3-2022

# CTE Instructor Retention: Considering the Factors Impacting Turnover and How Use of Funding Affects Instructor Satisfaction

Matt Boase

**CTE Instructor Retention: Considering the Factors Impacting Turnover and How Use of**

**Funding Affects Instructor Satisfaction**

by

Matt Boase

Faculty Research Committee:

Chair: Scot Headley, Ph.D.

Member: Dane Joseph, Ph.D.

Member: Gary Sehorn, Ed.D.

George Fox University

March 21, 2022

GEORGE FOX
UNIVERSITY

COLLEGE OF EDUCATION | EdD

CTE INSTRUCTOR RETENTION: CONSIDERING THE FACTORS IMPACTING TURNOVER AND HOW USE OF FUNDING AFFECTS INSTRUCTOR SATISFACTION, a Doctoral research project prepared by MATTHEW BOASE in partial fulfillment of the requirements for the Doctor of Education degree in Educational Leadership.

This dissertation has been approved and accepted by:
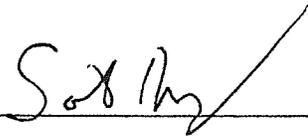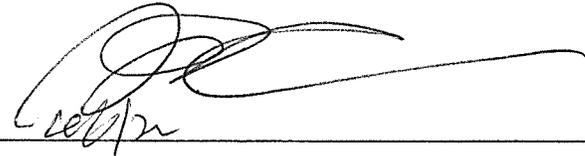
| | | Committee Chair |

4/12/2022          Scot Headley, Ph.D.          Professor of Education
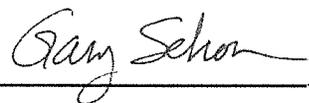
4/12/2022          Dane Joseph, Ph.D.          Associate Professor of Education

4/12/2022          Gary Sehorn, Ed.D.          Associate Professor of Education

# Abstract

Career Technical Education (CTE) has become a focal point in modern education. In addition to offering benefits to the individuals enrolled in programs, the associated careers often fill the greatest needs in the United States' workforce. This qualitative study sought to answer how the nearly $1.3 billion of federal funds combined with additional local and state investments could be used to assist with CTE instructor retention moving forward. Health Science education was focused upon in this study because of the employee shortage within associated careers and the consistent employment opportunities nationwide, but findings can be applied to other CTE areas as well.

The three participants and critical informant shared stories regarding their experiences in education and their use of funding. These stories shed light on how new instructors in CTE could use funds to improve their own career satisfaction and remain in education.

**Acknowledgements**

There are many people who helped me through the process of completing this research, and I'd like to take a moment to thank them for their help and guidance.

To the participants and critical informant of this study, your willingness to meet with me and share your stories was very appreciated. I am grateful for the data you provided, but also enjoyed listening to you all tell about your experiences. Beyond writing a dissertation, I found value in the lessons I learned from you.

I am also very appreciative of the George Fox faculty for the environment that was created as I went through this process. It was a validating experience to be challenged while also feeling supported.

Thank you to Dr. Scot Headley for taking on the role of dissertation chair. It was great to have a voice with CTE experience overseeing my research.

Thank you to Dr. Gary Sehorn for giving your time to be part of the committee. I have appreciated your support and interest throughout my time in the program.

I'm also very appreciative to Dr. Dane Joseph for being part of the committee. Throughout my time at George Fox I have appreciated the challenge your classes provided and the way you have provided honest feedback and support. You and Dr. Sehorn made me feel as though I belonged in a doctoral program, and I will always look back on my first summer term in Newberg with fondness because of the classes I had with the two of you.

Thank you to my wife and children for your support and understanding through the process. You five are the best part of everything I do, and this research and educational journey has been no different.

Table of Contents

**Chapter One - Introduction**

For many students the most memorable class from high school is something other than a required course. From a twenty-something who is grateful to have learned to fix their own dinners in a culinary class to the grandparent who loves to tell about the '73 Chevy Nova they engine-swapped in Auto Shop, most people know someone who looks back on a high school elective with fondness. While these simple memories are valuable in their own right, those electives sometimes have a bigger impact than we realize. In many cases, electives are what guide high school students into the career they will remain in for their working lives. Perhaps the aforementioned twenty-something didn't just learn to fix dinner but earned a food-handler's license and is now a head chef. Perhaps that grandparent was actually an automotive technician for 40 years and passed the business down to family members upon retirement. In addition to career guidance, electives may be the only reason some students continue going to school, thereby leading to their graduation. It's also possible an elective may provide the space for students to clear their heads after struggling on a difficult math exam. And while these are all benefits to individuals, it has also become clear through policies and funding that electives are important to schools and school systems. Years ago people asked if a school had good elective programs, but the verbiage has changed and the consideration is now how strong a school's Career Technical Education programs are.

Career Technical Education (CTE) is a significant part of the educational system in the United States as there are 12.3 million students enrolled in CTE programs (CTE in your State, 2021). Of Oregon's 170,742 public high school students, 89,239 are enrolled in at least one CTE class and 56,886 are CTE concentrators. A CTE concentrator is defined as a student who has at least two credits in a specific CTE program such as Automotive Technology or Family and

Consumer Science. Those numbers mean 52 percent of Oregon's high schoolers are being given

the opportunity to benefit from a CTE course. And in turn those courses benefit from the

financial boost that both state and federal funding provides. Each year a government program

commonly referred to as the Perkins Act (Perkins) gives each state a large sum of money.

Oregon, for example, gets $15,586,385 of Perkins money, half of which goes to secondary

programs (CTE in your State, 2021). Many states have other funding opportunities for their CTE

programs beyond Perkins. Oregon offers its schools Measure 98 funds which require $800 per

high school student to be distributed for use in expanding or establishing CTE programs, dropout

prevention, and college-level opportunities (Clarno, 2020). This means that, in addition to

Perkins funds, Oregon adds $136,593,600 annually, much of which is spent on CTE.

