiting from within. A trade and industrial course called Technology Education, and other similar courses like it, faces extinction because of the lower number of program enrollments (Love et al., 2016). As in New York, the number of trade and industrial students graduating had continued decline before starting their Success Via Apprenticeship program (Wilkin & Nwoke, 2011). The number of graduates in Pennsylvania university technology and engineering programs was dropping from over 6,000 students in 1970 to nearly 250 in 2015 (Love et al., 2016). As a result, researchers studied the number of students who entered the technology and engineering programs to determine the specific factors that influenced them on their career choice. Overwhelmingly, students cited their own technology and

engineering teacher as the “most influential factor” in their decision to pursue their own career as a technology and engineering teacher (Love et al., 2016, p. 11).

The recruiting and retention issues are exacerbated in Alaska because of the large populations living in rural districts. As with other states, Alaska also struggles with hiring qualified instructors for its schools, with up to 75% of new hires coming from outside the state (Adams & Farnsworth, 2020). Because of Alaska’s vast rural areas of the state, many of the schools have fewer than 50 students and only two or three teachers, giving preservice teachers few options to explore when beginning teaching. Preservice teachers could be placed in very rural, isolated areas, or placed in more urban settings with many people. Some of these preservice teachers may be hired by districts and called “teachers while training” as they teach and get their certification (Adams & Farnsworth, 2020).

Similarly, the city of Milwaukee has had challenges with recruitment in its large, urban school district (Egalite et al., 2014). Researchers have also found that the “variation of teacher quality is greater in high poverty schools” which leads to more teachers “at the very bottom of the performance distribution teaching in school serving disadvantaged students” (Egalite et al., 2014, p. 117). Milwaukee has adopted the “grow your own” process of identifying students in middle school and high school to determine if they would want to become teachers. Louisville, Kentucky, has also experienced great success with this program, boasting “over 70 percent of Jefferson’s teachers identify themselves as past Future Educators Association (FEA). Also, 60 percent of these teachers have been in their classrooms for over 10 years” (Egalite et al., 2014, p. 119).

Researchers (Love et al., 2016) generated 14 specific strategies they recommend for recruiting and retaining quality teachers, including: raise awareness of the specific CTE program; advertise college programs while discussing with parents, students; allow students to teach CTE

lessons and attend conferences; collaborate with other CTE programs, committees, and clubs. Following similar strategies could assist other school districts with similar recruitment and retention problems.

Professional Learning Communities

Professional learning communities (PLCs) were created by local school systems to assist in developing instructional strategies and meet school improvement goals in school buildings across the country. The premise of PLCs has to do with coming together with other teachers of like subjects in order to discuss the course information, the standardized testing that is coming up or has taken place, as well as the data collected from all the various activities and lessons that have been completed over the last prescribed amount of time (Shim & Thompson, 2022).

Academic teachers are accustomed to PLCs and what they were originally created for: to work together to solve problems. The PLCs exist in most schools to determine the progress students are making with reviewing the standards and learning objectives in the classroom. With the purpose of determining the direction of the group, the PLC reviews the data generated from each assessment or each assignment in order to inform the instruction about what is next (Shim & Thompson, 2022). For some, the PLC may decide that additional time on a particular concept is necessary, while for others, the decision is to move on to the next topic. Developing instructional strategies to handle both of these situations is important so that instruction is taking place, instead of wasting time. The use of these professional development experiences has been documented to increase student achievement (Hawkey & Snelson, 2019).

The PLC works well when teachers of like subjects are able to meet and discuss the items on the agenda (Shim & Thompson, 2022). While not each course is exactly the same, there are a number of similar traits from each course that allow the discussion to be purposeful and candid. In

English Language Arts (ELA) classes, there may be more than three courses represented in the PLC meeting, but all teachers have a general knowledge about the kinds of things that need to be taught and the kinds of things that do not need to be taught. The concepts and standards for each course in ELA are similar enough for discussion to take place about the kinds of strategies that should be used to teach a particular concept. In the same way, teachers in the other academic areas are able to decide what certain elements of a standard are taught and in what ways students can be successful with the material.

Having a PLC also provides opportunities to administrators to monitor the discussions and provide clearer directions as to how the PLC's plans should mirror those of the school and the school improvement plan (Hill, 2020). The PLC exists to ensure that all teachers and students meet the learning targets set by the school and by the district so that continuous improvement and higher achievement each grading period and each school year can be documented. Ultimately, any area of deficiency is reviewed, and a plan created to combat the issue.

PLCs are successful if they contain the three forms of social capital: structural, relational, and cognitive (Shim & Thompson, 2022). Researchers discuss that the structural form of social capital deals with the interaction of professionals about instruction; relational deals with the trust relationships that develop among members; and cognitive involves the communications sharing among the members. Developing a school climate that fosters sharing and interaction will help PLCs grow which will encourage student achievement growth. Developing a high level of trust among members will encourage risk-taking and self-reflection (Shim & Thompson, 2022).

In CTE, PLCs are used and welcome, but they do not work as well as academic subjects. With academic subjects, the presumption is that multiple courses and multiple grade levels will come together to discuss the same kinds of strategies for students in all courses. In most CTE

departments, there is only one teacher of a particular pathway or series of courses. And even then, that CTE teacher is the instructor to multiple levels of courses related to that one area. In this sense, the “learning experiences to be engaged are teacher-directed and designed to help students meet the specified goals and objectives, and evaluation is used to demonstrate achievement of the predetermined goals” (Wang & Torrisi-Steele, 2016, p. 147).

For example, for the pathway courses related to construction, there is only one teacher at most schools. In these cases, the construction teacher must work alone in order to develop the lesson plans, instructional strategies, and data-driven results that are required by the school improvement plan, the stakeholders of the community, and the administration of the school and district. For administrators, it is necessary to help CTE teachers who work independently by building and supporting PLC teams within the building and encouraging networking with other CTE teachers in other buildings and districts (Johnson & Voelkel, 2021). In order to continue to seek resources and raise the level of student achievement, it is necessary to look outside the school building.

Collaboration

The concept of collaboration often brings to mind the relationship between a general education teacher and a special education teacher (Ricci & Fingon, 2018). Usually, the two work together in an inclusion class of mathematics or ELA students. The two teachers are paired in order to effect change on the students that are in the classroom; namely, that the level of achievement rises for each student (Ricci & Fingon, 2018). More specifically, the researchers suggest that “effectively teaching all students more often requires two or more highly qualified educators who show commitment and willingness to create a positive partnership” (Ricci & Fingon, 2018, p. 3). Mathematics and ELA students’ test scores have a huge impact on the

College and Career Readiness Performance Index (CCRPI) rating of a school (GaDOE, n.d.). Because of the emphasis placed on their schools, it is important for schools to ensure the best possible scenario for the learning environment.

Collaboration, though, means much more than just a scenario with special education and general education. Collaboration is the process by which teachers of the same subject come together to work through specific issues related to that course (McInerney, 2018). In a specific ELA course, teachers are able to come together on a regular basis to discuss the pace of the content, the standards that must be covered, and the data that has been generated. This collaborative meeting provides all teachers with the opportunity for feedback and discussion in order to determine the next steps in class (Ricci & Fingon, 2018). Whether remediation is needed or if another change in curriculum is required, teachers have a say in what happens.

In CTE collaboration is difficult at best with other teachers of like subjects. These meetings are semiannual in many classes as CTE teachers must attend conferences or meetings at various places, sometimes hundreds of miles from home in order to collaborate with someone else who teaches the same course (Johnson & Voelkel, 2021). The process and the end results are the same: that more information is learned about the CTE course with updates made to the curriculum and decisions made about the progress of students.

CTE teachers also have other means by which they can collaborate. The GaDOE's CTAE department has created a website that provides CTE teachers across the state with access to standards, lesson plans, and instructional strategies. The federal government also has a website with CTE information and resources as well. These materials were created in collaboration with teachers from around the state and nation in order to give teachers some specific direction (CTAE Resource Network, 2022).

Teacher Preparedness and Efficacy

Finding quality teachers each year to fill the specific positions needed in a school district is difficult, especially when dealing with teacher attrition. While there can be multiple reasons for a teacher to leave the school or district, content knowledge and area of expertise are consistently ranked as the most important reasons for attrition (Sorensen & Ladd, 2020). For many AVTF teachers, the call from the principal or other direct supervisor to take a certification test to teach the course is a reality for which they must prepare. Taking a certification test provides the AVTF teacher with the licensure necessary to teach the course but provides no content knowledge to successfully prepare students for the world of work (Zirkle & Jeffery, 2017).

Facing a difficult challenge, such as taking a certification test to teach a subject for which no formal training has been given, teachers could exhibit lower self-efficacy, indicating a lower confidence level in being able to meet the challenge (Whitley et al., 2019). Teachers often demonstrate higher levels of self-efficacy with the courses and content with which they feel most comfortable, showing high levels of confidence as they face challenges (Franco et al., 2022).

However, when faced with courses or content that is not familiar to them, teachers demonstrate lower levels of self-efficacy and feel that their efforts in teaching those courses was lacking (Whitley et al., 2019). Teachers use these opportunities to reflect on teaching practice and instructional strategies to determine what areas need to be improved and develop a plan for making gains for the next situation.

Those people who became teachers as a second career demonstrated lower self-efficacy as a result of poor student behavior and feelings of being overworked (Colson et al., 2021). Similarly, these second career teachers were more likely to leave the profession because of the alternate preparation program in which they were trained.

A study of agriculture teachers in Kansas found that those who were trained to teach in academic areas felt unprepared to teach agriculture as a result of no prior experience or training (Elliott et al., 2017). This lack of preparation also affected their ability to develop curriculum, lesson plans, and advise students in the Future Farmers of America chapter (Gesel et al., 2021). As a result, job satisfaction among these teachers ranked very low, citing lack of administrative support as the reason most often given (Elliott et al., 2017; Gesel et al., 2021).

Analysis of course content and teacher preparation are areas for review to assist with teacher efficacy in the classroom. Reviewing the content knowledge and pedagogical skills of Georgia agriculture teachers provided researchers with a list of needs that could be addressed to make improvements (Hartley et al., 2019).

Knowledge Creation

Very little of the CTE structure has changed since the early 1900s, based on the ideas of Snedden and Prosser, as a focus on learners creating knowledge from a given base of information, while trying to predict outcomes (Hyslop-Margison & Strobel, 2008; Imperatore and Hyslop, 2017). Clark (2018) suggested that “learning occurs when an individual responds favorably to some type of external stimuli” (p. 172), leading to the stimulus-response theory. In practical application, the idea of behaviorism represents nothing more than a learned behavior with no additional learning taking place, but educational theorists suggest that much more learning is taking place (Clark, 2018).

Charles Prosser believed that vocational education should be separated from the academic subjects in education (Graham & Edwards, 2018; Hyslop-Margison & Strobel, 2008). Prosser advocated for teaching students specific skills in order to learn a trade and contribute to the democracy, not necessarily find fulfillment in their careers (Graham & Edwards, 2018). Prosser

believed that staying competitive in the world meant skills laborers in business and industry; this competitiveness would help preserve the fundamental values related to hard work and knowledge of facts (Graham & Edwards, 2018).

Prosser and John Dewey had very different views, as well as a number of debates, about vocational education and its place in the educational system in the early 1900s (DeFalco, 2010). Dewey believed that vocational courses, or manual training, was restrictive to some students based on Prosser's ideas that vocational courses should be separate from academics (Graham & Edwards, 2018). Dewey was a proponent of more comprehensive secondary schools that included academics and vocational training (Goddard, 2019). Dewey argued for a more progressive view of vocational education that pursued experimentation because he was concerned that a separated education system would damage society and undermine democracy (Graham & Edwards, 2018).

Creating knowledge in the classroom is demonstrated through various instructional strategies that include lecture, fact memorization, drill and practice, and reward and punishment through rules and regulations (Clark, 2018). Teachers demonstrate their leadership by directing the classroom learning. They lead the learning taking place through their own conversations and their content presentation, while students tend to be more passive in their learning through these procedures (Clark, 2018).

Protocols and procedures are important to the classroom in order to maintain control and provide a safe, secure environment for the learning to take place (Imperatore & Hyslop, 2017). The creation of lesson plans and standards gave teachers an opportunity to be able to measure the students' achievement and how well the task was completed. Doolittle and Camp (1999) cautioned, though, that "a curriculum designed to provide specific, pre-determined skills demonstrated to industry standards does not represent knowledge constructed internally by the

student, but rather knowledge and skills externally imposed on the student” (p. 22). Staver (1995) took this idea further by arguing that “knowledge is knowledge of the knower, not knowledge of the external world; improving knowledge means improving its viability or fit in, but not match with, an external world” (p. 1126). For the teacher who has not been formally trained in the career pathway of AVTF, there is no practical, skills-based knowledge to impart to students. There is no “knowledge of the knower,” no knowledge to share with students to prepare them for the real world.

Learning Variety

The primary role of teachers is to provide opportunities for learning with much variety in order to help students learn. Instead of being the provider of knowledge, teachers are able to act as facilitator in the learning process. Teachers act as facilitators who provide multiple ways to access the knowledge so that there are multiple solutions to solve the problem (Lynch, 1997). Additionally, the teacher acts as a guide to students, providing students with exemplars, discussions, and other challenges rather than act as a disseminator of knowledge (Imperatore & Hyslop, 2017). A teacher’s role as leader in the classroom is especially important to the success of the student and to the knowledge that is created and learned.

Prior Experience

Prior experience is the key to adult learning (Velardi et al., 2021). In addition, reflection is an important part of the theory to encourage teachers to increase their professional capacity (Damore and Rieckhof (2021). Teachers review each activity during their instructional day as they seek to improve their teaching and learning. This theory focuses on the three main components in the relationship: experience, reflection based on prior knowledge, and learned experience as a result (Kuk & Holst, 2018).

In a classroom, the teacher would be the facilitator in the discussion about a topic and provide an application to that particular topic. The key is to use the vocabulary and other tools related to the trade or industry. Next, the teacher would ask students to reflect on the application of the topic. Students would then apply the information to their own personal lives through the use of a project (Richards & Marshall, 2019). Using this theory in CTE courses during the discussion of a standard or learning target, the teacher could talk about ideas and experiences from working in the industry. This prior knowledge will help students to apply that information to the current discussion topic. Using this information, students would then synthesize these experiences and discussion into a practical application that applies directly to their own situation (Kuk & Holst, 2018).

Teachers as Learners

Utilizing the concept of constructivism with regard to teachers as learners, teachers must undergo the same processes as students when teaching subjects for which they have not been formally trained (du Plessis, 2020). Teachers must follow the same procedures as outlined for students in the classroom to develop the curriculum, determine the materials, and construct the delivery methods of the content. With no formal training in the content area, teachers revert to their previous pedagogical training to convey knowledge to students in order for them to develop mastery (Kaymakamoglu, 2018). This instruction style tends to be traditional, teacher centered rather than learner centered.

In other countries, such as Turkey, various problems are occurring with teachers as learners. Teachers as learners is not as successful as many school districts would hope because of the content and types of training that teachers receive (Ayvaz-Tuncel & Çobanoğlu, 2018). The purpose of in-service training is to provide teachers with additional training that will help them be

successful in the classroom, but Ayvaz-Tuncel and Çobanoğlu (2018) found that many of the novice teachers in their study indicated that the training was composed of things they already knew, or the training was told to them in an atmosphere that some described as boring. The training that is provided to novice teachers should be field-specific as to cover the standards and other materials that will be expected to be covered in the classroom. Providing training that does not cover the content or provides little to no instructional strategies related to the content is useless.

Many U.S. states are working to find qualified candidates that would be willing to pursue some type of CTE certification. Those that have experience in industry felt more confident in the subject matter of the course, while those who had a college degree felt more comfortable with the pedagogy (Carver-Thomas & Darling-Hammond, 2019). People from industry who become alternatively certified as teachers actually remain in the profession longer than those who are certified through a traditional teacher education program Masdonati et al. (2017).

According to a study by Zirkle et al. (2019), the number of teachers needed in the CTE field will reach 7,700 by the year 2026, while the number of CTE teacher jobs openings increases along with all other disciplines. Because of this discrepancy in the number of CTE teacher preparation programs available, many state departments of education have developed different requirements for CTE teacher certification. Consequently, the need for CTE teachers is great and the preparation programs are declining as states seek additional ways to bring in and certify people from industry.

Various teaching methods are employed to help teachers “construct” the curriculum they are teaching. These methods provide more interactive lesson opportunities for students while the teacher continues to determine the focus and scope of the specific standards being addressed.

These methods include online learning, hands-on activities, and long-term project. Putting teachers in the place of students gives them an opportunity to learn the material and give them real-world experiences will make the difference.

Online Learning

Teachers design lessons utilizing online resources so as to teach students through the use of videos, films, and blogs. Students experience the self-directed aspect of the concept to learn the lesson once the teacher has had an opportunity to review the standards, search the internet and other resources for the information, and then post the content in an interactive format for students to access (Barak, 2017). Determining the activities for the specific strands of the standards is a difficult job for teachers who are not trained in that specific area can be daunting at best. Using various Google searches to discover short video clips, as well as designing worksheets and other graphic organizers to lead the learning, can be difficult. It is important for teachers to provide examples, or exemplars, of the work. This may be accomplished through modeling the strategy to demonstrate the reasoning and reflection needed throughout the learning process (Hughes et al., 2020).

One of the best methods for online learning is the use of inquiry-based learning. The purpose of this teaching strategy is to develop curiosity in students about a subject in which they had little prior knowledge. By transferring the duty of teaching to students, teachers are better able to engage students in the learning process as the students discover new content knowledge. Classroom learning, driven by a student-centered approach, provides an opportunity for students to research information pertinent to their research question and make an informed statement about the outcome. Without guidance from the classroom teacher, students may be less likely to buy in

to the content, ensuring that little knowledge is built. More novice students will need additional guidance from the instructor to ensure that the learning targets are met (McAuley et al., 2017).

In order for online learning to be effective, students must be part of the community of inquiry and have three things with them: cognitive presence, social presence, and teaching presence. These components during online learning ensure that the student learns the material and takes ownership of it. In cognitive presence, the learner develops and uses critical thinking skills in order to determine the solution to the problem. Social presence suggests that students are able to personally reflect on themselves and allow themselves to trust each other (Gunbatar & Guyer, 2017). This allows the development of communication and appreciation of all the other group members. The third component, teaching presence, is the instructor designing, developing, and facilitating the learning. The teacher has to provide the structure of the learning and provide leadership of the problem solving.

Hands-on Activities

As teachers construct the activities of the class to master the standards, students are given opportunities to interact with various parts of the curriculum (Tracey & Hutchinson, 2019). This is accomplished by manipulating parts of the curriculum or other types of learning tools. In science and engineering classes, students are able to conduct labs and simulate occurrences in the environment to provide real-world solutions to similar kinds of problems. In the same way, teachers of the AVTF curriculum may utilize video cameras, tripods, computers, software, and other kinds of equipment specific to the course as students attempt to demonstrate mastery of a particular standard and to simulate a film or television scenario. Every opportunity through this interaction provides students with meaningful and relevant experience (Blakey & McFadyen, 2015; Tracey & Hutchinson, 2019).

Open-ended questions act as a directive to students to solve a specific problem. Providing options for proceeding instead of step-by-step instructions allows students the opportunity to explore. (Baldock & Murphrey, 2020; Tracey & Hutchinson, 2019). Having discussions through the activity offers a chance for students to engage each other and share their own voices. This provides them with the ability to determine their opinion or answer to the question and share out to the class without fear of reprisal.

To determine mastery of the lesson or standard, teachers employ observations as an assessment tool. Researchers were interested in students' perceptions of inquiry-based learning and found that they preferred this method (Baldock & Murphrey, 2020). Upon completion of a list of activities, students may have the teacher visit their work area to determine if the students reached their goal by completing the list and successfully mastering the content. Wherever possible, teachers provide scaffolding for students who need additional attention. The scaffolding process offers additional support and guidance for those not able to complete the assigned task without assistance.

This particular type of activity is especially useful in the CTE classroom as students use equipment and materials that mirror those of the real world and create real world experiences. Given the problem statement or the desired outcome, students are then able to use their knowledge from class to apply to the current problem in order to create something new. Each student's solution will be different because each person's individual experiences are different. After the problem is solved, students would be able to reflect on the outcome of the problem based on their own construct for how they used the equipment and materials.

Long-Term Project

Project-based learning, or long-term project, is created with the idea of building knowledge on personal experiences (D'Antoni, 2019). Demonstrating advanced abilities and strong work ethic and interpersonal skills are qualities important to the success of a long-term project. The design of this project is dependent on the learning that has already taken place (Mainga, 2016). The construct of knowledge is the basis for the extension of this knowledge into a larger project. Teachers provide a project in which all learning is synthesized into one creation that demonstrates the understanding of concepts discovered during the introductory phase of a course's unit of study.

Interaction among students during the development of the project further illustrates the importance of communication skills and the construct of knowledge through interaction (Mainga, 2016). Students' knowledge grows as it is challenged to find solutions to new situations. Providing real-life simulations gives students an opportunity to pull from their own experiences and apply them to the simulation.

Teachers who have no formal training in the courses they teach must construct each and every activity as the course progresses to convey the standards and other materials that must be taught in order for students to be successful (Orji & Oguanya, 2022). Teachers must use the constructivist theory to relate their existing knowledge and pedagogical skills toward the new content that they must teach (Gash, 2020). Teachers must then create new knowledge about their course and relate it in such a way that students are able to understand it. Teachers work diligently to stay at least one day ahead of students to remain knowledgeable and on task.

Teacher Certification

The No Child Left Behind Act (NCLB; Brownell et al., 2018), in an effort to increase the quality of teachers providing instruction in the U.S., required school districts to report the subject certifications of its various teachers. The idea behind this requirement was to ensure that students were receiving quality instruction from the most highly qualified instructors available. School districts were required to report the certifications of all employees in the district to meet this requirement. NCLB (Brownell et al., 2018) required that teachers in each subject area be certified, or highly qualified, in that particular subject area to teach the subject. For those who did not have certification, those teachers were required to obtain certification through a state-approved degree program or take the state-approved certification test (Georgia Professional Standards Commission [GAPSC], 2021). By meeting these obligations, teachers obtained, or maintained, their ability to continue teaching the subjects that they were already teaching.

Certification tests, designed by various agencies, have been aligned to state and national standards. Those domains and standards have been accepted by a number of participating states and the results are widely accepted as a reliable measure of teacher quality (Green et al., 2021). The certificate exams are given near the end of a teacher candidate's preparation program to measure basic skills and content knowledge. The Georgia Department of Education (GaDOE) has transitioned away from Praxis certification exams and more toward the Common Core-based questions on the state-named test created by the Pearson company (Maddox & Reglin, 2019). Reasons given for this change include more rigorous requirements for documentation of ability, as well as availability of test taking online. requires that students who major in education while in college complete an approved degree program before receiving certification. The agency that oversees this particular aspect of education and certification is the GAPSC (2021). The GAPSC

has designed a series of procedures for all people interested in obtaining certification, or adding certifications, in the field of education. All of the Georgia-based schools of education, along with some out-of-state university programs and Georgia school districts, work directly with GAPSC to complete the necessary requirements to ensure quality among its educators.

Since the mid-1960s, colleges and universities have reevaluated their focus on teaching and learning throughout the teacher preparation program (Clayton, 2018). Gage (1964) discussed the importance of educational research when many thought teaching needed no education, only common sense. This attitude carried over for several years until researchers began to see the need for content development and the quality of lessons, rather than classroom management (Clayton, 2018). Utilizing programs like edTPA, educational institutions require teacher candidates to develop a portfolio of work with a reflection piece to document the specific activities and thought processes that are required of teachers (Green et al., 2021).

Alternative certification paths are available for those individuals who have experience in working in industry and show interest in becoming a teacher. Studies show that the alternative certification path can be beneficial to states and school districts. However, those same studies also highlighted the varying degrees to which the preparation programs were successful. Not all parts of the alternative certification program were correctly aligned with expectations and the curriculum provided was basic in scope and general in information (Newton et al., 2020). Addressing the needs of urban, high poverty schools was also difficult for alternatively certified teachers.

Martino (2021) stated that highly qualified teachers and high-achieving students have demonstrated a positive relationship. Similar trends exist between CTE teachers with occupational experience and achievement for students. Earning four-year degrees to expand

teachers' knowledge mirrors the traditional path followed by academic subject teachers in the elementary, middle, and high school. The other programs in CTE that are considered trade and industrial or health care are more likely to have teachers who earned their certification through an alternative means (Zirkle et al., 2019)

Having a teacher with a wealth of knowledge in a particular area to be considered well-qualified has been shown to impact student achievement in a positive way (H. S. Lee et al., 2019). A review of the school health education programs in the US found that a majority of teachers did not major in health education, while nearly half of health teachers in the country were not certified in that area. Teachers who have content knowledge in a particular field and are considered well-qualified tend to have a more positive effect on student performance outcomes. (S. W. Lee, 2018). Teachers who are asked to give instruction on materials with which they are not familiar do a disservice to the students in their classroom because of the teacher's lack of understanding.

State Certification Pathway

Georgia, as with many other states, has devised an alternate certification program by which the needs of school districts can be met. As more teachers leave the teaching profession and fewer teachers are produced on the college or university level, states have sought after people from business and industry to fill the roles of teachers (Leshem et al., 2021). To meet the NCLB requirements for being highly qualified, the teacher recruits from business and industry must enroll in the New Teacher Institute (NTI) or Georgia Teacher Academy for Preparation and Pedagogy (GaTAPP). People from business and industry who have been hired to fill a teaching job are enrolled in either the NTI or GaTAPP to take the necessary education coursework to earn their state certification (McBrayer & Melton, 2018). NTI or GaTAPP provides a framework by

which these prospective teachers can network with other individuals going through the same program in various parts of the state of Georgia and learn creative teaching methods and instructional strategies for teaching their students.

Similarly, other states have employed programs offering alternate certification. New York City has used programs such as Teaching Fellows and Teach for America that provide certification for people who want to become teachers (Clayton, 2018). These programs, just like NTI and GaTAPP, provide the necessary resources for alternatively certified teachers to be successful, but those teachers need the help and support of other CTE teachers and administrators to remain in the education field.

NTI and GaTAPP are used frequently throughout the state of Georgia. Whether the school district is in a rural area with few to no job applicants, or the school district is in an urban area with a fast-growing population, the NTI and GaTAPP programs provide a manageable way in which people may become certified to teach. These programs generally last one year, with flexibility built in to last two years to satisfy the needs of the prospective teacher and the school district (McBrayer & Melton, 2018). The teacher is allowed to teach using a provisional teaching certificate issued by the GAPSC. This provisional certificate may be used up to three years by the prospective teacher to provide him with enough time to meet the obligations set forth by the school district, NTI, and/or GaTAPP. If the obligations are not met and the alternate certification programs are not completed in a timely manner, the provisional certificate expires, and the prospective teacher is not issued a contract to work the following school year (McBrayer & Melton, 2018).

For teachers who are already certified and considered highly qualified for the courses they are teaching, they do not have to complete any additional coursework to obtain additional

licensure. Georgia provides that those teachers take and pass the certification exam in the area for which they are asked to teach. Many times, because of starting a new program or filling a gap created by a teacher shortage, administrators require certified and highly qualified teachers to become certified in an additional area. The difficulty in requiring teachers to fulfill new roles in the school lies with content knowledge. Although teachers may have shown limited interest in teaching a subject outside of their original content training from college, those teachers do not have the skillset or content knowledge necessary to effectively provide instruction (Penner, 2021).

Summary

The purpose of this chapter was to provide recent studies to demonstrate the current state of teacher preparedness in CTE and how these studies relate to the field of AVTF in Georgia with regard to teacher preparedness in content knowledge and overall self-efficacy.

Teachers need content knowledge and experience in order to facilitate the learning in the classroom. Students are able to take this information and apply it to their own lives and demonstrate their mastery of the subject by completing class assignments and projects. There are multiple constructivist methods that can be used to help students understand the material, such as online learning, hands-on activities, and long-term projects.

Teachers need to feel confident in their knowledge and abilities in the classroom. When asked by a building administrator to take on an additional role as a CTE teacher, a teacher's self-efficacy can drop because of a lack of formal training in that content area. The teacher must adapt to teaching a new subject while utilizing a constructivist method to build the curriculum and teaching strategies as they go.

Teachers must gain certification through a process. While the traditional route of colleges and universities provides the content courses and education courses needed to begin a teaching

career, those teachers who enter alternative forms of certification, as well as those who take a certification test, often lack the necessary content information needed to instruct students in the classroom.

For teachers to feel effective in the classroom, it is important to demonstrate expert knowledge and pedagogical strategies. Teachers who have only added certification to teach a course and have not experienced any formal training, their confidence lags, and their lack of effectiveness on evaluations is indicated.

Preparedness in the area of AVTF is a gap in the literature for which no research has been done. As indicated in CTE administrator research, many teaching positions are difficult to fill because of a lack of available teachers. Many teacher and administrator candidates are brought into the CTE field through very general and very broad licensing. Unfortunately, teacher attrition can be attributed to areas of low job satisfaction and the feeling of unpreparedness. Teachers who obtain certification to teach another subject for which they have no training admit feeling dissatisfied with their career and the subject they teach.

The area of CTE has changed rapidly since the 1980s, causing school districts to seek additional teachers to replace those who are leaving teaching within the first five years or those who are retiring. In many instances, teachers are recruited from academic areas to take certification tests to fill CTE openings. These teachers have no training and feel overwhelmed and frustrated in their attempt to teach the standards associated with the curriculum. This scenario is very familiar to many AVTF teachers in Georgia. This teacher's role and background in conducting this research is important to understanding the overall preparedness of AVTF teachers in the state of Georgia. This case study seeks to provide additional information on teacher preparation and its connection to the overall success of students in the AVTF pathway.

CHAPTER THREE: METHODS

Overview

Local boards of education in Georgia continually search for teachers to fill open positions, including career technical education (CTE). Students need instruction from skilled, highly qualified teachers in audio video technology and film (AVTF). Those teachers need to have a solid understanding of the film industry and the specific skills needed for students to be successful. One barrier to having highly trained teachers in AVTF is the lack of a university program designed to train teachers for this particular career field. It is already difficult to find general education teachers to fill the usual openings in school districts each year (Goldhaber & Cowan, 2014). However, of those new hires, many of those teachers have a lack of formal training for the job they are asked to perform.

This chapter explains the selection of a case study qualitative design for this research. There is a central research question supported by three sub questions. Open-ended interview questions were given to the participants to discuss their relationship to the phenomenon. Participant responses provided a rich explanation of their experiences. The research took place online with AVTF teachers from across the state of Georgia. Data collection came through the review of the interview questions of individuals and focus groups. Data were analyzed through coding and triangulation. Trustworthiness for this study was supported through credibility, dependability, confirmability, and transferability. Pseudonyms were assigned to all participants and their respective schools or school districts to protect their identities.

Research Design

A qualitative method design was selected for this study to provide thick, rich descriptions of shared experiences (Creswell, 2013). A case study involves studying a case within a real-life

setting, bounded or described by a certain place or time (Creswell, 2013). This research was conducted within the state of Georgia, within the AVTF courses, to provide specific experiences necessary to understand the level of preparedness of AVTF teachers.

A case study was chosen as the research design in order to understand how AVTF teachers receive training in order to provide instruction to their students. As the researcher, I wanted the participants to explain how they came to be employed as an AVTF teacher and what kinds of formal training they received in order to deliver instruction to students. I wanted to understand the differences that exist among AVTF teachers who come from the industry, versus those that move from another subject area to AVTF.

The qualitative method assumes the issues of ontology and epistemology and the development of knowledge. Ontology deals specifically with the perception of reality and how that reality is interpreted through the interaction of the environment by other people (Wahyuni, 2012). The role of the AVTF teacher and his/her interpretation of the course and course materials, framed by his/her own background concerned with other subject knowledge, provided an ontological look at this particular aspect of the case study.

The epistemology issue of this research design approach allowed me to come as close as possible to the participants in the field to accurately understand the situation as much as possible. This proximity allowed me to determine what knowledge is known and how educators perceive it as acceptable or valid (Creswell, 2013; Wahyuni, 2012). Using this issue with AVTF teachers in Georgia allowed the opportunity to closely experience the lack of content knowledge and lack of formal training in this subject area as teachers attempt to provide instruction to students.

The specific design approach for this research project was case study. I chose the case

study approach to study the specific situation in a bounded system (Creswell, 2013; Yin, 2014). In this case, the bounded system included all those teachers who are certified to teach, but lack the formal training needed to train students effectively in AVTF. Using the case study approach allowed me to take an in-depth look at the situation through several data collection processes. Using a case study approach for an in-depth look at AVTF teachers and their lack of formal training in this content area provided a real-life issue that is concrete case for a small group of individuals in Georgia high school (Yin, 2014).

Developing good skills of questioning and listening, along with removing bias and staying constant with the research provided good data and gave participants a feeling of being at-ease during the study (Yin, 2014). Yin also suggests that maintaining a firm understanding of the issue being studied will allow for a keen sense of awareness while participant interviews are taking place (Yin, 2014). Deciphering the data being collected through many different sources while maintaining my concentration on the issue allowed me to determine whether or not the information given was contradictory. If that data were contradictory, I was aware that more research must be done and additional questions must be created to collect new evidence (Yin, 2014). Being able to hear and analyze the varied data that my participants shared with me allowed me to interpret my own experiences through the participants' experiences.

Research Questions

Central Research Question

To what degree are current AVTF teachers' formal training experiences sufficient in teaching a CTE course offering?

Sub-Question 1

What are AVTF teachers' training experiences?

Sub-Question 2

What research-based teaching strategies are employed by AVTF teachers?

Sub-Question 3

What kinds of teaching resources are available and to what extent are they obtained?

Setting and Participants

There was one setting for this study – the Facebook group Georgia Broadcast Video Teachers. This group was established at the conclusion of a winter conference by two AVTF teachers from the Atlanta, Georgia area. This Facebook group was created to share documents and other resources with conference attendees, as well as a way to build a network of teachers across the state who could ask questions or seek advice. More than 200 people are now members, mostly from across the state of Georgia, as well as a few members from neighboring states. The group is primarily made up of Caucasian males with a small number of females and individuals of other ethnicities.