The classes that comprise Career Technical Education have been a part of American high

schools for generations, but not everyone is immediately familiar with the broad label of CTE.

As *Advance CTE*'s website (2021) explains, CTE is comprised of 16 groups referred to as Career

Clusters. Within these Career Clusters are 79 specific Career Pathways. Many of the classes that

have been offered in high school for years are now categorized as part of a specific CTE program

and fall into a Career Pathway.

While placing these additional labels on classes may seem unnecessary at first glance,

there is reason behind the label. Career Technical Education courses often require funding

beyond the average elective. The additional funding is usually provided by individual states

and/or the Federal Government. The most note-worthy government funding for CTE programs is

the Strengthening Career and Technical Education for the 21st Century Act (PCRN: Perkins V).

Often referred to by a shortened version of its previous name — The Perkins Act — it allots

nearly $1.3 billion to approved CTE programs across the nation each year (Advance CTE, 2021).

In order to access these funds, high schools must adhere to multiple requirements. A program receiving funding must fit into one of the aforementioned Career Clusters and Career Pathways, which helps to ensure that all programs receiving money lead to high-demand, high-wage careers. Additionally, instructors for CTE courses of approved programs must receive certification/licensure by showing they are competent in the content area. For example, teachers in the state of Oregon hoping to add a CTE endorsement have to go through the Instructor Appraisal Process (Portland Community College, 2021). There are avenues that allow teachers to attain the required endorsement for teaching a CTE-approved course with an existing teaching license. Those without an existing teaching license are also able to gain certification if sufficient industry experience can be proven (Portland Community College, 2021). These paths to approval result in instructors of similar subjects coming from varied backgrounds (Cohen, 2018). For example, an instructor in one school's Health Sciences program could have 15 years of experience as a nurse while another school's instructor may have studied education and entered teaching directly after college.

CTE has been enjoying an increase in perceived importance in the United States in recent years. There are many theorized reasons that CTE has become a focus for schools across the country. Statistics suggest that students who participate in CTE courses graduate at a higher rate than their peers (Oregon Department of Education, 2017), and research claims that students who are labeled as 'completers' not only graduate at an even higher rate (Oregon Department of Education, 2017) but also perform better on standardized tests (Michaels and Barone, 2020).

These perceived improvements in academic accomplishment are not the only reasons CTE is being expanded in high schools. In addition to said benefits, CTE programs are preparing students for careers that represent the highest areas of need in the current workforce. Governors

across the United States are making clear their desire to increase and improve CTE opportunities for their states' students (Bush, 2020). Once thought of as a place for students who were high school underachievers (Mouza et al., 2008), CTE programs have become springboards into professions that students desire, often preparing them for additional education after high school. The best example of this can be found in the Health Sciences programs.

Restuccia et al. (2018) found that the healthcare field faced 1,153,617 openings in December of 2017, with demand exceeding the supply of healthcare practitioners by 44 percent. Career Technical Education prepares students for the next steps toward entering their desired professions, which could help with the discrepancy in the work force.

This issue is not limited to the healthcare field, however. Restuccia et al. (2018) stated that high-skill occupations had 25 percent more job opportunities than workers, middle-skill occupations had 13 percent more job opportunities than workers, while low-skill occupations had 7 percent fewer job opportunities than workers, emphasizing the need for CTE programs to prepare students for a job market responsible for these statistics. This is relevant as students who complete a CTE program go on to differing levels of education. While some completers will enter the work force directly, others will finish correlating training programs, earn associate degrees, get a bachelor's degree, attain a master's degree, or continue on to earn a doctorate. In fact, the reason CTE has shed its former title of "vocational education" was because that title was thought to be derogatory and inaccurate (Blissett, 2020).

Many students have experience with CTE in some form or another. It's a priority in most locales to get students into a CTE course, which can be evidenced by the findings of Xing et al. (2020) who said, "Descriptive statistics revealed the majority of [all] students (86.5%, N=2,863,814) took CTE credits in high school," (p. 60). This trend has become increasingly

popular and has resulted in more CTE programs. Arneson et al. (2020) reported an increase in

the number of secondary CTE programs from 2015 to 2020. The additions of these complete

programs instead of single classes can be explained by the perceived benefits of keeping students

enrolled in CTE for an extended portion of their high school careers. While students graduated at

a higher rate when they were associated with a single CTE course, the numbers improved even

more when students became concentrators, meaning they completed at least two credits of

courses within the same CTE program during their high school careers (Oregon Department of

Education, 2017; Arneson et al., 2020). Along with graduating at a higher rate (Oregon

Department of Education, 2017), Arneson et al. (2020) states that in 2018, the concentrators from

the 2011 and 2012 graduating classes had higher annual earnings than their peers despite not

claiming a higher employment rate. This information suggests that it is not only important to

offer CTE programs, but it is important to offer quality programs that result in students

completing a string of related courses.

**Problem of Practice**

While having strong CTE programs is clearly important, there are some obstacles unique

to CTE that must be overcome to create and maintain existing programs. One such hurdle comes

in the form of retaining teachers. Advance CTE (2008) found that having strong teachers is key

to having a successful CTE program. While this issue is not exclusive to CTE, it is magnified by

the need of programs to retain students for multiple classes over a period of years.

It has been found that new core content teachers are not considered as effective as their

veteran counterparts and this likely extends to CTE instructors as well (Kraft et al., 2020). This

information becomes increasingly relevant within CTE when considering the rate of instructor

turnover. A study by Ruhland and Brehmer (2002) revealed that just 53 percent of CTE teachers

participating in the study intended to remain in the profession for eight or more years. This turnover leads to CTE programs hiring new and inexperienced teachers.