AVTF teachers from across the state of Georgia who participate in the Georgia Video Teachers Facebook group were identified as the target group for collecting data. The majority of teachers in the state have been identified by the owners and moderators of the group and many teachers participate in this discussion group on a regular basis. Members of the discussion group were identified as potential participants based on their level of formal training in the area of AVTF and their willingness to participate in the study. Although this group serves a large number of teachers, only those teachers who have been teaching fewer than five years in AVTF courses were considered for this study.

Participants

A purposeful sample size of 10–15 is recommended for saturation in this case study

(Creswell, 2013; Latham, 2013; Yin, 2014). In order to obtain participants for this study, I used intensity sampling to select participants who manifest the phenomenon intensely (Creswell, 2013). This type of sampling allowed me to ensure that the information provided by participants was thick and rich. To narrow the potentially large participant pool, I used purposeful, criterion-based sampling to add credibility to the sample if the potential purposeful sample was too large (Creswell, 2013). To ensure the number of participants reached saturation, I selected those participants who have taught AVTF fewer than five years. This stipulation was included to ensure that the teachers who have a lack of formal training and were still in their first few years as AVTF teachers. This statement suggests that teachers have already been certified teachers in another subject area and only recently added the AVTF certification.

Participants were informed about the purpose of the research study and how the information collected would be used. Participants were allowed the opportunity to opt-out if they choose not to participate. Because of the vastness of the potential participant pool across the state of Georgia, data collection took place via an online platform on Google Meet, Zoom, or Facebook Messenger in which the conversation could be recorded.

Many of the participants were male, Caucasian, and in the 35–44 age range. There was a smaller percentage of the participants who were female and of other ethnic backgrounds. All of the participants were certified teachers and taught at least one AVTF course. All of the participants taught in middle school or high school settings. Teachers lived all across the state of Georgia, but many of the AVTF teachers lived in the Atlanta Metropolitan area. To have a more accurate representation of the population, I ensured that I had participant representatives from as many parts of Georgia as possible. To protect the privacy of all participants, I provided pseudonyms for their name and for their schools. With this protection in place, there was no

opportunities for any school district or other personnel to look at results or carryout retribution.

Researcher Positionality

I am a former Georgia public high school AVTF teacher. I became involved with broadcast-related activities in 2000 when I was hired by a public high school to teach World History and teach a combination speech/video production class. After this speech/video production class ended in 2002, I continued to help students perform basic video recordings and explain my limited editing skills after school to student volunteers. I continued helping various student volunteers on a limited basis after school until 2010. Because of my basic expertise in video-related matters at school, the school administration asked me to take a teacher certification assessment in the field of technology education to be considered certified and highly qualified (Brownell, 2018).

Beginning in 2011, the administration asked me to begin teaching the AVTF curriculum using my new teaching credential, in addition to another course in graphic design. I had minimal experience with the content standards listed for each course, nor did I have a grasp of how to deliver the content I did understand. I was beginning my 14th year of teaching at this point and understood the pedagogical background of the teaching process and how to adjust my teaching strategies to reach the various students served in my classroom. However, I did not understand the curriculum and course standards I was expected to cover, nor did I have any ideas about specific locations for additional resources. The Georgia Department of Education (GaDOE) did provide a website with teaching resources and various activities to complete. These were helpful in content delivery. Unfortunately, I did not understand what I was teaching. Because of my experience in teaching the content and having minimal expertise in the field, my role in the research is to act as a participant researcher while conducting semi-structured interviews, facilitating discussions in

focus groups, and analyzing collected data.

Interpretive Framework

I conducted this study through the lens of a first-time AVTF teacher. Using social constructivism, I studied the teaching careers of the participants in order to have a rich understanding of their personal experiences in the AVTF courses. I wanted to determine how similar my experience was as compared to others from around the state of Georgia.

Philosophical Assumptions

I view the world through a Christian worldview. I believe there is a reason for everything that happens and that God is in control of the universe. I understand that there are a number of extreme circumstances that God allows in our lives and careers, but we do not always understand them. Each situation is different and various solutions can be found, but God is ultimately in control.

Ontological Assumption

God is the singular reality in my life. He is the Creator of the universe who provided his son Jesus to save us from our sins. Throughout the study, I approached each participant with the same care and respect I demonstrate for all human beings, providing every opportunity for them to share their lived experiences as AVTF teachers.

Epistemological Assumption

Throughout this case study, I presented an unbiased view of each participant's experiences in their role as AVTF instructor at their school. As a former AVTF teacher, I understood the explanations that were provided, but I did not alter or dismiss them in any way. I listened to all the details provided, and objectively reviewed all data before determining conclusions.

Axiological Assumption

Having been an AVTF teacher, I understood and appreciated the effort that the participants put into their instruction each day. As an individual with a teaching background, I understood the value of education courses and the importance of classroom management. I understood that learning AVTF content was difficult and that resources were even more difficult to find. Those resources that were found had to be modified to fit the students in my classroom. I kept all of these ideas on my mind as I interviewed each participant.

Researcher's Role

As the researcher, I assumed an interpretive role to provide the meaning of the case study through an analysis of the data collection and to avoid any instance of bias in the research. This case study was especially important to me because of my experiences in this field and the struggles I endured while attempting to teach the curriculum standards that I did not fully understand myself. In this study, I knew many of the participants because of my interaction with them at conferences or on the Facebook group. All the participants are acquaintances and I know most of them by sight. Only one of the participants is someone I would call friend. Throughout this study, I acted as the human instrument during data collection.

Procedures

Before beginning the data collection process, Liberty University Institutional Review Board (IRB) approval was received. The IRB approval was necessary to document the care and concern by which I provided privacy, safety, and confidentiality to all participants in this research study. The IRB determined whether or not I met the requirement for safety and security concerning all the participants in this study (Yin, 2014). See Appendix A for IRB approval.

I also collected signed informed consent forms from all participants before beginning the

collection of data. To ensure that there is full disclosure of my study, the principal of each school that employs these AVTF teachers was contacted to obtain permission for these teachers to be interviewed for my research study. The principal responded in email to provide permission. See Appendix B for the consent form and Appendix C for the permission form.

Participants completed a questionnaire using Google Forms that asked demographic information about each of the participants. Age, gender, years of experience teaching, years of experience teaching AVTF, and training-related questions were used on a Google Form. Google Forms allowed me to categorize and organize the information provided and keep it secure by using my password for access. I designed open-ended questions involving the training, teaching strategies, and teaching resources that are available to them through semi-structured interviews. See Appendix D for the demographic questionnaire. To determine which of the data are true and accurate, the participants with the fewest years of teaching experience in AVTF were asked to join an online focus group to explain their experiences in teaching AVTF. The focus group membership was determined by the demographic form from the beginning of the study. Only those teachers with three or fewer years of teaching AVTF were invited. I anticipated this number to be five or six. Focus group members joined me in an online audio/video chat. I read each question and allowed each of the group members to answer. I also allowed one to two minutes of rebuttal and additional discussion. Once this time passed, I regained control of the discussion and move on to the next question. Participants also wrote an open letter addressed to the state agency overseeing formal training in order to offer suggestions on improving AVTF teacher preparation. The interviews and focus groups were audio/video recorded using online messaging programs. Google Docs and Forms were utilized in the storage and transmittal of letter writing, interviews, and transcription.

Permissions

Before the study was begun, I secured permission from the IRB. The permission is to proceed is present on Appendix A. Because all interviews were conducted online using various means of communication, no site permission form was required. However, consent forms were created for teachers and their principals to approve participation in the study. Those consent forms are included in Appendix B and Appendix C respectively.

Recruitment Plan

Participants were solicited for this study by posting messages on the Georgia Broadcast Video Teachers Facebook group. In order to obtain participants for this study, I used intensity sampling to select participants who manifest the phenomenon intensely (Creswell, 2013). This type of sampling allowed me to ensure that the information provided by participants was thick and rich. To narrow the potentially large participant pool, I used purposeful, criterion-based sampling to add credibility to the sample if the potential purposeful sample was too large (Creswell, 2013). Those participants who expressed interest in joining the study completed a questionnaire using Google Forms that asked demographic information about each of the participants. Age, gender, years of experience teaching, years of experience teaching AVTF, and training-related questions were used on a Google Form. Google Forms allowed me to categorize and organize the information provided and keep it secure by using my password for access. I designed open-ended questions involving the training, teaching strategies, and teaching resources that are available to them through semi-structured interviews. See Appendix D for the demographic questionnaire.

Data Collection Plan

To validate this research study, data triangulation was utilized. Data triangulation refers to the use of multiple sources, methods, and theories to provide corroborating evidence to shed light on a perspective (Creswell, 2013). In an effort to triangulate the data collection, I used the documenting of AVTF teaching certificates to demonstrate multiple areas in which the teacher is certified, as well as demonstrate the years of teaching experience credited to the teacher. Reviewing teaching certificates will help me address the central research question and sub-question one relating to formal training experiences. I hoped that the interviews and focus group questioning would address Sub-Questions 2 and 3 as they relate to teaching strategies and teaching resources. Interview questions for AVTF teachers, as well as focus group questions are listed here and in the Appendices. All of the potential participants were identified in order to ensure that they meet established criteria and were most appropriate for this research study. Interviews were conducted with those teachers with fewer than five years of AVTF teaching experience.

The first area of data collection began with a questionnaire for descriptive purposes to determine what levels of formal training AVTF teachers have in order to teach the curriculum. This demographic form helped determine which teachers have been certified in other subject areas before becoming certified in AVTF. Once the participants were determined, semi-structured interviews took place with each participant.

The interview questions were piloted with other career technical and agricultural education teachers and modified as needed, prior to its use with participants. The focus group was convened after the conclusion of interviews for the newest AVTF teachers to explain their

experiences in teaching the curriculum. This determined if there are other concepts or aspects of the experience that were not completely shared during the interview process.

Participants also wrote a formal letter to the state board of education to provide suggestions for improving AVTF teacher expertise. This letter detailed the experience of the participant and provided guidelines for improving teacher training to provide effective instruction for students. This letter was designed to give a voice to participants in the study as to what necessary steps should be taken to better prepare teachers entering CTE to teach AVTF courses.

Individual Interviews Data Collection Approach

The interview process was designed to be a conversation in which the participant and interviewer discuss the experiences and their explanations of the experiences (Yin, 2014). The interview questions allowed the researcher to gain various words and phrases to determine themes that could be representative of other participants. Semi-structured, open-ended questions allowed the participants to answer on their own without receiving specific direction from the interviewer. This process allowed teachers to share the history behind their own course change into AVTF and provide some insight into the situation. The teachers were more likely to share their actions during the whole experience. Comparing these responses with other AVTF teachers allowed for corroboration of the narrative (Yin, 2014).

The AVTF teachers in the Facebook group were interviewed using a set number of questions to discover their experiences in having a lack of formal training in the AVTF curriculum. Their responses lent themselves to the development of themes for the study and helped me create a more in-depth understanding of the situation.

The individual interview questions were as follows:

1. What is your role at your school as it relates to the AVTF course? Please explain.

2. What other courses, academic or CTE, have you taught previously? Please explain.
3. How did you become involved with AVTF at your school?
4. What prior knowledge did you have about the AVTF course or related materials?
5. What specific kinds of training did you participate in prior to beginning in the AVTF course?
6. How did this training—or lack of training—affect the quality of your instruction within the first year or two of teaching the AVTF course?
7. What specific teaching strategies have you incorporated into your instruction to help explain the material?
8. In your opinion, what have been the best teaching strategies that you have used so far in your instruction?
9. Please describe the kinds of teaching resources you have available to you, or would like to obtain, in order to improve your instruction.
10. What changes do you believe should be made in teacher preparation and support of AVTF teachers?
11. Please share anything else that you believe is important to discuss on this topic.

Questions 1, 2, and 3, were introductory, specific to the interviewee and addressed the central question as well as Sub-Question 1 (Yin, 2014). Questions 5 and 6 focused on Sub-Question 1, and they specifically addressed the teacher's training in the area of AVTF before assuming that role as instructor. Questions 4, 7, 8, and 9, addressed Sub-Questions 2 and 3, and focused on the teacher's own pedagogical knowledge by probing the teacher's prior knowledge and the teacher's own instructional strategies and resources used in the classroom. These questions fall under Yin's (2014) Level 2 questions that addressed the individual case, that

addressed the specific questions to be answered by the researcher. Questions 10 and 11 are Level 5 questions that offered the interviewee an opportunity to make recommendations about policy and conclusions (Yin, 2014).

Focus Group Data Collection Approach

A focus group provided an opportunity for AVTF teachers to discuss specific areas of difficulty they experienced. These teachers participated in an online focus group. Having these teachers in this group provided an opportunity to share their positive and negative experiences as they began teaching the course. This group furthered the experience discussion using their own experiences to further the thick, rich descriptions. The group responses helped to triangulate the data and provide additional corroboration of the information provided.

The focus group questions were as follows:

1. How easy/difficult was the process to become an AVTF teacher? Please explain.
2. Please explain your support system that was in place for you during your first years of teaching the AVTF curriculum.
3. In your opinion, what are the strengths/weaknesses of the current AVTF curriculum?
4. Where you have found additional AVTF teacher resources? Please explain.
5. How do you put all those resources and other teaching strategies to work?
6. Based on your personal experience, would you change your decision to teach AVTF?
Please explain.
7. In which areas of the AVTF curriculum would you like additional training?
8. Please share anything else that you believe is important to discuss on this topic.

Question 1 provided an opportunity for each teacher to share their personal experience in becoming an AVTF teacher. Question 2 offered an opportunity for teachers to discuss the positive

support structure they are provided as they enter the teaching of the course. These questions were addressed by the central question and Sub-Question 1. Questions 4 and 5 focused on the availability and implementation of AVTF teaching resources, and they addressed Sub-Questions 2 and 3. These questions fall under Yin's (2014) Level 2 questions that addressed the individual case, that addressed the specific questions to be answered by the researcher. Questions 3, 6, 7, and 8 were Level 5 questions providing an opportunity for teachers to give policy recommendations and their conclusions (Yin, 2014). They addressed Sub-Question 1.

Reflective Writing Opportunity

The reflective writing opportunity was the final portion of the data collection for the case study. Participants wrote a descriptive, formal letter to the state agency that oversees teacher certification and training in which they provide the essence of their experiences as an AVTF teachers with their varying levels of preparedness. They discussed the specific events or situations they experienced, the ways in which they experienced those events, and what recommendations they had for improving this experience for others (Creswell, 2013). The first paragraph addressed the specific training each teacher had, as well as suggestions for improving this training. The second paragraph of the letter addressed the specific teaching strategies that are used, as well as the strategies that would be recommended to other CTE teachers. The third paragraph of the letter addressed the teaching resources that are utilized, as well as recommendations for additional resources.

The design for this data collection was intended to address the experience of AVTF teachers who have fewer than five years of teaching experience in AVTF. Each teacher had an opportunity to share their rich experiences in an interview and/or focus group. The letter gave teachers a format in which they could provide policy recommendations for training and preparing

teachers for teaching this course. This letter also provided teachers an opportunity to share specific instructional strategies and resources that have been helpful to them in their classrooms. The formal letter addressed the central question and sub-question one with regard to teachers' formal training experiences in the area of AVTF.

Data Analysis Plan

The most important function of data analysis in the search for meaning was recognizing patterns in the data collection (Yin, 2014). While various computer-assisted tools were suggested to help with the analysis, they were simply tools to assist in the final analysis. I defined a set of codes and allowed the software to analyze the transcriptions. I developed code charts in order to provide a more efficient way to analyze the data (Yin, 2014).

Data Synthesis

I used the data to explain my central research question regarding the lack of preparedness of Georgia AVTF teachers to give instruction in this CTE course. Following the theoretical framework of this case study, I used my own personal knowledge, the most significant aspects of the study, all the evidence from the study, and all the plausible rival interpretations to ensure a thorough analysis of the case (Yin, 2014).

I used the data analysis tool memoing to assist me when I begin the interview process and categorize the data I collect. I reviewed the demographic information gathered from the questionnaire to determine which teachers participated in the study. I showed that I intend to use all the evidence for my research (Yin, 2014). I interviewed AVTF teachers with fewer than five years of experience teaching this CTE course. I anticipated that all the teachers will have very different experiences in their paths to become AVTF teachers, as well as extremely varied training and support experiences. I kept an open mind as themes developed from the interviewing

process. I used my own experiences as an AVTF teacher to provide additional connections to the data (van Manen, 2016).

I used open coding to organize the data into major categories and determine the themes that developed (Creswell, 2013). Using the code charts I developed, I was more able to determine how frequent the various codes were. In addition, I used data triangulation to analyze the focus group comments and the one-on-one interviews. After the focus group discussion, software like ATLAS.ti was used to assist in coding the responses, or significant statements, and organizing the themes. Counting the number of words that repeatedly showed up in the data and notes from my memoing were useful as I attempted to code the responses into the proper category. Pattern matching was my choice for analytic technique. Yin (2014) describes this process as comparing the results of my study versus my prediction at the beginning of the study. If the prediction and the study are very similar, the pattern is said to have internal validity (Yin, 2014).