Igo and Perry (2019) found that the most-common reason agricultural educators left the profession was related to work-life balance. Competitive salary in alternate professions and a change of career were also listed in the study as playing a role in the decision to leave education. As implied by these findings, part of the problem with teacher retention may be related to workload and compensation, as CTE teachers face the temptation of exiting the teaching field for more lucrative careers in their areas of expertise (Advance CTE, 2018).

No matter the reason, the turnover of teachers in CTE creates significant issues. The loss of existing teachers forces students to create new relationships (if a teaching replacement can be found) and lowers the quality of instruction while new teachers gain experience (Kraft et al., 2020). These changes can result in an inhibited experience for students participating in a CTE program.

Teacher turnover and retention is an issue in every subject area (Center for Comprehensive School Reform and Improvement, 2007); however, CTE has some factors that set it apart. Many of these factors are tied to money. Beyond the other responsibilities faced by new teachers, CTE instructors are tasked with determining how to best allocate funding. The use of funding could have significant impact upon a CTE instructor, as using funds in the optimal manner could impact everything from the effectiveness of the program to the instructor's personal enjoyment.

New CTE teachers are learning not only how best to apply classroom management techniques, but also how to spend the thousands of dollars available to their program for the upcoming school year. Those decisions could add stress to the teacher's role or add enjoyment if

wise and informed decisions are made. Wise spending can help teachers to feel successful by providing for student needs, assisting in personal growth, and enhancing leadership skills (Watkins, 2016).

**Choice of Health Science**

Although the information in this study will be applicable to CTE instructors of all backgrounds, the research focuses specifically on instructors from the Health Science Career Cluster. This specific area represents the greatest need in the workforce and is relevant to every community (Restuccia et al., 2018). While the relevance of the Agriculture, Food and Natural Resources Career Cluster will vary from community to community, Health Science is a Career Cluster that is nationally applicable.

**Purpose of Study**

The purpose of this study is to provide Career Technical educators in Oregon (specifically Health Science teachers) and the responsible administrators information regarding how spending state and federal funds can assist with instructor success and retention in 2022. The study was conducted through the use of interviews with current and former Health Science instructors of a federally approved/funded program.

**Research Questions (RQs)**

RQ 1: What stories do Career Technical Education (CTE) Health Science instructors tell regarding funding as a mechanism for increasing Health Science instructor career-enjoyment/satisfaction and retention?

RQ 2: How do these stories shed light on the perceived barriers for current CTE Health Science expenditures?

RQ 3: What potential solutions to the issue of retention and job satisfaction are

illuminated by these stories?

**Narrative Format**

As previously mentioned, the goal for this research was to benefit CTE instructors and

administrators. Because each individual and CTE program is unique, narrative inquiry format

was chosen for the research. By focusing on the stories associated with success or failure

regarding expenditures, readers are able to determine if the findings of the study participants

translate to the reader's current situation. Additionally, dealing with stories is something teachers

are familiar with and to which they can often relate (Clandinin et al., 2007).

**My Interest in this Research**

This topic grabbed my attention for a few different reasons. First, I began my teaching

career in a core subject before moving over to teach a CTE-approved program. Attaining the

required certification was an option for me because I had worked in journalism and photography

prior to teaching, and these endeavors fit the necessary professional experience for a Visual,

Performing and Media Arts license. Because I didn't know much about Career Technical

Education when I made the change, I was surprised to learn about the federal funds available to

be spent on the program. I was advised by a teacher in a different program to make a list of

equipment I would like to add and request it at the end of the year. So I looked online for ideas

and made a list. In fact, that's what I have done from that first year on.

Looking back, I now realize how much I would have benefitted from using that funding

in a different manner. As it turned out, I was able to get the certification to teach video

production classes, but my experience in the area was quite limited. It took many years to get to a

point of genuine confidence in the content I was tasked with teaching. My prior experience in the

classroom kept me afloat, but I have to wonder if I made the right choice in purchasing

equipment I learned about online instead of using the money to improve my own knowledge

regarding the content area and learn about better equipment. In truth, I attended the national

convention that was put on by the Association of Career Technical Educators (ACTE) my first

year because a group of other educators from my school was going, but I didn't learn much about

my specific area because the presentations were more general and focused on teaching methods.

Field trips may also have been a wise expenditure for my students. I was not able to give

them industry-experienced information and guidance with my limited experience. Perhaps both

myself and the students would have been better off had I used some funding to visit alternative

sites through field trips.

At an ACTE conference a few years into my CTE teaching, I listened to a presentation

from the principal of a technical school in a western state. This took place five years before I

seriously considered this research topic, but I remember being surprised to hear her say that the

biggest problem she faced was retaining instructors. She said they would stay for one or two

years before taking a more lucrative job in the industry. Since that time, I have wondered what

could be done to keep those instructors in teaching for longer.

That wondering, combined with my own curiosity about how funds for CTE would best

be used, led me to the question: could there be a connection between CTE funding and instructor

retention? I was curious about how to use the significant funds to increase instructor enjoyment

and help with retention. Since the money is already being spent, learning how to spend it more

effectively could be a no-cost way to assist in improving CTE programs without changing

policies.

While I have no background in Health Sciences myself, I viewed it as the best possible area of research due to the high demand in the workforce. In addition to the demand, I had also noticed that a large number of students/former students were entering or interested in the field after high school. The combination of interest from high schoolers combined with an obvious need in society led me to this topic.

**Limitations and Delimitations**

The goal of this study was to provide information that could be used by any CTE teacher reading the findings. With that in mind, I chose a narrative study of four educators with different backgrounds and experiences. The three teachers offer diverse stories despite being from the same school while the critical informant offers insight from a broader perspective. This choice was made purposely, but also results in limitations and delimitations.

**Limitations**

Interviewing three instructors with experience in the same school meant being unable to provide insight into how schools with differences in socioeconomic characteristics, student demographics, or other areas benefit in ways this particular institution could not reveal. Hopefully, however, this allows readers to focus on the responses of the individuals and see how each interviewee is impacted by similar decisions within a consistent environment.