Trustworthiness

It was imperative to ensure trustworthiness was reached to maintain a study that is ethical. Methods for increasing trustworthiness included triangulation through semi-structured interviews, focus group, and a written letter offering suggestions to the state agency overseeing formal training. Maintaining this sense of trustworthiness was important to ensure the thick, rich description of the participants' experiences in the study, as well as the researcher's ability to build trust within the participants (Creswell, 2013).

Credibility

Credibility refers to the extent to which the findings accurately describe reality. Credibility depends on the richness of the information gathered and on the analytical abilities of the

researcher. I ensured that credibility was reached through the use of verification and validation of all data collected by those who are interviewed.

The essential goal of determining credibility lies with the results being believable. Only the participants and I could determine which results are reasonable and which results are unreasonable (Yin, 2014). Creswell (2013) suggests that credibility ensures that the results of the study can be transferred from participants to the researcher using thick, rich descriptions. The triangulation of all data, materials, and methods will strengthen the credibility of the study (Creswell, 2013).

Transferability

Transferability was ensured through the use of thick, descriptive data. By interviewing AVTF teachers dealing with a lack of formal training in this CTE area, I provided a guide for other inexperienced teachers in other CTE courses. Shenton (2004) discussed transferability as the researcher's ability to apply the findings of the study to another similar situation. Within the realm of AVTF, the results of this study should be applicable to other areas of CTE. School officials, in conjunction with state officials can review the findings and apply solutions to other CTE areas that are in need of teachers with content knowledge.

Dependability and Confirmability

Dependability and confirmability were ensured through accuracy. An audit trail of accurate records were kept. Original data were also kept to ensure the materials remain intact. I also had an external auditor examine the domains and ideas to determine that all data were represented correctly.

Morse et al. (2002) argued that dependability and confirmability are vital to the usefulness of the study. The rigor, or trustworthiness, of the study depends its truth and application (Morse et

al., 2002). To accurately depict the believability of this study and the data collected, it was imperative that all data be truthful and consistent from the one-on-one interviews and the focus group discussion in order for the study to be considered worthwhile.

Ethical Considerations

Before any data collection began, Liberty University IRB approval was secured, along with consent forms from the participants and their individual schools. These consent forms gave participants the option to join the study or opt-out. The forms also provide an opportunity for their principals to be aware of their participation in the study. Participants received a copy of my IRB approval. Participants were able to review their interview transcriptions for accuracy. To protect the identities of the participants, pseudonyms were used. All data and materials were kept under password protection if digital, or under lock and key if in a file cabinet. No penalties were given to any participant who elects to opt-out of the study.

Summary

The purpose of this chapter was to provide specific details related to the methods and data collection processes for the study. Before beginning any study, it is imperative to submit the study information to the IRB to receive approval for the study. IRB approval simply means that I have gone through the proper channels to guarantee no harm will come to any of my participants. I selected the participants through purposeful sampling, using a questionnaire. Participants were considered for inclusion in the study based on their level of training with AVTF courses, as well as their number of years teaching this subject.

I conducted this study as a case study to allow me as researcher to probe for an in-depth understanding of the level of formal training of AVTF teachers. I used a bounded system to set a

specific time and place in which the phenomenon has happened or is happening. The level of formal training for AVTF teachers acted as the bounded system to guide the study.

The setting of the study was online messaging software in order to conduct interviews and hold a focus group meeting to discuss additional interview questions and to check the validity of previous answers. In addition to using the questionnaire to gather demographic at the outset of the study, I employed the use of an interview with open-ended questions to gather the thick, rich descriptions I seek.

I asked participants to write a formal letter to the state board of education to encourage them to address training and teaching resources, as well as feedback and support. To ensure quality of my data, I used triangulation to verify my data and determine that all the data I received were reliable. As I coded the data being given, I used software to assist me in determining themes.

To protect the participants and provide safety and security, every effort to protect the data and their identities was completed. Pseudonyms were used for each participant in place of their name. This maintained their anonymity and prevented anyone from looking at data or seeking retribution. Through the use of Google Docs and Google Forms, participant information should not be compromised because of the password on my account.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this study is to explore the preparedness of audio video technology and film (AVTF) teachers in the state of Georgia and determine what types of training are available for them, what types of teaching strategies are used in the classroom, and what teaching resources are readily available for use in the classroom. The participants included 12 public school teachers from across the state of Georgia. The data collection methods used for this study were individual interviews, focus group interview, and a writing prompt. The writing prompt required participants to draft a letter addressed to the Georgia Department of Education (GaDOE) and discuss changes that are needed in the teacher certification and teacher preparation process for the career technical and agricultural education (CTAE) pathway for AVTF teachers in Georgia. Codes, themes, and patterns were established in order to determine the training received and strategies and resources employed by AVTF teachers.

A central research question and three sub-questions explored the preparedness of AVTF teachers from the training they received before beginning instruction, as well as the teaching strategies that were used in their classroom and the instructional resources that available to them. The central question asked to what degree current AVTF teachers' formal training experiences sufficient in teaching a career technical education (CTE) course offering. The first sub-question examined what training experiences AVTF teachers had. The second sub-question examined the research-based teaching strategies that were used in the classroom. The third sub-question explored the teaching resources available and how those resources were obtained.

Participants

The participants in this study were teachers in the Georgia AVTF field with a variety of experiences in regard to preparation, teaching strategies employed, and teaching resources available. All participants had been teaching courses in the AVTF pathway for five or fewer years. In order to understand the preparedness of AVTF teachers, each was interviewed in a one-on-one setting using Google Meet or a Zoom call via an internet connection. Of the 12 participants, five agreed to participate in a focus group to engage in deeper discussions and provide more complete understandings related to the study's research questions. Each of the participants brings a unique perspective regarding their own personal training, teaching strategies, and teaching resources as they relate to the preparedness of Georgia AVTF teachers.

Individual interviews were conducted with 12 people who are AVTF teachers in Georgia with five or fewer years of teaching experience in these CTAE courses. Five individuals participated in the focus group. The researcher assigned each participant a pseudonym to protect their identity.

Table 1

Participant Demographics

Name	Years teaching AVTF
Audrey	3.0
Brianna	2.0
Cooper	4.0
David	5.0
Eli	5.0
Faye	4.0
George	4.0
Harris	4.0
Ian	0.5
Jane	1.0
Karen	4.0
Leah	1.0

Audrey

Audrey is a Caucasian female in her early 30s and has been teaching for three years at a public high school in Georgia. During our Zoom call, Audrey was reluctant to turn on her camera to speak face to face. I was in my home office, and Audrey was at her home with her family. Because it was after 8 p.m., she said that she was tired and was not dressed professionally for our conversation. She spoke in a quiet, calm manner while chatting with me. Audrey has an associate's degree in communications and graphics from a local technical school. She added a bachelor's degree in multidisciplinary studies for marketing and communication from Liberty University. Audrey had never taught before beginning this job. She was enrolled in the Georgia Teacher Academy for Preparation and Pedagogy (GaTAPP) to learn basic education pedagogy. She said she originally "chickened out" of applying for her position, but when it came open again a year later, she applied and got the job. She has continued to teach at this public high school even though each year has presented a new set of stresses. The first year had her teaching in a small room with no equipment as the school was moving into a new building and her broadcast studio was still being renovated. She has struggled with learning the curriculum and working through lesson activities because she is the only AVTF teacher in her building. She said,

You're the only one that does it. And then they, of course, need help outside of the classroom as well with different things. So it's hard, because there's nobody else that you can really go to within your own school.

Audrey has learned much from the Georgia CTAE Resource Network website as well as from her time at the two-week Georgia Film Academy and other CTE state websites like California's. She credits the Georgia Broadcast Teachers Facebook group for helping her network with other teachers for lesson ideas and other resources. She believes that giving students hands-on

experience with the equipment and software helps them learn more effectively so that they retain the content.

Brianna

Brianna is a Caucasian female in her mid-40s. She had her camera on during her Zoom call, and she has brown hair with some gray. She has a very outgoing personality and spoke quickly in long sentences. She especially loved to share examples of the students she has worked with during her short teaching career. She was at home during our interview. She was surrounded by soft-colored walls, and family pictures hung nearby. Brianna recently started teaching about two years ago after a 20–25-year career in communications. She started her career in journalism, working with newspapers and magazines. She moved into public relations and worked for various firms before moving into the director of communications role in her school system. In that role, she managed the school system’s social media accounts, web design, video projects, and photography. Due to a desire to be in a role that would allow her to help the school system make better decisions, she moved into a teaching role at the public high school in her school system. She began by teaching English, but within a semester, she had restarted the AVTF career pathway. Unfortunately, her school system has not provided a funding source for equipment and software. She said,

When I started, our [vocational] director got a job as a superintendent in another county and left one month into the school year. And so he had not ordered a camera, a computer, all the things that I had been prepping for, for six months. There was nothing and no curriculum. He didn’t even ask me if I had lessons. There was nothing. Nothing.

She has resorted to using free or low-cost software that will run on Chromebooks, as well as having students use personal cell phones for shooting video. For her teaching certification, she is

pursuing a master of arts in teaching, but to her frustration, the coursework has provided much theoretical framework without enough practical information. She has found many resources through the Georgia Broadcast Video teachers' Facebook group, as well as on the CTAE website.

Cooper

Cooper is a Caucasian male in his late 20s with brown hair who works at a private military preparatory school in Georgia. He was at home in his sparsely decorated apartment during the Zoom call interview, wearing a t-shirt. He was very confident in his answers and provided lengthy, detailed answers to each interview question. Cooper obtained his education degree from a public state university and added a foreign language degree during his master of education coursework. He taught Spanish for two years before he was asked to teach a video production course. He went back to the state university and took the New Teacher Institute (NTI) course to learn how to manage a CTAE class in order to prepare himself to teach AVTF. His experience with AVTF was primarily self-taught. During his days as a middle school student, he started his "side companies," as he called them. He said,

I've run those side companies since I was in middle school and my parents used to always say "Oh, that's cute that you've got that," and then I started making money. And then it became cute to a lot of people at that point.

Cooper has been doing wedding videos, commercial videography, and even some photography. He said he likes to stay active in the field to better align his instruction with the industry and stay current on trends. Staying active in the field helps him be more effective in the classroom when sharing content with his students. He supplements the state standards with this knowledge he gains in the field each year. In addition to the Georgia Broadcast Video teachers' Facebook group, Cooper uses the Student Television Network (STN) for networking and professional learning. His

students submit their work for STN competitions in order to see what other schools are doing nationally.

David

David is a Caucasian male in his mid-40s who works at a public Georgia high school. He sat under an umbrella at a Florida beach during the Zoom call, his brown hair blowing in the wind. He was wearing a Hawaiian shirt and sunglasses during the interview. David is a very friendly storyteller with a slow, soft-spoken delivery. David is in his fifth year teaching AVTF at his school. He worked as a freelance videographer for 25 years, starting out doing wedding videos and eventually moving into the corporate world working for large companies. He said,

As I'm the youngest of seven and I have a bunch of nieces and nephews who are not that much younger than me, so they all started getting married and it was like "Hey, can you make the video for the rehearsal dinner? Can you do this?" And I was like, "Sure." And so it was just like, "Oh this is fun." And it just made sense to me, but when I started getting corporate jobs, it was literally like, "Sure, I can do that" and the, "Oh no, how am I going to do that?" And it worked out most of the time.

His experience began with a VHS camcorder in high school that he experimented with as he recorded those family events. He obtained his master's degree in education to teach English for a more stable job than freelance work. A friend recommended he apply for a video teacher job that had come open at a nearby school. The principal had him take the Georgia Assessments for the Certification of Educators (GACE) in Technology Education so that David would have certification in AVTF. David has no formal training in video work; his expertise is due to the do-it-yourself attitude he had through his freelance career. The Georgia Broadcast Video teachers' Facebook group was extremely helpful in getting David started teaching in his classroom. He has

also utilized the California CTE resources as well as nofilmschool.com. Because of his lack of experience with news broadcast, he instructs his students from the production perspective, by telling stories in a certain amount of time.

Eli

Eli is a Caucasian male in his early 50s who now works at a public middle school after working at a nearby public high school for four years. Eli joined the Zoom call late after having connection issues. He lives with his wife in a small, modestly decorated home. His salt-and-pepper colored hair and beard looked a little disheveled as he spoke in quick bursts with a strong Southern accent. Eli is in his fifth year as an AVTF teacher but in his first year as a middle school teacher. He said,

During my first interview for a full time job, I had no idea what I was doing during the interview. The principal asked, “What do you know about Macs?” And I know I said absolutely nothing. I said I’ve never used one. I wouldn’t know how to get around, but I’m a quick learner.

Eli studied mechanical engineering technology at a state university before beginning work in various jobs in related industries in his first few years after college. He decided to return to college and earn a degree in education so he could become a teacher. He put his engineering skills to use by teaching engineering and technology for at least two different high schools over the course of five years before being approached by the second principal to teach AVTF. He approached the job from a film perspective and started a film festival for area schools. Due to little student and administrative support, he left the high school and transferred to a middle school where he and his students have enjoyed a supportive administrative team. Eli credits YouTube, the summer workshop Camp T&I (trade and industrial), and the Georgia Film Academy for

providing him with resources and teaching strategies that he continues to use. He believes putting broadcast equipment into the hands of students is the best way for them to learn the content.

Faye

Faye is a petite woman of Asian descent with a fair complexion and dark hair. She is in her mid-20s and spoke in quick, short sentences during the interview. She was in comfortable clothes and sat with her dog on her sofa in her living room. She shares an apartment with her husband. Faye is in her fourth year of teaching at her alma mater, a public high school in northeast Georgia. She recalled being part of the first class of students to participate in the new broadcast courses offered at her school during her sophomore year. She said,

So I actually was one of the first students who started our Warrior TV program at the time.

It was technology, something else when I was in school as a student, and then my sophomore year, they made the transition into AVTF and they got a grant from the state.

They wanted to start live broadcasting, so myself and four other students were the first students involved and I fell in love with it.

Because of her love of these courses, she majored in mass communications while in college. Her college professors ensured that all students had opportunities to work on the college radio and television broadcasts, as well as on various film production jobs. These requirements gave her hands-on experience in multiple areas that gave her many marketable skills. After graduation, she worked briefly in the industry before being contacted by her former high school instructor and encouraged to teach. She obtained a master's degree in education during her first and second year teaching to obtain her education certification. She credits CTAERN.org and the Georgia Broadcast Video teachers' Facebook group with providing her with lesson plans and project

ideas. Hands-on experience, like she gained in high school and college, is the main instructional practice she credits with helping students learn the content.

George

George is a Caucasian male in his mid-30s who teaches AVTF at a public high school in a suburban area in northern Georgia. George was mowing his lawn when I texted to remind him of our scheduled interview time. He quickly stopped what he was doing and sat in a lawn chair near his garage while using his iPhone to join the interview. He wore sunglasses and a baseball cap and had grass clippings in his beard and on his t-shirt. He spoke in quick, long, almost rambling sentences. His love for his AVTF courses and students was apparent from the enthusiasm he displayed when telling his story. George is in his fourth year of teaching AVTF at his alma mater. He began his career as a math and science teacher. After graduating from college with a physics degree, he applied to teach at his former high school, which required him to obtain his education certification. He taught math and science courses for around five years before he was approached to do an announcements show for the school. He had played guitar and performed live music with sound production during college, and with this experience, he developed a reputation at his school as the “go-to” guy for technology issues. He said,

I was kind of a gadget geek, big into technology, and you know, using different strategies in the classroom. And soon I got a reputation as being the in-house guy that everybody comes to to get stuff fixed. That led into, he’s good with gadgets, give him this experimental class where we’re just literally throwing technology at them and get them to work.

This reputation for being good with gadgets led the school administration to have George develop a class in which students would produce the school announcements. With no formal training in

AVTF, George relied heavily on YouTube, as well as the teachers who are members of the Georgia Broadcast Video teachers' Facebook group, for ideas. He also had some students who were adept at editing video, so they all learned together during his first two years teaching AVTF in the classroom.

Harris

Harris is a Caucasian male in his early 30s with thinning hair and a full brown beard. He was sitting at his computer in his modest home that he shares with his wife. Ironically, the video/audio connection with Harris was the most difficult because of the software used for the interview. Harris was only able to use Microsoft Teams for his video connection, while the researcher only had access to Zoom and Google Meet. The researcher was able to use Facebook Messenger for the video/audio connection and a cell phone to record the audio for transcription. Harris earned a film degree from a public state university and worked several jobs in the industry after graduation, which gave him experience with corporate videos and indie films. He also worked for a community college as their digital media specialist. He offered courses to students there to help them understand how to use the camera equipment properly. He then got a job teaching AVTF to middle school students, which he has held for the last four years. He enrolled in the NTI in order to earn his education certification. Because he was hired four weeks into the school year, a paraprofessional had been running the classroom prior to his arrival. He adopted many of her protocols and procedures. Harris's first year curriculum was based on a textbook written in 2003. He said,

That initial year, I was just trying to get my footing. I was not hired until September, so school had already started. My stress level was through the roof. I don't like to think that I was doing my best for the students that wanted to be there. But then, there were the other

students who recognize that the teacher is frustrated, so they tried to push all my buttons. I got to December and I was like, I can't do this. This isn't fun. It's extremely hard. But then, after kind of jumping in first semester, I came back for the second. It was kind of a scary experience, honestly.

His second year consisted mostly of class projects. He has spent the last two years trying to balance his curriculum between textbook and projects. He has used the Georgia Broadcast Video teachers' Facebook group extensively to get project ideas and teaching strategies.

Ian

Ian is a Caucasian male in his late 30s with brown hair and a brown beard. He wore glasses and a t-shirt as joined the Zoom meeting from his guest bedroom. He shares a modest home with his wife and child. He spoke softly but quickly during the interview. Ian teaches at a public middle school and has less than a half year of experience teaching AVTF. Ian graduated from a small, private university with a degree in communications. He worked for nearly 20 years in two major television markets in the southeastern United States as a producer and manager of a team of 12 people. The corporate owner of the television station where he worked used a consulting firm to develop a vision of the newsroom of the future. He said,

A consulting firm had like a cookie cutter image of how they wanted the vision of the newsroom of the future to work out. They wanted all the TV stations that are under this umbrella to kind of mold to this. My job was outside of that cookie cutter. So my job got eliminated. And it turns out they still really need my job, but that's not my problem.

Unfortunately, his job would be eliminated by the end of the calendar year. After being upset for several days, Ian went online and completed only a portion of a job application to teach, but did not submit the application. However, a principal saw the incomplete application on the school

system's internet server and contacted Ian to schedule an interview. The principal hired Ian the next day. Ian began his teaching career two weeks into the school year because he gave two weeks' notice at his television station job. He struggled his first few months because of a delay in receiving studio equipment but felt in control of his classroom because of the new teacher courses he took through his school system. He credits the Georgia Broadcast Video teachers' Facebook group and CTAERN.org for providing him with ideas for instructional strategies and projects. He prefers to create each project himself so that he can demonstrate the steps to his students and prove that it is possible to complete with the equipment and software available in the classroom.

Jane

Jane is a Caucasian female in her late 40s. During our Zoom call, she was sitting in front of her computer in the modest house she shares with her husband. She had a disheveled appearance after a long day at school. Jane is a business education teacher at a public high school in Georgia and has taught AVTF for three years. She was approached by her CTAE director to teach an AVTF course because the school was running out of things for their juniors and seniors to take. She said,

I don't know how to say no, so that's why I offered AVTF. There's one instructor who is already certified in engineering and technology. And I honestly don't know why she didn't ask him. But my assumption, was, "Okay, I can do this and that'll help us keep three business teachers employed. That'll help us all." And, you know, I actually like teaching AVTF. I'm more of a movie person than like a news broadcast person, I have to admit.

She offered one course once a year for her first two years before the CTAE director decided the school needed to offer the full AVTF pathway. Jane took the certification exam in August as that

school year began—her third year teaching an AVTF course. In addition to the business classes she offers, she was also named the adviser to the newspaper, though she has no journalistic background. With no training or background in AVTF, Jane enrolled in the Camp T&I course offered during the summer in Brunswick, Georgia, to learn some basic content knowledge. She looked up everything else online. Teaching since 1997, Jane was comfortable with classroom management and improvising as she went, so she developed guided notes from PowerPoint presentations she created from a textbook she found in the classroom. She used scaffolding and differentiation to help her students master the content. She struggles with not knowing basic information about the course or what direction to take students with regard to film or news broadcast.

Karen

Karen is a Caucasian female in her mid-30s who teaches at a career academy in suburban Atlanta, Georgia. Karen was in comfortable clothes sitting at her kitchen table during the Zoom call. She is in her fourth year teaching AVTF. Previously, she taught technology-related classes, including computer applications, digital design, web design, and computer science, at a public high school. She also taught special education courses before moving into business education. She said,

You know, 13–14 years ago, you had to really wait till somebody was out on maternity leave or retiring or something to get into CTAE. Now it's a little easier to get in. Finally, when that teacher retired after 30-something years, I was able to get into business ed.

When I was teaching digital design and the principal was always sending me emails asking me, “Hey, can you do this video for me? Can you help with this video?” And I was

like yeah, you know, and then they ended up purchasing some equipment because that course was not offered at my school. I just started doing videos with that.

Her involvement with video production was a result of her principal's constant requests for her to create videos while she was teaching digital design. Because of her willingness to help the school's administration, the school funded the purchase of several pieces of video production equipment. Within a few months, an AVTF teaching position became available at the career academy in her school district. She applied for and accepted the new position because of its studio and available equipment. Students from the five district high schools feed into that career academy to take AVTF and various other career pathway-related courses. Karen was able to take the certification exam, enroll in courses at a state university, and participate in the Georgia Film Academy in Atlanta. Karen benefited greatly from the Georgia Film Academy curriculum and her years as a classroom teacher. She stated that incorporating online quiz games helps students learn content get them engaged, but having students at the career academy, away from their home campuses, makes it difficult to do newsgathering. She has focused primarily on project-based activities and has relied quite a bit on the Georgia Broadcast Video teachers' Facebook group and any other online resources she can locate.

Leah

Leah is a Caucasian female in her early 40s. She has been teaching for the last five years at a public high school in northern Georgia. During the Zoom call, she sat at her kitchen table in an old t-shirt in front of three open windows. It was dark outside, and her dogs were barking for her to open the back door and let them out. Leah is an interesting person who loves to tell stories as an object lesson. She earned a bachelor's degree in film from a state university in Florida and worked at television stations in three major markets across the Southeast. During her time at

various ABC affiliates, she handled news production and traveled the world and met famous people. When the economy began to decline, she and many of her colleagues were laid off. After being unemployed for a short time, she began working for a television evangelism ministry at which she felt safe and comfortable doing more television production. Unfortunately for Leah, the ministry laid off half their workforce as the television evangelist began to trim his schedule because of advanced age and declining health. She said,

When the market went crazy with the housing crisis, the TV stations were cutting out jobs left and right. So I jumped over to the television ministry because I felt Jesus was a safe place to go. And I worked there for six years. I worked for a well-known TV pastor and then they cut the program in half because he's old and my half got cut. So I got laid off. And who would think you would get laid off from Jesus? But I tell the kids that, that makes my students laugh when I say, "Hey, I got fired from Jesus. So I'm here teaching you." Then I say, "You know, I believe things happen for a reason." And if I didn't enjoy being a teacher, I certainly wouldn't because I could go work in different places and make more money.

She tries to help them understand that life experiences for each person can be very different. She reminds them that she has had 20 years to make mistakes while her students are only 15 years old. After being laid off, she applied to a public high school near her home that had an AVTF teaching position open. She was offered and accepted the position but had to get certified. Leah enrolled in TAPP and took the required coursework to learn the pedagogy. Leah uses her extensive knowledge from film school in addition to the resources she locates online—including the Georgia Broadcast Video teachers' Facebook group—to develop projects for her students to

complete. Leah would prefer that her classes be composed of students who truly want to be there, but she works to find different ways to get all students' attention and keep them engaged.

Results

The results of this case study were developed through a detailed analysis of data collected through individual interviews, a focus group interview, and written responses to a prompt. Utilizing Atlas.ti, memoing, and a detailed review, I developed codes from the interview transcripts, the focus group interview, and the written responses. The codes were then organized into themes that occurred throughout the cases. The responses from participants were used to answer the central research question and the three sub-questions.

Themes were developed through the use of one-on-one interviews, a focus group interview, and written responses to a prompt. An analysis of all interviews and written submissions produced 50 different codes. Initially, the software Atlas.ti was used to determine codes and review tagged quotes from interview transcripts. This proved more difficult than reviewing my memoing. I acted as the software, reviewing my notes, my memoing, and the key words that participants used most often. I developed these codes from the responses given by the participants, all of whom have been teaching AVTF for five or fewer years in public schools in the state of Georgia. The generated codes were formatted in a Google Sheet to allow commonalities to be determined across the areas (Appendix G). These codes were then reduced to five major themes: prior experience, instruction, teaching experience, certification, and resources (Appendix H).

Constructivist theory provided the framework for this study and provided the development of the five themes. The teacher emphasizes order and safety in the classroom (Doolittle & Camp, 1999) in order for learning to take place. All 12 participants worked to ensure that all students are

safe and secure at all times in their classroom through the use of classroom rules and procedures, lesson planning, and assigned tasks. The participants then imparted their knowledge to the students. Constructivism suggests that social interaction and context provides the environment for learning to take place. All 12 participants searched for ways to keep their students engaged and active in their learning.

Theme 1: Prior Experience

The participants boasted a wide range of talent and abilities that contribute to AVTF programs each day across the state of Georgia. Although some of the teachers were certified in another area and were reassigned to teach an AVTF course, many others came from the film or television industry with years of experience but no teaching ability. The participants bring many rich experiences to share with their students. These experiences drive their instruction and represent a wealth of knowledge for their students. Discussing prior experiences with each participant demonstrated a wide range of abilities that existed; those who had been in education for a number of years, had no prior AVTF experience. Those participants who had prior experience in AVTF were much more comfortable teaching. The focus group interview confirmed the importance of prior experience in the industry for a more enjoyable teaching career. The written prompts suggested that prior experience was important and should be required, but that the state of Georgia should provide more training for teachers.

In his personal interview, David came to AVTF with 25 years of experience in videography. He said, “This is my second career. . . . I’ve done [the] freelance video world, never worked for anyone, just liked it as a hobby.” His parents bought a VHS camcorder while he was in high school, and he started experimenting with it. He began shooting video at weddings and other family events. Those jobs turned into other jobs, including corporate jobs, but, he said,

When I started getting more jobs . . . it was literally like, sure, I can do that and then, oh no, how am I going to do that? I never thought then that “Oh, this is something I can teach someone.”

His knowledge and experience, coupled with his degree he earned recently in English, helps David in his instruction.

Cooper has a similar background as David, in that Cooper has managed side companies—I’ve run that since I was in middle school, and my parents used to always say, “Oh, that’s cute.” And then I started making money, and then it became cute to a lot of people at that point. Cooper continues this work doing wedding videos, commercial videography, and some photography even today because “it helps me in the classroom to better align with industry and what’s going on.” Cooper works in a private school and teaches Spanish in addition to AVTF and computer science.

Coming back to her alma mater was an opportunity for Faye to give back to the program that had inspired her to major in mass communications. Faye was one of the first students in the AVTF program at her high school, and she “fell in love with it.” The college she attended focused on not having a focus. Faye explained, “There weren’t students who were television students or radio students. They wanted us to have a really well-rounded education on all of the things.” Working on movie sets, at the radio station, and doing voice-overs and broadcast news provided the training she needed to be marketable in any areas.

Having a knowledge of how to work on gadgets seems fitting for an AVTF teacher, and George was no different. As a university student, he was in a band and operated the sound board. He earned a degree in mathematics education and was hired at his alma mater, a public high school, where he taught math and science. He stated, “I was an IB [International Baccalaureate] math studies teacher for a long time. I taught . . . the senior level pre-calculus all the way. I taught

some gifted, accelerated math and just odds and ends stuff like that.” With his background in music and sound, along with his interest in technology, he “got a reputation for, you know, the in-house guy that everybody comes to before they go to the official people to get stuff fixed.” This reputation led his school administrators to have him teach an experimental video class to learn basic videography with cell phones. He explained, “We’re just literally throwing technology at them and get them to, you know, post to YouTube.” His success led to several earned grants to purchase additional equipment and build extra classes.

Ian and Leah both came from broadcast news backgrounds. Because of parent companies wanting to improve their bottom lines, both lost their jobs in the industry before becoming teachers. Ian, with nearly 20 years in the industry as an editor, was working for a large television station when they had a consulting firm come in and wanted to build the newsroom of the future, and this consulting firm, had like a cookie cutter image of how they wanted that vision to work out. Unfortunately, my job was outside of that cookie cutter, so my job got eliminated. Ian earned a degree in communications from a private university in Florida where he took all the broadcast journalism courses he could. When he agreed to participate in the interview, he had only been teaching for two months.

Leah earned her bachelor’s degree in film but worked at various television stations around the Southeast. As the economy began a downturn and stations were cutting jobs, she said,

I jumped over to the television ministry because I felt Jesus was a safe place to go. And I worked there for six years . . . and then they cut the program in half . . . and my half got cut, so I got laid off. And who would think you would get laid off from Jesus?

Although she had never taught anything but Sunday School, she went to the unemployment office to find a job. She applied for an open video teacher position and got it.

Theme 2: Instruction

All participants indicated that their instruction was impacted by their preparedness to teach AVTF. Although some AVTF teachers had experience teaching other courses, others were beginning teachers with no teaching experience. Those with teaching experience looked for assistance with learning the content and used traditional teaching methods to convey that information. Those with no teaching experience had to learn ways to deliver the content to students while managing classroom behavior and required student accommodation meetings.

Those with education backgrounds felt more at ease in classroom management and believed that their instruction was more effective because of their pedagogical background, even though they lacked industry knowledge. Focus group participants and writing prompt participants also believed that their instruction was effective because of their prior knowledge in industry expectations. However, those with no prior education experience thought they needed more training in classroom management in order to teach the material to their students.

Brianna, a former central office employee, used real-world examples of video production in her lessons to help students learn to tell a story. Students were able to see local journalism as well as national news reports that provided them with the basic structure expected in their submitted work. Brianna told them,

Our entire world exists on us telling stories. The entire proof of anything is that human communication. You could be the best researcher in the world, but if you can't communication what you find and do, it does no good.

A mix of lecture, hands-on experience with equipment, and traveling around campus is the method of instruction used by Audrey. She is a former employee in the marketing and graphic design field who works to help students gain first-hand knowledge as they work through the

AVTF I introductory course. After going over vocabulary and conducting a short lecture, Audrey allows her students to actually go out in the field. . . . “I’ll tell them to take this type of picture or do this type of composition. . . . And now the vocabulary word they have seen on the board is written in their notes, and now they’re having to apply that. So it’s a really good way for them to really understand what it is.”

At Ian’s public middle school, students benefit from his experience in the television news business by watching. He prefers to provide examples of what he can do so that students can see what is possible. He tells them, “The assignments in this classroom are project based, like learning by doing. I do the project beforehand, and I show them, this is what it should look like so they can know that it is possible.” His demonstration of the equipment and software in the room helps students understand that they have the opportunity to produce the same kinds of work using the same tools as their teacher.

Leah has a gift for storytelling. Her students respond to her stories because of the life experiences she gathered throughout her years working at television stations in large markets throughout the southeastern United States. Building relationships with her students makes the difference for her because, she said,

I try to be very authentic. . . . So, anytime I can tell them a story about, “Well, there was a time I did this,” or, “Let me tell you how I screwed this up really bad so you don’t do it.” She encourages students to pay attention to her stories to avoid the many mistakes she has made through 20 years of working in the industry. She also challenges them to take new risks and to “think beyond YouTube and money and fame.”

Karen and Jane have taken a more traditional approach to teaching the introductory course in AVTF. Both have backgrounds in teaching business education and computer applications in

public high schools. Karen utilizes the Georgia Film Academy curriculum that was provided to her after training one summer. She focuses on “basically familiarizing them with vocabulary terms and all the terminology through . . . strategies like games, playing Kahoot and Quizlet, and quizzes and things like that.”

Jane had a textbook and an exam when she first began teaching the AVTF course. She read from it and “made my own PowerPoints, and I use guided notes. I pretty much use guided notes for all my classes, because if you . . . ask them to take notes, they’re not going to write it down these days.” Jane allows students to use their guided notes on tests but said, “Now that we’re going to have a pathway, and we’re going to have an end-of-pathway assessment, and that will probably change. . . . It’ll get more serious.”

Theme 3: Teaching Experience

The participants in this study have come from many different backgrounds and many different fields. Those fields include business education, computer science, English Language Arts (ELA), gifted education, graphic design, digital technology, marketing, math, physics, and Spanish. Teachers who have experience working with students in other subjects have tools and skills available to them when introducing new courses at their own school. Having taught for many years in the classroom provided several new AVTF teachers with the confidence and mindset to learn the new content, develop instructional materials and strategies, and deliver the information while still learning the main concepts themselves.

All three areas: individual interviews, focus group interview, and written prompts, believed that teaching experience was valuable to have in order to keep students engaged and actively learning during the lesson. Those with no teaching experience found it difficult to manage the various acronyms and educational programs at their schools. Special education,

Individualized Education Plans, and similar legal documents were overwhelming to those coming from industry.

Eli, a middle school–level AVTF teacher of five years, has been in the teaching profession for more than 10 years. Though he previously worked in rural North Georgia and South Georgia, he now resides in metro Atlanta. Eli’s seven years of teaching experience in technology and engineering at various high schools benefited him in teaching AVTF courses due to his classroom management skills and resourcefulness. “I think it’s just hands-on training” that gives students the best learning experience, he said. Giving students real-world experience while working on small projects, Eli said, is the best approach: “I think any time you can do true, authentic assessment or activities instead of just talking about it, let’s get the equipment out.”

Jane had similar experiences as well, having taught full time since 1997 in business education. Her years of developing PowerPoint presentations, class notes and discussions, and classroom management procedures and protocols helped her manage her first few years of AVTF instruction while she learned the AVTF content. “I don’t know how to say no. . . . I can do this, and that’ll help us keep three business teachers employed,” she said. With no prior knowledge, she gathered resources from various workshops and online sources in order to introduce the content to her juniors and seniors. “I would use guided notes to just scaffold or whatever to differentiate. . . . I had a textbook, and I had an exam. I read it and pulled from it,” she said.