**Delimitations**

The goals of this study were such that taking a narrative approach resulted in the most-useful data. Determining what teachers find to be true for themselves while providing pertinent background information allows other CTE teachers viewing the research to apply the information to themselves and their programs. Delving into the experiences of individuals in this small sample compels interested parties to determine the best application to their specific situation;

focusing on the stories of participants through interviews allows for the identification of common themes and trends, which may be applicable to the population.

Although the three teacher participants all have experience in the same school, the program was not the same for each. There were significant changes in course offerings, program funding, available equipment and facilities from instructor to instructor. These time-related changes combined with the narrative approach allowed the research to consider programs at different stages in their development.

The critical informant, a CTE area coordinator, brought broader experience to the research. By including an expert who had been invested in the spending of funds at many different schools and programs, the research was able to reach a broader application. While the area coordinator was not using the funds directly, he was tracking their use and hearing from the individuals who were spending the funds on a semi-consistent basis.

## Chapter Two - Literature Review

**Importance of CTE**

The educational system has many defenders and many detractors because of its broad range of goals and responsibilities. How can one judge the success of a massive system that is attempting to serve so many diverse populations and individuals in so many ways? A few areas we often look to when defining educational success are graduation rates, provision of safe environments where students feel accepted and welcomed, and preparation of students for the next phase of their lives. There are other goals that can be assessed as well, but research has shown that Career Technical Education (CTE) seems to assist in these three areas (Brand, 2008; Arneson et al., 2020; Thessin et al., 2018).

In addition to success in school, CTE students often find success in related academic endeavors. Michaels and Barone (2020) found that CTE program completers performed better on the ACT's reading, writing, math, science and English assessments. Overall, the study found CTE completers achieved scores that were four percent higher than non-CTE completers.

CTE programs offer their students the opportunity to complete classes that prepare the individuals for the future by challenging students academically, offering technical challenges that build skills, putting students in work-based learning scenarios, and/or offering supplemental instruction (Hoachlander, 2008). These are important experiences for students in multiple ways. CTE programs are not only helping students while they are in high school, they are often preparing students for careers that are in high-demand and require additional training beyond a standard high school diploma (Regional Educational Laboratory Appalachia, 2020; Arneson et al., 2020).

In many cases, the largest gaps in the workforce (and therefore the areas of greatest demand for qualified workers) are associated with existing CTE programs of study. Health Care, Business and Financial Operations, Office and Administrative Support, Sales, and Computers and Mathematics were found to be the categories facing the greatest shortage of workers, according to a study by Restuccia et al. (2018). Due to the varied extensions of CTE programs, these areas of need in the workforce each align with a specific Career Cluster within CTE's design (Career clusters, 2021). Some CTE programs prepare students to continue their education, resulting in preparation for what Restuccia et al. would refer to as *high-skill occupations.* High-skill occupations are defined as those in which 20 percent or fewer of the job postings don't require at least a bachelor's degree. Job openings in this category represent the biggest deficit of workers as openings exceed available employees by 25 percent (Restuccia et al., 2018). CTE programs also assist students down paths to *middle-skill occupations* which require training beyond a high school diploma and boast 13 percent more openings than available workers (Restuccia et al., 2018).

The above explains why CTE concentrators earned more money than other graduates after graduating high school (Estes and McCain, 2019; Silverberg et al., 2004), as evidenced in a study by Arenson et al. (2020). CTE programs are specifically designed with this purpose in mind as the expectation for completers is employment in high-wage, in demand careers (Arneson et al., 2020). It is because of this focus that many outside of education have taken an interest in CTE programs and their availability. Former Governor Jeb Bush (2020) wrote an opinion piece focusing on the importance of CTE programs. In addition to sharing some of the important impacts CTE programs have, Bush also stated that at least 35 different governors had discussed the topic in their state-of-the-state addresses.

Beyond pointing students in the direction of lucrative career opportunities, CTE has also been found to help students with the task of graduating high school. Multiple studies have shown that CTE participants graduate at a higher rate than peers who go through high school without participating in CTE programs (Arneson et al., 2020; Brand, 2008; Estes and McCain, 2019). It was also found that students who were completers — meaning they took enough courses to complete a program — graduated at even higher rates (Arneson et al., 2020). This academic success also extended beyond the graduation rate as Michaels and Barone (2020) found that CTE completers performed better on a standardized achievement test than their peers. This research looked at the ACT scores of students from a single school district and compared 500 completers to 500 non-CTE graduates.

These positives highlight the importance in keeping CTE programs operating. One essential way to keep CTE programs running is to find new teachers who are prepared to lead a program. In some cases, these new teachers complete an alternative teacher preparation program which can assist them in many ways (O'Connor, 2012). Teachers completing a preparation program benefit from learning about curriculum development, safety and lab management/instruction, and other areas of interest specific to CTE (O'Connor, 2012). As Thessin et al. (2018) explained, CTE teachers need to know not only the skills related to their program and how to teach those skills but must also know about the field for which they are preparing students. This is a difficult combination to find in a new teacher; research has shown that only about 25 percent of CTE teachers employed over a five-year period in the early 2000s had come from a university-based program intended for preparing educators (Bottoms and McNally, 2005).

Some CTE Career Clusters have a larger issue with finding skilled teachers than others. Zirkle et al. (2019) found that alternatively-licensed teachers were less likely to remain in education as their own level of education increased. Their study found a retention rate of 44 percent for alternatively-licensed teachers with no college experience compared to just 29 percent for teachers with a graduate degree.

Teachers of CTE programs also come from academic settings, but this requires assistance and training (O'Connor, 2012). Program leaders need to have certain skills to successfully prepare their students (Saucier et al., 2012; Thessin et al., 2018). There is evidence to suggest these skills can be gained through trainings and professional development (Thessin et al., 2018). Thorn and Brasche (2020) found that primary teachers saw significant improvement in their perceived confidence for instructing students in musical education following a professional development. In this study, teachers evaluated their own confidence regarding many different categories related to instructing students in musical education, and a mean improvement was found in every category.