Karen also brought her years of teaching experience into AVTF after waiting a long time for her position. She said,

I had to wait until someone retired, and I did kind of a split half a day doing special ed and the other half doing CTAE. Finally, when that teacher retired after 30-something years, I was able to get into business ed.

Karen is the AVTF teacher at a career academy that draws students from five different high schools in her county. Because students are transported by school bus to the career academy and back to their home school, students do not always have access to transportation in order to do sports broadcasts and similar tasks. Karen has had to change her approach, modify assignments as necessary, and provide small group, project-based activities.

Theme 4: Certification

In the state of Georgia, there are four paths to certification to teach AVTF, all of which were used by the study participants. They include taking the GACE, earning a master of arts in teaching, enrolling in the GaTAPP, or enrolling in the NTI. Georgia's certification organization, the Georgia Professional Standards Commission (GAPSC), determines what certification path a potential educator needs to take. Before a candidate may pursue one of those paths, they must have permission from the GAPSC and the consent from the board of education that will employ them. The human resources director from each school district must submit an application for this candidate to complete the path to teaching through the GAPSC.

The area of certification was evenly split among interviewees, focus group participants, and written prompts. Each participant had a favorite certification program and it was the program that they completed. The human resources director at each local school board helps determine what certification program will be completed by the teacher candidate. The ultimate determination and approval is made by the GAPSC. Only an approved certification program will allow an individual to achieve a teaching certificate in Georgia.

Brianna worked in the school district's central office doing news releases, video projects, web redesigns, and photography before moving into the classroom to teach AVTF. She said,

I wasn't certified no matter how many years of experience or master's classes I had taken or whatever. So they said, "Now you've got to be certified." And so the fastest way to get certified was to go to the classroom and then get my MAT [master of arts in teaching]. So that's what I'm doing."

Brianna continues to work on her degree while teaching the AVTF courses at her school.

Harris had very little training when he was hired for the AVTF position at his middle school. "I was so in over my head," he said. "The CTAE guy in the downtown office told me to go take the GACE ethics exam and make sure you get signed up for NTI within the first, like, I think three years." Harris was not hired until September, after school had begun in early August. He was able to observe and work with a paraprofessional in the classroom. Harris said, "The [NTI] class really taught me how to be a teacher, not necessarily how to teach video, which I really think that I needed."

Audrey had no teacher education prior to her first year and really struggled: "I didn't start the TAPP program until year two, so I was really winging it that first year." Even though she got a late start in the preparation program, TAPP was very beneficial for her in planning and instruction. She explained,

Because TAPP is hands-on and you're, like, already in the classroom, it makes it easier to understand than just going through the classes without teaching. . . . It teaches you how to break things down so that you learn how to differentiate and do the accommodations and modifications [for special education students].

She said she felt more accomplished in her second year of teaching because of the support and training she received through TAPP. "I was able to teach my first-year students better the second year because I was more understanding to what their needs were," she said.

Leah's experience with TAPP was beneficial, but very different from Audrey's. Leah said, "The day we had to do classroom management and then we had to do IEPs, I thought my head was going to explode because TAPP is two weeks, like 8 to 6 for two weeks straight. . . . I had those two days back-to-back, and I was like questioning whether I really wanted to do this or not because there were things in there I had never known."

For someone who had a film degree from a university and had a career in broadcast television before becoming a teacher, determining classroom management procedures and developing learning targets for students were very difficult and unexpected tasks for Leah: "Be nice, be compassionate, but not too nice, not too compassionate. And that's one of, I think that's one of the best things I learned in TAPP, was trying to find that line."

Faye earned her master's degree in secondary education from an online university during her first year and a half of teaching. "That helped me with just the educational background, learning how to deal with IEPs [and] what that means because I had never heard anything in the educational vocabulary," Faye said. She received a communications degree, and while in college, she learned all she could about film production, newspaper writing, radio production, and television broadcast. However, she said, "It was really difficult not having an education background, taking my experience, knowledge and translating it in a way that would fit for a high school classroom."

David had worked to earn his ELA certification and was prepared to teach in a local high school before someone recommended him for an open video instructor position. "I was like, what? No, my feelings were kind of hurt, a little bit, you know, because I was like, 'No, I just did all this work to be an English teacher,'" he said. The friend who recommended him for the job encouraged him to interview, and David got the job. "I took the GACE for like . . . technology

education, and easily passed that. And that was . . . the best decision I made in my education career,” David said.

Theme 5: Resources

AVTF teachers—especially those with little prior knowledge in the field—must be resourceful when determining which supplemental materials they plan to use during instruction in the classroom. Several participants cited prior experience in video-related fields before becoming teachers, while many others used the Georgia Broadcast Video teachers’ Facebook group, YouTube, and other online lesson plans to learn the content and design activities and other tasks for their students.

Resources was an area of agreement for those in individual interviews, written prompts, and the focus group interview. Everyone credited the Georgia Broadcast teachers’ Facebook group as the singular site that provided the most resources, ideas for projects, and safe space for discussions about situations in their own classrooms. All participants mentioned using YouTube and Vimeo as a source for projects ideas, as well as reviewing California’s CTE website for lesson plans and assignment ideas. One of the participants disagreed over the use of Georgia’s own CTAE resource network website. Leah said that the site had no resources worth using and she avoided it completely. Many other participants disagreed and said that it was a wealth of information that could be adapted to fit their specific needs for their classroom.

David pulled from his 25 years of camera work for his family and other businesses to help him teach content. Since he had no formal training on the camera or editing software, his first two years of teaching were “all DIY. . . . I realized that I had [many more skills] to pick up . . . I had a lot more preparing and learning,” he said. He also searched YouTube for specific ideas on student films and news broadcasts. He also utilized NoFilmSchool.com and Vimeo for examples of the

content he would be teaching during a given week. For lesson plans, David found sites from the California Department of Education, as well as Georgia's Career, Technical, and Agricultural Education's Resource Network website for lesson plans developed or adapted by Georgia CTAE teachers. Camp T&I (trade and industrial) is an annual multi-day summer workshop for Georgia CTAE teachers that offers in-depth training on specific career pathways, including AVTF. David said that this training has also been helpful to him.

Faye used her college degree in communications to help supplement her instructional materials but also pulled ideas from local teachers in her area through the Georgia Broadcast Video teachers' Facebook group. "I've done some of the training from CTAERN and all of that, but the best for me has been that Facebook group and being able to reach out to that network of AVTF teachers across the state," she said. Faye also uses the Student Television Network (STN) as a resource so that her students can see other student-produced broadcasts from across the country. She and her students attend the STN annual convention and participate in various training sessions. The All-American High School Film Festival in New York also provides many opportunities for professional learning for Faye and her students. "Those educator sessions that they have, those breakout groups is really where I get my training," she said.

Leah, while also relying on her film degree in college and her years of experience in broadcast television, has found help from books and magazines. She said,

I read *Wired* magazine, and so I developed a drone. And so we did a business plan for drones. And so I try to show them that audio-video class goes beyond making video for a living, that it will be—depending on what kind of that they end up working in or owning—you'll need these skills.

She also utilizes the book *How to Shoot Video That Doesn't Suck* and has developed her students' end-of-year project: a wedding. She explained,

Though we spend a whole week, we plan a business. We figure out if I'm going to be a wedding photographer, videographer. What equipment do I need? What kind of financial investment do I need to make? What is the formal path of a wedding? What would someone expect? We plan it out like a business and then it's fun.

Audrey, who had never taught before, used the CTAERN website for many of her plans and ideas for assignments. She said,

CTAERN.org is amazing. And then there are some websites that are very helpful to that, are CTE websites, like there's one that is for California and they have lesson plans and stuff on there, which is a really great resource.

Audrey also participated in the Georgia Film Academy, where she worked with people in the film industry in Georgia. This academy is a two-week course that provides teachers with hands-on experience and a curriculum that is accompanied by a signed nondisclosure statement. Audrey said, "The amount of knowledge that I got from that from actual people that work in Georgia with Georgia films was phenomenal. We actually had to do hands-on stuff that our students are going to have to do as well."

Outlier Data and Findings

All data collected during the study fell within normal ranges for all participants. There were no outlier data to indicate that any participant had more or less of an experience or training session. All participants had fewer than five years of experience in teaching AVTF courses. Only one participant had less than one year of AVTF teaching experience. Data for this study were collected from individual interviews with 12 participants and a focus group interview with four

participants. A detailed analysis of the findings of this study suggests directions for future research and issues that should be addressed in the training and certification of AVTF teachers in Georgia.

Research Question Responses

The research questions in this study were developed from the literature review of the preparedness of AVTF teachers to provide instruction in this career pathway content area with regard to training, teaching strategies, and teaching resources. The central question was designed to understand whether the education background and preparedness of the AVTF teacher was sufficient for teaching the AVTF course. The sub-questions were answered by the five themes that developed through code classification during the review of participants' responses in the interviews the focus group as well as the written responses. Combining answers to the sub-questions provided a complete response to the central question.

Central Research Question

The central question for my study was: To what degree are current AVTF teachers' formal training experiences sufficient in teaching a CTE course offering? The definitive answer is the AVTF formal training experiences do not exist currently and therefore provide teacher support to the least possible degree. The themes of prior experience, teaching experience, and certification made this determination. Current practices, with regard to formal training experiences, are not sufficient for teaching the AVTF course in Georgia. Individuals who come from industry with much content knowledge are more able to convey the course material, but they lack the pedagogical skills needed to successfully manage a classroom full of students while meeting the requirements of federal, state, and local laws related to student access and safety. Those

individuals with an education degree are better able to manage the classroom but lack the content knowledge and skills to be as effective as an industry professional.

One of the requirements enforced by the GAPSC to be a teacher in the state of Georgia is that an individual must be certified to be considered highly qualified in order to teach courses, whether academic or career-technical in nature. Georgia provides a number of different ways for teachers to become highly qualified, including obtaining an advanced degree like a master of arts in teaching, completing the NTI through an approved program, completing the GaTAPP, or taking the GACE to add an area of certification for teachers who are already certified.

Once a school has selected a candidate to teach the AVTF courses, the human resources department in the local board of education must determine what certification path the teacher will take. Once the teacher and the local boards of education determine that path, the teacher must meet all obligations of that certification path within three years. During this time, the teacher holds a nonrenewable teaching certificate until the determined program is complete. If the program is not completed within three years, the teaching certificate is not renewed, and the teacher must resign the position or will not be given a contract for the next school year.

The participants in this study all found themselves in a content area that was different from their earned degree in college or university. Whether they were chosen to teach AVTF or opted to teach the courses because of unemployment, all were required to take additional courses or enroll in degree programs that would provide the necessary certification to teach.

Those teachers who already had education degrees and had been successfully teaching in the classroom were required to take the Technology Education GACE in order to become highly qualified. The Technology Education GACE tests many content areas of CTAE, including automotive instruction, graphic design, electrical instruction, construction, and AVTF. The GACE

testing site provides study guides to help teachers prepare for the content that will be assessed, as well as available dates to register for the test. There is currently no AVTF-specific test to determine mastery of the subject area; teachers must pass the entire test in order to prove competency for AVTF. Those with education backgrounds could then use their pedagogical knowledge and skills to manage the classroom, differentiate activities for students, and provide AVTF content to students as they learned it themselves.

Those teachers who had college degrees but no teaching experience found themselves looking for a degree program or a certification pathway in order to become a certified teacher. Several participants took their extensive knowledge of film and broadcast television to the classroom to share with students. What were demonstrably difficult were controlling the classroom, delivering the content so that students could understand, and assessing students to determine mastery. A master of arts in teaching and TAPP were the routes that many teachers chose to become certified teachers.

All participants struggled in their first two years of teaching AVTF because they either needed to search for content knowledge or needed to search for ways to engage students despite having no education background. But, as the focus group revealed, based on their personal experience, if they could do it all over again, all participants said they absolutely would.

Sub-Question 1

The first sub-question was: What are AVTF teachers' training experiences? The themes of prior experience, certification, and teaching experience were used to answer this question. Prior experience and teaching experience are two completely different categories with a myriad of activities that deepen the skill set and adaptability of the AVTF teacher. The only specific requirement by the GAPSC is that the teacher be fully certified in the area they teach. As a result,

teachers may enter the AVTF classroom with an extensive background knowledge in various aspects of the content area or with no knowledge of the field at all.

Jane entered the AVTF field with a teaching career that extended back to 1997, but she had no prior experience in the field: “Nothing,” she said. “I’ve got materials from folks who teach. I did get a lot of materials from them, but then a lot of it’s just sitting there looking up stuff online.” Jane continued to say that Camp T&I, a two-day summer course offered by the GaDOE, provides hands-on experience with broadcast equipment and the opportunity to discuss the content with other teachers from around the state. Teachers are able work alongside each other to learn more content and produce a video project similar to what a student may be assigned in their own classroom.

For those AVTF teachers with college degrees in AVTF-related fields or those who have spent many years working in the industry producing commercials and completing other paid assignments, TAPP or NTI is required to earn the necessary certification to be considered highly qualified. NTI is a program based at the University of Georgia in Athens with satellite classes at Valdosta State University and Georgia State University. NTI courses begin each summer, and monthly meetings take place on campus as teachers interact with colleagues and complete assignments throughout the year. NTI is designed to allow students to earn a graduate degree or certification. NTI is the specific program to certify CTAE teachers who do not hold a bachelor’s degree. Cooper completed a master’s degree through the University of Georgia in addition to enrolling in the NTI class at Georgia State to learn more about classroom management. He said,

I sat beside chefs, mechanics, and other video teachers, and cosmetologists. It such a cool class because I could get to see all these different disciplines within CTAE. So it was a really cool program that I got to be a part of. And that just helped me tremendously

because it was really specific: here's how you manage a studio or lab, how you manage equipment. It was great.

GaTAPP is a similar program based out of Georgia's Rural Educational Service Agencies (RESAs). GaTAPP requires that teachers hold a bachelor's degree or higher, but the program is designed for those who did not complete teacher education requirements as part of their degree programs. This program also continues through the school year, but in some instances may last up to two years, depending on the teacher's schedule and pace. Of the 12 participants in the study, only Sabrina went through GaTAPP before also getting her master's degree from Liberty University. Sabrina said,

Because TAPP is hands-on and you're like already in the classroom, it makes it easier to understand than just going through the classes without teaching. But they make you write these very detailed lesson plans, which you really don't need.

Sabrina explained that GaTAPP helped her understand education jargon and work with all students. She said, "I was able to teach them better the second year because I was more understanding to what their needs were."

Sub-Question 2

The second sub-question was: What research-based teaching strategies are employed by AVTF teachers? The themes of elements of instruction and teaching experience were used to answer this question. During instruction, AVTF teachers follow the state of Georgia's standards to help students understand the content. Teachers use many different methods to provide explanations for the proper use of equipment, demonstrate successful safety guidelines, and offer video editing software instruction to keep students engaged and actively learning. Selecting the

most appropriate teaching strategies for AVTF instruction determines how quickly students learn and retain the information.

Teaching strategies can differ greatly in the AVTF classroom. Textbooks and lectures are most often used in the first-year AVTF course so that students can learn the basic content before they begin using any cameras, tripods, or computers. Other strategies include the use technology-based activities such as Google Classroom assignments, research and discovery, and PowerPoint presentations. However, these strategies are still more teacher-focused instead of student-focused.

Jane, a business education teacher, started her instruction with a teacher-focused approach since she had very little content knowledge of AVTF. She explained, “I had a textbook exam copy, and I read it and I pulled from it and made my own PowerPoints, and I use guided notes. And I . . . just scaffold or whatever to differentiate.” Jane has begun including projects in her instruction to maintain student interest and provide more real-world experience.

Most by participants in this study employed a hands-on approach. Harris prefers assigning projects to using the textbook. He said,

After that first year [of using the textbook], I realized the kids didn’t like it. They really weren’t getting that much like film experience if they’re looking at a textbook. So every year since then, I’ve tried to incorporate more projects.

Harris has adjusted his project schedule to avoid student burnout. He said, “They spend three to four days working on a project and then a day or two reflecting on that project, like ‘Why did we use a tripod instead of using handheld?’”

Ian also believes that students benefit from being active in the learning process. He said, “Showing examples of, like, what I can do, the example for them are like a lot of my classes. It’s not test-based; it’s project-based, like learning by doing.” Ian works during his planning period

each day and in the afternoons to complete the assignment he gives to students himself. He learns the software and the proper use of the equipment so that he can provide an example for his students. Ian explained, “You know, I think one of the programs, the editing software, I learned like an hour before class and it put something together. I was like, ‘I literally just learned this program. It is possible.’” Learning by doing and being walked through the process provides students with confidence, and they understand that Ian is learning with them.

David follows a similar hands-on strategy in teaching. He said, “I would always start with explaining again. Let’s go back to the rule of thirds, so explaining why it’s important and then giving them examples.” Explaining again involves a short review of previous material to ensure that students understand the expectations of the assignment. He supplements his instruction with examples as Ian does, but David uses prior student work to demonstrate mastery in his class. He said that he

show[s] them an example of something that someone last year who is in their same desk, same situation they are. And then they can see something that’s, you know, a progression of how to start from one point and move.