And while teachers of CTE programs come from varied backgrounds, one thing that remains apparent is that attrition is a problem. Bottoms and McNally (2005) claimed that many teachers who enter CTE programs through alternative routes leave within the first two years. This research referenced administrators who reported that the teachers were not prepared for managing a classroom and dealing with students. Others have claimed that there are additional issues playing a role. A study by Omar et al. (2017) claimed that retaining CTE instructors could be improved by retention plans focused on, "salary, administrative workloads, teachers' evaluation and assessment, motivation, and job satisfaction," (p. 193).

**Teacher Shortage**

Career Technical Education is in a strange position. Many CTE programs are preparing

students to enter a career that is facing a worker shortage. Because of the shortage, there is high

demand for qualified professionals, resulting in lucrative opportunities for individuals with the

knowledge and training to fill voids within the workforce. This creates a catch-22 as instructors

who could prepare additional students for the openings are also drawn toward those openings

themselves. While there is a demand for instructors at both the secondary and post-secondary

levels, there is a lack of preparation programs available for CTE instructors at the collegiate

level, leading to a shortage of instructors at the high school level (Brand, 2008). Brand's survey

of over 12,000 CTE teachers across 30 states found that from 2000 to 2005 about 25 percent of

teachers had gone through a teacher preparation program at a university. This trend has not

changed much over the years as the shortage has continued. In fact, recent research claims that

two-thirds of states were facing a shortage of CTE instructors in 2016 (Hasselquist and Graves,

2020). Similarly, in many states there is concern regarding the impending retirement of a

significant percentage of existing CTE instructors which may enlarge the already significant gap

(Cohen, 2018).

The scarcity of CTE instructors is being felt all across the country and being dealt with in

many different ways. It's vital to overcome the shortage as having quality instructors is key to

having successful programs (Advance CTE, 2018, Song et al., 2011). For this reason, many

states are trying new methods for recruiting and retaining expert CTE teachers. Kentucky is

using an adjunct certification program to hire industry professionals to teach part-time while

remaining in the workforce (Advance CTE, 2018; Cohen, 2018). Kentucky is also adjusting

policies to ensure CTE teachers are paid competitively without needing to acquire a master's

degree (Advance CTE, 2018; Cohen, 2018). Meanwhile, Tennessee is using a technique referred

to as *micro-credentialing* to allow existing teachers to complete a short program in order to earn

accreditation for additional subject areas (Advance CTE, 2018).

      Some states are even using higher wages to entice instructors into the classroom and keep

them there. Kentucky and Hawaii are both allowing teachers of high-demand content areas to

receive increased wages (Advance CTE, 2018).

      This change in potential wages may have a significant impact on CTE teacher retention

as findings have shown that more desirable job opportunities, poor salary, and insufficient

compensation are significant factors in teachers moving on from education (Claflin et al., 2019).

Claflin et al. (2019) found that CTE instructors in Oregon who exit teaching usually leave for

other professional opportunities. This is the same reason many trained educators choose to find

other career paths before ever teaching a single class. Claflin et al.'s findings are consistent with

the earlier work of Ruhland (2001) whose study found that 57 percent of the secondary business

teachers that left the profession indicated insufficient salaries as the primary reason for leaving.

Igo and Perry (2019) ascertained that participants who completed an agricultural education

program but did not enter the field claimed the competitive salary that they were offered

elsewhere was the largest influencer in choosing a different career.

      Igo and Perry (2019) also said that participants who left education listed moving outside

of education, competitive salary, and career change as three of the biggest contributors in their

decision. Other research has shown that teacher retention is also tied to job satisfaction and

engagement in the work (Park and Johnson, 2019).

      Zirkle et al. (2019) took a deep look at the issue of teacher retention in the form of a

longitudinal study. The researchers interviewed participants of a summer workshop at Ohio

University that was part of the requirement for alternatively-pathed educators receiving their

teaching credential. This study took place from the 2002-03 school year to the 2017-18 year. In

order to take part in the workshop, all participants needed to have a job with a school district

before attending. At the end of the 16 years, Zirkle et al. found that 279 of the 468 participants

were still teaching. As the researchers expected, the participants from the start of the study had

the lowest retention rate and the participants from the most recent workshop had the highest

retention rate. Additionally, the findings showed that the retention rate had a negative correlation

to participant education. Those who had not attended college remained in education at the

highest rate (44 percent) while those with a graduate degree were retained at the lowest rate (29

percent).

The issue of retention is not unique to CTE programs, however. It has been found that

teachers have a tendency to leave the teaching profession after three years of work (Skaalvik and

Skaalvik, 2011). Specifically, Skaalvik and Skaalvik stated that 25 percent of teachers chose to

pursue another career path prior to their third year in education. This number is similar to

findings among CTE instructors, as agriculture teachers who left teaching were found to leave

after a median of three years (Igo and Perry, 2019). Being in the CTE realm simply adds to the

draw of leaving the teaching profession because of the additional temptation presented by other

career opportunities.

The combination of intrinsic and extrinsic factors makes retaining teachers an interesting

dilemma (Omar et al., 2017). Determining how to offset salary discrepancy and administrative

workloads in order to assist with improving a teacher's job satisfaction or motivation is key to

retaining teachers in any CTE Career Cluster (Omar et al., 2017).

**Spending Limitations**

While many states offer other financial opportunities to programs like Oregon's Measure 98 (Clarno, 2020), one consistent form of financing available are Perkins funds (CTE in Your State, 2021). Though states divide the money differently between secondary and post-secondary programs, the funds are available in all states and have the same restrictions on how they can be used. Unfortunately for teacher retention, increasing a CTE instructor's salary is not an option with Perkins funds; funds are limited to use for instructional materials, technology purchases, instructional field trips for students, state-of-the-art equipment purchases, and adding resources (Kentucky Department of Education, n.d.). Additionally, Perkins funds may be used to provide professional development (PD) for teachers by paying for registration fees for the PD, travel expenses, lodging, meals, and substitute teachers for the period in which instructors are gone (Kentucky Department of Education, n.d.; Advance CTE, 2018). These limitations restrict teachers in the spending of their yearly allotment to one of three main categories: purchasing equipment/technology, attending professional developments, or field trips/guest speakers.

**Professional Development**

Professional development (PD) can take on many forms. While in some cases it is provided to a school's staff at the end of a school day, specific and guided PD opportunities exist with many different goals in mind. Desimone (2011) claims that a useful PD should be at least 20 hours long and spread out over time. Desimone also claims PD should be focused on specific content that is relevant to the attendees and includes active learning. This idea is in line with the suggestions from Bottoms et al. (2013) who claimed that PD for new CTE teachers should be intense, summer-long, and include instructional planning, instructional strategies, classroom assessment, and classroom management. Classroom management skills may be particularly

relevant to retaining teachers since there is a positive correlation between individuals' perceived classroom management skills and their self-confidence (Bas, 2019).

PDs for CTE in general are prevalent and have been found to be useful in many different formats. From entire programs to shorter trainings to week-long outdoor expeditions, teachers can take away useful techniques and skills from professional developments of all different styles (O'Connor, 2012; Thorn and Brasche, 2020; Holland et al., 2020). The state of Louisiana has even worked to offer its CTE instructors virtual externships with industry leaders (Advance CTE, 2018). In any format instructors often walk away from these opportunities with increased confidence in their own abilities in the classroom (Bottoms et al., 2013; Thorn and Brasche, 2020; O'Connor, 2012).

Opportunities for professional development may be useful to CTE instructors from all different backgrounds. O'Connor (2012) found that additional education and support was required for success by an academic teacher making the move to teaching CTE; this was particularly true of teachers who were new to the profession, but also for individuals with experience. These findings compliment those of Thorn and Brasche (2020) as well - while it was elementary teachers who were learning to teach music, the confidence level regarding instructing specific content rose in those who attended the PD.

Adding knowledge and skills is also helpful to new CTE instructors as courses often use a different method of instruction than their core-content counterparts. Project- and problem-based learning are a key part of CTE courses (Brand, 2008). For both new teachers and teachers moving to CTE from other content areas, the project- and problem-based style of activity and presentation may be new. These different designs for assignments and presentation allow for the embedding of math and science which are areas of knowledge that PD may sharpen in the CTE

instructor (Bottoms et al., 2013; Brand, 2008). Brand (2008) stated that PD would benefit

teachers in understanding how to effectively assess student learning.

In addition to using PD to prepare teachers for teaching CTE, it is also important that

teachers use professional development to maintain knowledge that is relevant to the

concentration being presented (Thessin et al., 2018). Most CTE programs are preparing students

for careers in an ever-changing workplace with new technologies being introduced on a

consistent basis. From woodworking's use of computer numerically controlled (CNC) equipment

to health care's latest imaging technology, there are new aspects to each career of which

instructors benefit from being aware. Some teachers feel strongly that spending time in PD is

paramount to their own success (Thickstun, 2009). Having a knowledgeable teacher has been

shown to impact student learning, therefore having teachers continue to learn is key to student

achievement (Keller et al., 2017; Thessin et al., 2018).

While learning new techniques may be beneficial to some instructors, others may run into

roadblocks that limit the value of a PD. Anderson and Anderson (2018) found that many CTE

teachers attending a professional development relating to two-stroke engine maintenance and

repair did not benefit fully because they and their students did not have access to the necessary

equipment upon returning to their home school. This was not due to ineffectiveness of the PD, as

a concurrent study by Anderson et al. (2018) showed the attendees had perceived improvement

in their own ability and competence to teach two-stroke engine inspection and testing.

The importance of effective PD could be monumental, as teachers who see improvements

in their own practice as a result of professional development enjoy teaching more (Guskey,

2002).

**Field Trips and Guest Speakers**

Another way that teachers may choose to spend their allotted funds are on field trips or guest speakers (Kentucky Department of Education, n.d.). Field trips are unique as they can be useful in both the short term and the long term. Falk and Dierking (1997) asked a variety of people ranging from fourth graders to adults about their experiences with field trips while in school. They found that 93.5 percent of adults could recall the field trips they had taken in school. In addition to simply remembering the trip, 73.4 percent said they had thought about the trip frequently since and could still remember specifics. Falk and Dierking said their participants left them with the impression that there was no decline in the recollection of the field trip over time.

That's not to say that information retention from field trips is only useful in the long term. Greene et al. (2014) found that students touring an art museum retained large amounts of factual information following their visit. Along with retaining facts, the students showed an increased understanding of art and an increased interest, something that could be particularly valuable for CTE programs. As well as being beneficial to the students, Kushins (2015) claimed field trips to art museums were similar in effectiveness for teacher improvement to attending professional developments.

Field trips for CTE can vary greatly from program to program. Leffler (2006) described the benefits of taking architecture students to working job sites. The students were said to benefit from talking to the carpenters and from filling out worksheets related to the class focus throughout the visit.

In some cases, a visit to a worksite can be particularly advantageous, as evidenced by the findings of Thessin et al. (2018). While conducting interviews with graduates of a healthcare

education program, the researchers learned that observations of the related workplace and site visits were often considered a highlight of participating in the program. The participants said this was helpful for their learning and their development as a healthcare professional. The visits also helped students to see different areas of interest and decide which possible direction in health care might be the best fit for them.

**Equipment/Technology Purchases**

The third major expenditure that has been approved for use with Perkins funds is equipment/technology purchasing (Kentucky Department of Education, n.d.). This expenditure allows students to have access to equipment without leaving the school they attend. These purchases must be for new equipment and cannot be to replace the existing equipment in the program (Perry, 2019).