Sub-Question 3

The third sub-question was: What kinds of teaching resources are available and to what extent are they obtained? The answer to this sub-question is found in the themes of instruction, teaching experience, and resources. All the AVTF teachers in this study searched for additional teaching resources that were not available in their classrooms. Most of the participants in this study did not have a classroom textbook, teacher’s edition book, or notebook full of worksheets at their disposal. They all searched the internet and asked their colleagues.

The teachers in this study are members of the Georgia Broadcast Video Teachers Facebook group. Along with hundreds of teachers in Georgia, there are now over 500 teachers on the site from many different states. The group was started in 2012 to provide an online resource to Georgia AVTF teachers who were struggling in isolation as the only AVTF teacher at their school. Membership grew quickly, as AVTF teachers across the state were looking for help in teaching the content. Faye, a teacher at her alma mater, appreciates the help she found at the Facebook group. “The best way that I’ve learned is through that group on Facebook, reaching out to other AVTF teachers who have been doing this for a long time and know the best way to get certain things across,” she said. Faye earned a mass communication degree as well as a master’s degree in education. She said,

I found a lot of times when I try to talk to other teachers in my school because I’m the only AVTF teacher, their suggestions are great, but it might not necessarily fit with my content area, but the best for me has been that Facebook group.

Eli, a technology and AVTF teacher, found many ideas for projects on YouTube. He said,

YouTube was my best friend. . . . But, you know, I really didn’t understand. We did projects, but I really didn’t understand the production aspect of a short film or any kind of films. I knew I’d watch movies and we all see the credit rolls and I wonder what those people do.

Eli, Karen, and Audrey were participants in the two-week Georgia Film Academy Externship in the Atlanta area and attested to the benefits of attending. Karen said,

The Georgia Film Academy helped. It really taught me, like, how things would be done on set because I didn’t have any, like, film experience like that. So I learned a lot about production and planning and things like that.

Eli added,

That two weeks opened my eyes to what a film program could be. And they provided us with curriculum, and we were one of the first people to get the grant. So, but, then they also gave us a list of [equipment] that we should really have.

As the pandemic was beginning, Audrey was able to participate in the Georgia Film Academy virtually. She said,

But we actually had to do the hands-on stuff that our students are going to have to do as well. And it was interesting to see the difference and what they do in film versus what I did in marketing versus what we're doing in broadcast. I just can't express enough how big of a resource that that was.

The state of Georgia provides resources via the online CTAE Resource Network. The lesson plans, PowerPoints, and activities available have all been created by teachers around the state. Most of the resources provided are generic enough for any teacher with any amount of experience to provide instruction for students. The CTAERN website gives beginning teachers in AVTF help with pacing how many days the series of lessons should last, as well as projects that students should be able to complete. Audrey finds the resources available on CTAERN to be valuable. "CTAERN.org is amazing. And the Education Department of Georgia does an amazing job working with them to help us out with different training and stuff like that," she said. Faye also uses CTAERN, but with a different approach for her classes. "They have some lesson plans that I have looked at and trainings and stuff that I've gone to. But I've taken their lesson plans and kind of tweaked it. So, I've used it more as a guide per se," she said.

Other internet-based resources that Audrey, David, and Eli found and have used quite often are California's CTE website and NoFilmSchool.com. The California site provides a

number of resources, similar to Georgia's CTAERN. Audrey said, "The CTE website for California, they have lesson plans and stuff on there, which is a really great resource. That's basically where I pull a lot of my stuff from." David uses a concentrated search while relying on for specific film or video clips, depending on what he is teaching that day. He explained,

NoFilmSchool has been very valuable. The California CTE website is a little bigger (than Georgia's) and they have it by the different career pathways. I've used that some, mostly modified it because a lot of times it was way too specific, so I kind of pulled a little bit here from there.

Summary

This chapter provided the results of the interviews, focus group, and written responses of the 12 participants from public schools in the state of Georgia who have taught AVTF five or fewer years. It included data that explain the training of AVTF teachers in Georgia, the teaching strategies they use, and the resources that are available to them. This purpose of this case study was to explore to what degree current AVTF teachers' formal training experiences were sufficient to allow them to successfully teach a CTE course offering. Virtual interviews, a focus group, and written responses addressing areas needing improvement in AVTF teacher certification provided information that demonstrates the challenging route to becoming an AVTF teacher and how and where the participants obtained teaching strategies and resources. A synthesis of information obtained from all data sources led to the development of five themes—instruction, teaching experience, resources, certification, and prior experience—which helped answer the central question and the three sub-questions of this study.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this case study was to explore the preparedness of audio video technology and film (AVTF) teachers to teach this career technical education (CTE) course offering and explain how their formal training experiences, teaching strategies, and resources available prepared them to teach the content adequately. This study provides a significant contribution to the literature on the potential of the state of Georgia, together with colleges and universities, to expand the training and knowledge of AVTF teachers to ensure that the Georgia Professional Standards Commission (GAPSC)-certified teachers have the skill set necessary to provide quality instruction to their students. Included in this chapter are a summary of the findings, a discussion of the findings and their implications relative to the relevant literature and theory, the methodological and practical implications of this study, an explanation of the study delimitations and limitations, and recommendations for future research.

Discussion

The central research question for this study asked: “To what degree are current AVTF teachers’ formal training experiences sufficient in teaching a CTE course offering?” A review of the transcripts of the individual interviews revealed that the participants had separate and distinct training and certification paths. Each teacher was able to obtain certification from the GAPSC through an education degree or an alternate preparation program, either the New Teacher Institute (NTI) or Georgia Teacher Academy for Preparation and Pedagogy (GaTAPP). Discussions on training revealed further diversity in the college or university degrees that were earned and the participants’ major while in postsecondary education.

All of the teachers who participated in this study indicated that they enjoyed teaching the AVTF courses, although they struggled in the areas of their deficiency. Those with film or communications as their major in college struggled with understanding education jargon and with classroom management. Creating lesson plans, dealing with special education students and the many acronyms, and developing instructional delivery methods were the most mentioned stressors for the first two years in the classroom.

Teachers with an education degree struggled most often with the AVTF content. They understood educational jargon and classroom management, but they did not often understand or successfully convey the content required by the AVTF standards. Many of the teachers spent hours searching websites to learn the content and develop project ideas for their students.

The first sub-question asked: “What are AVTF teachers’ training experiences?” The themes of prior experience, certification, and teaching experience were used to answer this question. Prior experience and teaching experience are two completely different categories with a myriad of activities that deepen the skill set and adaptability of the AVTF teacher. The only specific requirement from the GAPSC is that the teacher be fully certified in the area they teach. As a result, teachers may enter the AVTF field with extensive background knowledge in various aspects of the content area or with no content knowledge at all.

The students’ experience in AVTF courses can be quite varied, depending on the training of the AVTF teacher. Those participants who had college degrees in film and communication, as well as those who worked at commercial television stations in the southeastern United States, had the knowledge to help their students understand the AVTF content. The teachers’ knowledge gained from film and communications in classes provided an opportunity for students to learn in the same way their teachers were taught. Consequently, those AVTF teachers with no on-the-job

training or college courses must try to learn and understand the content before delivering it to their students.

The second sub-question asked: “What research-based teaching strategies are employed by AVTF teachers?” Elements of the themes of instruction and teaching experience were used to answer this question. During instruction, AVTF teachers follow the set curriculum using the state of Georgia’s standards. Teachers use many different methods to provide explanations for the proper use of equipment, demonstrate successful safety guidelines, and offer video editing software instruction to keep students engaged and actively learning. Selecting the most appropriate teaching strategies for AVTF instruction will determine how quickly students learn and retain the information.

The hands-on approach was the most often used teaching strategy employed by AVTF teachers, followed by a teacher-focused approach using the textbook and guided notes with PowerPoint. Teachers all believed that students needed an introduction to whatever the lesson focus was before they were allowed to touch any of the equipment. Safety was mentioned as a required module in the classroom before students advanced to other lessons involving electricity, camera operation, or computer editing. Once students began to work with the video equipment, teachers provided real-world examples or examples from previous student projects to help students understand the requirements of each project.

The third sub-question asked: “What kinds of teaching resources are available and to what extent are they obtained?” The answer to this sub-question lies in the themes of instruction, teaching experience, and resources. All the AVTF teachers in this study searched for additional teaching resources that were not necessarily included in their classrooms. Most of the participants

in this study did not have a classroom textbook, a teacher's edition book, or notebook full of worksheets at their disposal. They all searched the internet and asked other teachers for ideas.

The resources on CTAERN.org are available to all career technical and agricultural education (CTAE) teachers in Georgia. The CTAE Resource Network website has many different activities and lessons plans available for AVTF courses taught in the state of Georgia. Other Georgia teachers have developed the plans and activities on CTAERN.org; the plans and activities can be used in their current form or they may be modified to meet the needs of a teacher's particular students.

Other resources that were in limited supply for participants in this study were textbooks and related resources. Very few participants mentioned having a class set of textbooks to use. Other participants mentioned having one textbook that they used as a resource or reference point for a particular skill. My personal experience with resources was that I had a class set of textbooks that I used occasionally to demonstrate specific vocabulary that students needed to know for a skills quiz. At other times, I had students use the textbook when I was away, and the substitute managed the class.

All teachers in the study mentioned searching YouTube for examples of the skill they were currently teaching. In addition, NoFilmSchool.com was also mentioned as a valuable resource for learning particular skills. A few teachers mentioned using the California CTE website for project ideas and lesson plans. All teachers mentioned spending hours each week searching on the internet for lesson plans and project ideas that they could use in their AVTF classroom.

Interpretation of Findings

Data for this study were collected from individual interviews with 12 participants and a focus group interview with four participants. The participants were teachers of AVTF courses in Georgia. A document was collected from five participants who wrote a mock letter to the Georgia Department of Education (GaDOE) outlining changes they believed should be made to improve the certification of AVTF teachers. Data were compiled using open coding and further analyzed to develop themes. Themes that were directly related to the research were instruction, teaching experience, resources, certification, and prior experience. A detailed analysis of the findings of this study suggests directions for future research and issues that should be addressed in the training and certification of AVTF teachers in Georgia.

The themes that were generated from this study were prior experience, instruction, teaching experience, certification, and resources. Each theme related directly to each participant and gave a rich description of their teaching career in AVTF courses.

Interpretation 1

The participants with prior experience in audio and video work had a better grasp of the content, but struggled with how to deliver that information in a way that students could understand. Those participants with only education degrees had little or no prior experience with audio and video and struggled to deliver material in class. Each participant was able to provide instruction in class, but delivery methods varied from hands-on experience with equipment to using a book and fill-in-the-blank notes from a PowerPoint presentation. Participants who had already taught other courses had an advantage of those just entering the education profession. Those participants with teaching experience had better classroom management and a better

understanding of education jargon and special programs that first-time educators did not comprehend.

Interpretation 2

Certification, or being enrolled in a program that leads to certification, is required to teach in the state of Georgia. Those who completed education degrees already had a teaching certificate, and to become highly qualified in AVTF, they only had to take a certification exam. Those without teaching certificates had to enroll in a program to take classes, work on projects, or earn an additional college degree. All AVTF teachers who participated in this study worked extensively to find resources that could help them be more effective in classroom instruction. All cited the importance of the Georgia Broadcast Video Teachers Facebook group, as well as YouTube and other similar sites, for activity ideas that could be adapted to fit the students in their classrooms.

Implications for Policy and Practice

There are two practical implications of this study that deserve further consideration. The first issue is the accessibility to training for teachers. Second, the GAPSC should develop an agreement with state postsecondary institutions to standardize training for AVTF and other CTE courses.

Implication for Policy

The geographic size of the state of Georgia is prohibitive for teachers in rural areas who must travel to Atlanta or other large cities for professional development. Some metropolitan counties have multiple AVTF teachers, while many other counties have only one. This limits the access to additional training for some teachers. One recommendation is to provide access via an online course that teachers could attend during the day with permission from their supervisor or

training that would occur right after school. Another recommendation is that local RESAs could be the central location for training in order to provide a shorter driving distance.

Implications for Practice

The difference in certification requirements for teachers is an area of concern. Teachers with an education background must pass an exam in order to be certified to teach AVTF courses. Teachers who have a degree in film and communications or have worked in the industry for multiple years must earn a master's degree in education or complete an alternate preparation program like NTI or GaTAPP.

In order to provide the necessary training, the GAPSC would need to develop a curriculum within the university system by working in collaboration with several state universities to determine what concepts will be taught, how long the program will last, and how many courses there will be. Other considerations would include whether there will be a provisional status for teachers until they complete the training course, whether teachers will complete this course before teaching AVTF or wait until the course is complete before they begin teaching AVTF, and whether the required course will discourage teachers from teaching AVTF altogether. Additionally, school system leaders must determine if the program will discourage people from the industry from becoming teachers, who will pay for this course, and whether the school district or the teacher will be responsible for the cost of the program.

Theoretical and Empirical Implications

The empirical evidence from this study demonstrates that the training experiences of AVTF teachers differ. This leads to using various teaching strategies and the need to obtain teaching resources for the classroom. This study examines the background experiences of AVTF teachers and the strategies and resources employed in their classrooms. The study applies the

framework of constructivist theory that teacher and student knowledge is constructed from prior social interaction and context by transforming the world and themselves.

Theoretical Implications

Vygotsky's social constructivism provided the theoretical framework for this research. The use of social media groups to discuss content and curriculum issues incorporates the ideas of Vygotsky. While constructivism focuses on the building of new knowledge, social constructivism includes using peers and others within the environment and culture to develop the new knowledge (Gash, 2020). Utilizing new means of technology extends the environment in which interaction may take place.

Social constructivism focuses on the building of new knowledge by using peers and others within the environment and culture to develop the new knowledge. Utilizing new means of technology extends the environment in which interactions may take place. This study expands this idea to include the training experience missing from AVTF teachers' environment. By using the Facebook group and other trainings provided by the GaDOE, teachers are able to build new knowledge by networking with other teachers who attend these trainings.

The constructivist theory is defined as knowledge that is constructed from prior social interaction and context. To understand the content, Vygotsky suggests that people transform their world and themselves (Etim et al., 2020; Gash, 2020). In this study, experienced video teachers transform their curriculum and their classroom into a representation of their content understanding based on their prior knowledge. Teachers who are able to build confidence through their abilities in the classroom, especially in subjects they feel most confident in teaching, will improve their overall efficiency and impact their students' achievement in positive ways (Etim et

al., 2020). In this study, all teachers experienced high stress levels within the first two years as they worked to manage their classrooms and search for materials.

Every opportunity through social interaction provides students with meaningful and relevant experience (Blakey & McFadyen, 2015; Tracey & Hutchinson, 2019). The results of this study indicate that nearly all teachers agree that providing hands-on activities keeps students interested in the content and helps them remain engaged during the lesson. This teaching strategy represents the best practice for AVTF classrooms in order to maintain active student learners.

In this study, whether it is pedagogy or video skills, AVTF teachers are building new knowledge to help students be successful. My recommendation is that the state of Georgia review the certification requirements and training opportunities for AVTF teachers and provide additional opportunities for teacher learning. School districts should ensure that teachers are available to attend trainings and other opportunities for learning content. Local boards of education want their teachers prepared to deliver AVTF content successfully in the classroom. Currently, teachers are expected to pass an exam to earn their certification to be considered highly qualified. Gaining experience with the content is crucial to help teachers be successful in the classroom.

Measuring the building of knowledge can be done in several different ways. Teacher efficiency in building knowledge can be assessed through Student Growth Percentiles, standardized tests, and behavior (S. W. Lee, 2018). AVTF students are also assessed through End of Pathway Assessments (EOPAs) with exams created by different test-writing companies. Students are tested over the various aspects of content presented by the teachers using the state curriculum. Those achievement scores are comparable across the school, the district, and the state. Administrative consistency is important to adequately determine effectiveness.

Teachers who lacked content knowledge for AVTF appeared to be ineffective in the classroom (S. W. Lee, 2018). For those teachers who had no education courses, their classroom management and classroom protocols were poor. In either situation, teachers were not able to effectively help students build knowledge. Those with content knowledge were not able to convey that information to their students with no delivery method or classroom procedure. Those with previous teaching experience were able to manage students behavior, but those teachers had no content knowledge or understanding to share. Many relied on old textbooks and a teacher-focused lesson to instruct.

An effective AVTF teacher demonstrated high levels of knowledge with regard to teaching strategies and content mastery (Jakopovic & Gomez-Johnson, 2021). After the first year of teaching, many AVTF teachers were ready to resign because of the difficult conditions they endured. Those conditions included student inappropriate behavior, requirements of special education accommodations, and a feeling of being unprepared to do the job. Teachers who no longer feel effective and experience exhaustion and cynical attitudes are more likely to experience burnout (Franco et al., 2022). Although the participants found their first year of teaching AVTF very difficult, all expressed that they would follow the same career path again.

Empirical Implications

There are no previous studies that examine the formal training experiences of AVTF teachers to determine whether or not they are adequately prepared to teach a CTE course. This study explained the background experiences of AVTF teachers in Georgia and their processes of obtaining and using teaching strategies and resources.