Purchasing equipment can be difficult for new CTE teachers. Determining which equipment a program will benefit from most is not an exact science (Fritsch, 2021). Part of this process must be the result of a local assessment aimed at determining how a particular region would benefit from purchases (Perry, 2019).

Having quality equipment may also assist in creating teacher-student trust. Fritsch (2021) noted that allowing students access to expensive equipment shows the teacher trusts the student, and often that trust is reciprocated.

Providing new teachers with better equipment may assist in retention according to Dainty and Su (2011). They found CTE teachers listed the quality of resources available, quality of required equipment, and quantity of required equipment as important institutional factors in leading them to remain in the profession following their first year of teaching.

Better equipment or technology may also result in better lessons planned by the instructors. Hasselquist and Graves (2020) concluded that an increase in the technology and equipment available to teachers often led to an increase in the innovation a teacher presented to classes. The authors also claimed that the addition of new equipment influenced career satisfaction, quoting one instructor who described how enjoyable it is for a teacher to be presented with new equipment.

The new techniques used by teachers will often be hands-on in style if new equipment is available. This type of learning is key to the success of a program, according to Thessin et al. (2018). Thessin et al. looked at the success of a healthcare education program and found the equipment was a large part of the program's success. Their findings directly correlate to offering students the opportunity to work with objects from the related field. In this study, researchers were looking at a program that was housed within a hospital and therefore offered students unrivaled access to equipment that was relevant to many different healthcare careers. For most CTE programs, these facilities are not readily accessible, but the idea remains the same.

There are other options that get state-of-the-art equipment into students' hands, but these opportunities are often difficult to find and may not be feasible for entire classes. Brown (2013) detailed a camp for girls interested in construction; those attending were given training and direction, but the camp was for interested individuals and took place in the summer.

**Equity Considerations**

Career Technical Education has many different benefits for students who participate (Brand, 2008; Arneson et al., 2020; Thessin et al., 2018; Michaels and Barone, 2020). In order for students to benefit from these programs, however, the programs must be available in the students' area. This can be particularly difficult for small, rural, and urban schools and districts

(Brand, 2008). Arneson et al. (2020) suggested altering funding for small, rural, and low-income schools so that a minimum level of programs could be offered.

Interestingly, the National Center for Education Statistics (2012) found that it was most difficult to fill CTE teaching positions in the city setting, followed by rural settings. Towns were the easiest place to hire instructors and suburban settings finishing just behind.

One step in removing equity concerns is ensuring that programs are tied to local industries (Estes and McCain, 2019). Unfortunately, CTE programs are often offered based upon available teachers and their certifications instead of the needs of the region (Advance CTE, 2018). The state of Kentucky has made multiple changes in an attempt to get qualified teachers into the schools, including allowing part-time teaching with alternative certification and alterations to pay limitations (Advance CTE, 2018). These changes may assist with equity as the regional needs can be met by current workers in relevant industries. Communities in which the career openings require agricultural education are, in theory, able to bring qualified instructors to education to prepare the region's students.

Adding to the difficulty of filling positions in rural areas is the inability to collaborate with teachers of the same subject. CTE instructors will often lack a counterpart in the immediate area. While joining national organizations may help, more consistent and local options are challenging for teachers in small communities. Missouri is doing its best to combat this issue with a four-day training that offers new CTE teachers an opportunity to prepare for their first year (Advance CTE, 2018).

A lack of qualified instructors also creates issues for students being able to get involved (Estes and McCain, 2019). In some cases, schools are looking to expand their CTE offerings by educating their existing staff (Advance CTE, 2018). Having CTE instructors take advantage of

opportunities like Tennessee's micro-credentialing to branch out may allow rural schools to offer programs that would otherwise be impossible to staff with instructors (Advance CTE, 2018).

**Health Sciences**

CTE programs in general are beneficial to the students enrolled in them as well as to the communities housing them, but not all CTE areas of concentration should be lumped together. Arneson et al. (2020) found that students who concentrated in health sciences saw the greatest returns. As previously mentioned, Restuccia et al. (2018) found the healthcare industry to be the most in-need of additional workers. The need for more workers creates an interesting dynamic at the secondary level. The demand for healthcare practitioners increases the wages for qualified individuals, thereby lessening the likelihood of instructors entering into or remaining in education.

This trend can also be seen in the lack of nursing faculty at the collegiate level (American Association of Colleges of Nursing, 2020; Park and Johnson, 2019). A report from the American Association of Colleges of Nursing (2020) stated that in 2019 there were 1,637 faculty vacancies based upon the responses of 892 nursing schools.

The need for more workers in the health care industry is not lost on students. Across the United States, healthcare has the highest concentration rate in CTE (Northern and Petrilli, 2019). Part of the reason for this is that every region has a need for healthcare workers. In addition, healthcare workers have varied levels of education. CTE programs can prepare workers to continue their education toward careers from technicians to doctors, with the biggest skills gap in health care residing at the top of the education chart (Restuccia et al., 2018).

**CTE in Oregon**

As previously mentioned, secondary schools in Oregon received $7,793,192 of Perkins funding for the 2020 school year (CTE in your State, 2021). The entirety of that amount goes to CTE programs across the state.  In total, Oregon had 297 public high schools serving 170,742 students in 2020 (CTE in your State, 2021). Of the 170,742 students in Oregon, 89,239 were enrolled in CTE courses with 56,886 being classified as CTE completers (CTE in your State, 2021). When 170,742 is multiplied by the funding of Oregon's Measure 98, the numbers get truly massive. Measure 98 says at least $800 must be provided per high school student for establishing or expanding CTE programs and college-level courses or dropout-prevention strategies, which increases the amount of money available to schools by $136.6 million (Clarno, 2020). While not all of that money goes to CTE, it puts over $144 million of available funds in play for CTE in Oregon. Additionally, programs are eligible to apply for the CTE Revitalization Grant and could receive up to $125,000 on top of other local grants that vary by location (Oregon Department of Education, n.d.).