During individual interviews, each participant revealed that they are the only AVTF teacher at their school. Each participant explained that they sought ideas and suggestions to

improve their delivery of content and classroom management from other teachers at their school, but no suggestions they received fit their situation. Providing an additional AVTF teacher on each campus or allowing for a monthly professional learning community at a RESA would allow AVTF teachers to discuss issues in their classrooms, as well as address standards and content delivery.

The Georgia Broadcast Video teachers' Facebook group has hundreds of members and many resources posted, but the development of a clearinghouse of resources should be created and shared across the state to provide the same resources to all teachers. Providing this resource to all teachers at all experience and grade levels would ensure that all teachers would have the same materials available.

While there is limited empirical research that gives a voice to AVTF teacher training experiences, other states have filled a need for AVTF teachers by moving academic teachers into this CTE course. Content knowledge is lacking among some alternately certified CTE teachers (Devier, 2019). Teachers can move from academic subjects into the area of CTE to teach these AVTF courses by passing a certification test. Once the certification test is completed and a teacher receives a passing score, the teacher is considered highly qualified to teach CTE courses. This added certification allows this career pathway to be added to the school district's curriculum but does not provide basic content knowledge or teaching strategies for teachers to be successful (Devier, 2019). The research showed that Georgia school districts used this practice to move teachers from math, science, social studies, English Language Arts, and business education into AVTF. All that was required was the successful passing of a certification exam in order to make this transition. No additional training was provided or required for these teachers.

A lack of formal training in the area of AVTF, seen through the constructivist theory lens, was demonstrated through classroom teachers relying on their pedagogical training to maintain classroom management and deliver teacher-focused instruction (Gash, 2020). Teachers were able to demonstrate confidence through their abilities in the maintaining the classroom, even though they had no content information. Over time, as teachers gathered more resources and immersed themselves in the course content, they were able to improve their overall efficiency and impact their students' achievement levels in positive ways (Etim et al., 2020). Additionally, providing training and workshops for beginning AVTF teachers did positively benefit the students in their classrooms (Mitani et al., 2022). Teachers enrolled in various training classes that allowed them to network with other AVTF teachers from around the state. These classes provided opportunities for teachers to experience new teaching strategies and activities that could be used in their classrooms. These training classes provided hands-on learning experiences so that teachers could understand how students would perceive the requirements.

Active engagement is key to successfully building new knowledge based on prior experiences (Murry et al., 2021). According to the participants in this study, students were more engaged and challenged when provided with hands-on activities. Teachers expressed that students had to problem-solve while using their current knowledge. Students were better able to build on previous experiences while learning by example. Exemplars provided by teachers gave students direction and helped them understand the requirements of the projects.

In the same way, when joining the Georgia Broadcast Video teachers' Facebook group for video teachers, participants were able to gain new knowledge and concepts from their peers and seminar leaders while reflecting on their experiences (Murry et al., 2021). By utilizing the training experiences available through the GaDOE, Georgia Film Academy, and Facebook group, teachers

became more confident in their work and better understood the concepts they were teaching to students.

Open-ended questions and hands-on activities were the activities most often employed by participants in this study. Instead of providing the specific instructions, students were given various options for what to try next. Exploring on their own and teaching each other proved to help students learn and retain more information. (Baldock & Murphrey, 2020; Tracey & Hutchinson, 2019). Talking through the assignment helped students build better teams that were able to work collaboratively and build trust among all the students in the classroom.

Each of the participants expressed that they had a very difficult first year of teaching. They found themselves doing nearly all the work in class, providing instruction, notes, and materials. Students were not expected to take a leadership role in learning the material. By the second and third years, teachers were able to change from a teacher-focused approach to a student-focused approach. This allowed teachers to employ observations as an assessment tool. Students' perceptions of inquiry-based learning demonstrated that they preferred this method (Baldock & Murphrey, 2020). Using this student-focused instructional strategy, students have the teacher visit their work area to determine if the students reached their goal by completing the required list and successfully mastered the content. When teachers are able to move freely through the classroom, they are able to provide scaffolding for students who need additional attention. Scaffolding also provides an opportunity for teachers to meet any specific accommodations that are required by a special needs individualized education plan.

This hands-on activity is especially useful in the CTE classroom as students use equipment and materials that mirror those of the real world and create real world experiences. Participants expressed their belief in hands-on activities for students to demonstrate their

understanding of the content. If students are given the problem statement or what the end product should resemble, students were able to use their knowledge from class discussions to complete their project. The students' approach and solution were not always the same because individuals all have different experiences. Participants agreed that an important part of the work process was the reflection piece. After the project is complete, students were to reflect on their solution, the process by which the solution was reached, and the usefulness of the materials they chose to use.

Limitations and Delimitations

There were several limitations in this study that were beyond the control of the researcher. The first limitation was that teachers with five or fewer years of experience teaching AVTF courses were timid in volunteering to participate in the study. Those teachers with many more years of experience wanted to participate, but it took multiple Facebook posts and messages, along with some encouragement from older teachers in the Facebook group, to increase the number of participants to 12. Soliciting participants for this study took longer than I expected, but I was able to proceed once they all agreed. There were other teachers that fit the criteria for participation, but they refused.

The second limitation was that interviews had to be conducted using Google Meet or Zoom over the internet instead of in person because of COVID-19 protocols. State regional meetings were cancelled as people sheltered in place or quarantined. As a result, planned in-person interviews moved online. Most of the interviews conducted online had glitches that caused the interviewee's picture to freeze or the participant to be misunderstood. In one case, three different online video conferencing programs were used before the interview could be conducted successfully.

The third limitation of the study was the composition of the focus group members and the submitted written responses. After the individual interviews were conducted, participants were difficult to reach for participation in the focus group and the written response. Multiple Facebook messages and emails went unanswered for weeks. Persistence on the part of the researcher was successful, as four teachers joined the focus group, while five teachers completed the written response. The participants did provide a rich description of their experiences in the focus group and the written response.

Delimitation is the purposeful decision of the researcher to limit and define the boundaries of a study. A case study design was chosen because the researcher wanted to determine if the training experiences of AVTF teachers were sufficient to prepare them to teach the course in CTE and whether research-based teaching strategies and resources were available and being employed in the classroom. In this qualitative case study, this researcher accepted 12 participants who were AVTF teachers with five or fewer years of classroom instruction in the CTE course. All participants were members of the Facebook group Georgia Broadcast Video Teachers.

Recommendations for Future Research

The training, teaching strategies, and resources for AVTF teachers in Georgia are varied in their scope and sequence. Certification is given by the GAPSC; this certification allows all AVTF teachers to be highly qualified to teach. However, there are vast differences in content knowledge between the teachers with education degrees and those teachers who have film and communication degrees. While most teachers use a hands-on approach as their preferred teaching strategy, no teachers have specific set resources or textbooks.

Several areas of qualitative research might be pursued in the future to determine specific ways to provide adequate training and content knowledge for all AVTF teachers. It would be

useful to conduct a longitudinal study with students who have graduated high school after having taken three courses in AVTF and determine how many students successfully were hired in the AVTF industry and determine those who did not, and whether or not they apply those learned skills in their chosen career field.

A qualitative study comparing the successes of students who studied under AVTF teachers with film and communication degrees versus those teachers with an education degree only would also be useful. It would be helpful to study the scores on the EOPAs that students take at the end of the AVTF courses and review the achievement rates by teacher. However, the type of AVTF EOPA offered could also affect the achievement rates of students.

A qualitative study comparing the longevity of AVTF teachers with film and communication degrees versus those with an education degree could provide insight into whether or not a training component affects the teachers' decision to stay. Such a study could address whether or not additional training could make a difference in teachers staying in AVTF or switching back to teaching an academic course.

Finally, a qualitative study comparing the training experience of other CTAE teachers in Georgia and achievement rates on EOPAs could further validate the value of a highly qualified teacher with extensive content knowledge and skills training in a particular course. This study would provide a different perspective on the importance of teacher training and content knowledge.

Conclusion

The purpose of this case study was to explore the preparedness of AVTF teachers to teach this CTE course offering and explain how their formal training experiences, teaching strategies, and resources available affected their competency in teaching the content. The GAPSC certifies

all AVTF teachers in Georgia, but the teachers' individual training backgrounds and experiences are very different. Teachers who earned education degrees while in college with concentrations in areas other than AVTF took a certification test (the Georgia Assessments for the Certification of Educators) in order to become certified to teach AVTF. As a result, they had no specific training that helped them to become more knowledgeable in the skills outlined in AVTF course standards. On the other hand, teachers who earned film and communication degrees in college and worked in the industry were required to earn a master's degree in education or complete an alternate preparation program. The advanced degree or completion of NTI or GaTAPP provided the teacher with certification to teach AVTF.

Most teachers in the AVTF field use the hands-on approach to teaching during their instruction to help students understand real-world situations in order to determine the best approach for completing the project. Student-focused lessons and projects are used to help students become active learners in the classroom to increase the mastery of material. Some classrooms use a teacher-focused lesson with an emphasis on textbooks, guided notes, and PowerPoint lectures. Those classrooms do allow students to use the equipment, but on a less frequent basis.

All teachers in this study spend hours searching the internet for resources: project ideas, lesson plans, and content delivery suggestions. YouTube is the preferred video website used by the participants in this study. These resources could include examples of student work, ideas for future projects, or videos that demonstrate skills students should master. The state of Georgia does provide resources on the teacher-developed CTAE Resource Network website, and these resources can be modified or adapted for the teacher's individual classes.

Georgia does provide a two-to-three-day summer opportunity (Camp T&I) for AVTF teachers to learn basic skills using equipment and network with other teachers. This camp gives teachers a chance to collaborate with other teachers on video projects that can be used with students in the classroom. A similar conference is held annually in late January with professional learning opportunities for AVTF teachers. This conference lasts one to two days.

Another limited opportunity for AVTF teachers is the Georgia Film Academy. This two-week course is held each summer in Atlanta and allows teachers to see behind-the-scenes productions of movies and television shows that are filmed in Georgia. Teachers also receive a curriculum geared toward production from Georgia Film Academy to use with their students.

The results of this study highlight the struggles and deficiencies that exist among the various AVTF teachers in the state of Georgia. A review of content training opportunities for teachers who enter the AVTF field increases the possibility that students will have a highly trained, highly qualified teacher to convey the material so that they will be successful.

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APPENDIX A: IRB APPROVAL LETTER**IRB, IRB**

Wed 6/17/2020 3:35 PM

To: Holt, Brian Ronald

Cc: Duryea, John R (School of Education); IRB, IRB

Dear Brian Holt,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

(2) Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

(iii) The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

Please retain this letter for your records. Also, if you are conducting research as part of the requirements for a master's thesis or doctoral dissertation, this approval letter should be included as an appendix to your completed thesis or dissertation.

Your IRB-approved, stamped consent form is also attached. This form should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document should be made available without alteration.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

(434) 592-5530

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APPENDIX B: CONSENT FORM

CONSENT FORM

A Case Study of Audio Video Technology and Film Teachers' Preparedness

Brian R. Holt

Liberty University

You are invited to be in a research study on the preparation of audio video technology and film (AVTF) teachers in Georgia. This study focuses on teacher experiences in teaching the AVTF curriculum. You were selected as a possible participant because you are a teacher of at least one AVTF course and have five or fewer years in teaching the course. Please read this form and ask any questions you may have before agreeing to be in this study.

Brian Holt, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to understand the experiences and teacher preparation of teachers who are relatively new to the course.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Participate in a 60-minute one-on-one interview that will be recorded.
2. Participate in a 60-minute focus group discussion if you have fewer than three years' experience in teaching the course
3. Write a formal letter to the state board of education with specific ways to improve teacher preparation for teaching the AVTF courses.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study. Benefits to society include understanding the experiences of AVTF teachers who lack formal training in the course and determining possible ways to improve the overall experiences of all AVTF teachers.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participants will be assigned a pseudonym. I will conduct the online interviews in a location where others will not easily overhear the conversation.
- Data will be stored on a password locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

- Interviews will be recorded and transcribed. Recordings will be stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings.
- I cannot assure participants that other members of the focus group will not share what was discussed with persons outside of the group.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you, apart from focus group data, will be destroyed immediately and will not be included in this study. Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study if you choose to withdraw.

Contacts and Questions: The researcher conducting this study is Brian Holt. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at [REDACTED]. You may also contact the researcher's faculty chair, Dr. John Duryea, at [REDACTED].

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

The researcher has my permission to audio/video-record me as part of my participation in this study.

Signature of Participant Date

Signature of Investigator Date

APPENDIX C: CONSENT FORM**SCHOOL PRINCIPAL**

Permission Form

Sept. 15, 2019
Mr. John Smith
Principal
Georgia High School
123 S. Main Street
Anywhere, GA 30303

Dear Mr. Smith:

As a graduate student in the School of Education at Liberty University, I am conducting research to better understand the preparedness of Georgia Audio Video Technology and Film teachers. The title of my research project is A Case Study of Audio Video Technology and Film Teachers' Preparedness and the purpose of my research is to provide a deeper understanding of audio, video, technology and film (AVTF) teachers' preparedness to teach this curriculum in the state of Georgia.

I am writing to request your permission to contact members of your staff to invite them to participate in my research study.

Participants will be asked to contact me to schedule an interview. Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond by email to [REDACTED].

Sincerely,

Brian Holt
Liberty University student

APPENDIX D: DEMOGRAPHIC FORM

Sample interview questions (adapted from Virginia Tech):

DEMOGRAPHIC QUESTIONNAIRE The purpose of this questionnaire is for you to provide some basic background information about yourself and your experience in AVTF. Please complete the following demographics questionnaire.

Demographic Information

1. Gender: Female Male
2. Age: 18-21 22-25 26-30 31-40 41 and over
3. Degree program: Bachelors Master's PhD
4. Major and minor (if any):

5. Do you consider yourself happy with your teaching job? Yes No (If Yes,) What do you do? _____

Background Experience

6. How many hours a week do you spend searching for teaching resources
 0-2 hours 3-4 hours 5-6 hours 7 or more hours
7. What subject/content area is your teaching degree in?

8. How many years have you been teaching? _____
9. How many years have you taught AVTF courses? _____

APPENDIX E: INTERVIEW QUESTIONS

1. What is your role at your school as it relates to the AVTF course? Please explain.
2. What other courses, academic or CTE, have you taught previously? Please explain.
3. How did you become involved with AVTF at your school?
4. What prior knowledge did you have about the AVTF course or related materials?
5. What specific kinds of training did you participate in prior to beginning in the AVTF course?
6. How did this training—or lack of training—affect the quality of your instruction within the first year or two of teaching the AVTF course?
7. What specific teaching strategies have you incorporated into your instruction to help explain the material?
8. In your opinion, what have been the best teaching strategies that you have used so far in your instruction?
9. Please describe the kinds of teaching resources you have available to you, or would like to obtain, in order to improve your instruction.
10. What changes do you believe should be made in teacher preparation and support of AVTF teachers?
11. Please share anything else that you believe is important to discuss on this topic.

APPENDIX F: FOCUS GROUP QUESTIONS

1. How easy/difficult was the process to become an AVTF teacher? Please explain.
2. Please explain your support system that was in place for you during your first years of teaching the AVTF curriculum.
3. In your opinion, what are the strengths/weaknesses of the current AVTF curriculum?
4. Where you have found additional AVTF teacher resources? Please explain.
5. How do you put all those resources and other teaching strategies to work?
6. Based on your personal experience, would you change your decision to teach AVTF?
Please explain.
7. In which areas of the AVTF curriculum would you like additional training?
8. Please share anything else that you believe is important to discuss on this topic.

APPENDIX G: CODES

Book work	Live music
Business Education	Marketing
California	MAT
Camp T&I	Math
Central office	Never taught
Collaboration	Newspaper
Communication	No Film School
Computer Science	NTI
CTAERN	Organization
Disconnect between Education and Industry	Photography
ELA	Physics
Engineering	Previous student examples
Facebook	Prior knowledge
Film degree	Problem solver
Freelance	Product of program
GACE	Projects
Georgia Film Academy	Public relations
Gifted	Radio
Graphic Design	Spanish
Guitar	Station rotation
Hands-on	TAPP
Intro to Digital Tech	Tell a story
Journalism	TV news
Learn by doing	Wedding videos
Lecture	YouTube

APPENDIX H: THEMES

THEMES	CODES
INSTRUCTION	Book work; Collaboration; Hands-on; Learn by doing; Lecture; Organization; Previous student examples; Problem solver; Product of program; Projects; Station rotation; Tell a story
TEACHING EXPERIENCE	Business Education; Computer Science; ELA; Gifted; Graphic Design; Intro to Digital Tech; Marketing; Math; Never taught; Physics; Spanish
RESOURCES	California; Camp T&I; CTAERN; Facebook; Georgia Film Academy; No Film School; Prior knowledge; YouTube
CERTIFICATION	GACE; Master of Arts in Teaching; TAPP; NTI
PRIOR EXPERIENCE	Central office; Communication; Disconnect between Education and Industry; Film degree; Freelance; Guitar; Journalism; Live music; Never taught; Newspaper; Photography; Public Relations; Radio; TV news; Wedding videos