Arneson et al. (2020) looked at Oregon's CTE programs in-depth and found that it's growing in the state, with urban schools' programs growing at the fastest rate. Forty-three percent of the students who graduated in 2018 were considered concentrator+ students, which meant they earned two or more credits in one secondary CTE program.

Oregon's students have shown some trends based upon gender. The most popular field among males was Industrial and Engineering Systems with over 40 percent of students participating in the cluster, while over 25 percent of males concentrated in it, and 10 percent reached concentrator+ status (Arneson et al., 2020). For females, Business and Management was the leader for participants at 30 percent, with 15 percent reaching at least concentrator status

(Arneson et al., 2020). However, the leader in Career Cluster for concentrator+ status for females in Oregon was Health Sciences with almost five percent of all female students in Oregon (Arneson et al., 2020).

The growth and funding have been accompanied by expectations. Oregon's programs are required to meet program of study criteria as of 2013 (Arneson et al., 2020). This means secondary programs are aligned with postsecondary institutions to ensure students are being prepared for higher education as well as entry into the workforce (Arneson et al., 2020).

As has been the trend nationwide, 2018's CTE concentrators graduated at an increased rate when compared to their peers and secured better annual incomes (Arneson et al., 2020). Oregon students enrolling in Health Science programs showed a positive correlation with CTE-related benefits (Arneson et al., 2020).

**Calls for Future Research**

Hasselquist and Graves (2020) studied mid-career CTE teachers with the goal of understanding how to better retain those in the field. They called for many directions of future research. One such suggestion was determining if enrollment or involvement in professional organizations is helpful with regards to influencing longevity and career satisfaction. A recommendation for looking into the importance of innovation with regards to teacher retention was suggested as well.

Park and Johnson (2019) called for additional research regarding Health Science teachers, specifically turnover intention, job satisfaction, and engagement.

Following their quantitative research pertaining to turnover intentions of CTE instructors, Song et al. (2011) suggested that detailed interviews and other qualitative methods be used in understanding the issue with greater detail.

After looking at a successful healthcare education program that took place within the confines of a hospital, Thessin et al. (2018) urged research regarding the planning and structures of CTE programs to support the activities of greatest benefit.

Zing et al. (2019) provided wonderful longitudinal research with reference to the retention and attrition of CTE teachers, but suggested additional research should be conducted regarding the specific reasons why teachers leave the profession.

**Chapter Three - Methods**

This research was conducted in the form of a narrative study. This method of gaining information is common in research regarding education as it's familiar to educators due to the story-type style (Clandinin et al., 2007). Narrative study allowed the participants to share information both about themselves, their program, their students, and their institution which readers can decipher and apply to their own situations.

As shown in the literature review, there is evidence regarding why education majors leave or never enter education. There is also research that shows the benefits of field trips, equipment purchases, and professional developments. This study was focused upon understanding how using these different expenditures could affect teacher satisfaction and therefore retention.

When Falk and Dierking (1997) were researching the long-term impact of field trips, they conducted interviews. These interviews allowed the researchers to ensure the responses were accurate. Each of the 182 participants were asked a list of the same questions. These questions forced respondents to put genuine thought into their answers instead of answering *yes* or *no* on a paper. Falk and Dierking asked respondents to generate specific lists and explain answers, which were then used to create quantitative data. In the current study, questions were asked to induce critical thinking that extended to specific details, but the questions and interviews were much more in-depth and probing than the seven-question format from Falk and Dierking's study.

RQ 1: What stories do Career Technical Education (CTE) Health Science instructors tell regarding funding as a mechanism for increasing Heath Science instructor career enjoyment/satisfaction and retention?

RQ 2: How do these stories shed light on the perceived barriers for current CTE Health

Science expenditures?

RQ 3: What potential solutions to the issue of retention and job satisfaction are

illuminated by these stories?

The goals of this study were such that taking a narrative approach resulted in the

useful data. The interviews were the data source. Determining what study participants found to

be true for themselves while providing pertinent background should allow other CTE teachers

viewing the research to apply the information in a valuable manner. Delving into the experiences

of individuals allows interested parties to determine the best application to their specific situation

and focusing on the stories of participants through interviews allowed for the identification of

common themes which are applicable to the population.

Though focusing on Health Sciences, the research is intended to inform instructors from

all different content areas within CTE. There are differences as to what will benefit instructors

from different clusters, but that does not mean the following information will be of no value to

other content areas. Additionally, because the information was gathered in a qualitative format it

should be easier for teachers reviewing the study to identify similarities between their own

programs and the examples studied.

It was important for this research to look at Health Science teachers from varying

backgrounds to increase the number of readers who can apply the findings to their own

situation/needs. Additionally, interviewing teachers who had chosen to stay in the profession as

well as those who made the decision to leave was key to getting well-rounded responses.

The funding and associated limitations used for Health Sciences is applicable across all

CTE programs. Instructors of CTE programs come with varied experiences and prior education;

as previously mentioned, CTE instructors can obtain certification through many routes (Advance

CTE, 2018; Cohen, 2018).

The study focused on four individuals who had experience with Health Science program

funding in secondary education. The interview questions used to guide conversations were

written by the researcher.

## Participants

The three participants and critical informant for this study were assured they would

remain anonymous to ensure their confidence in speaking freely. Interviews took place in

comfortable settings where the participants were able to speak without concern of their responses

being overheard by coworkers. All participants and locations are referred to using pseudonyms at

all times to ensure their anonymity.

## Participant Backgrounds

Staci, Ryan, and Amy all taught at the same institution in Oregon. The school (Eolian

High School) had between 1,000 and 1,500 students. The student body was 76% White, 13%

Latinx, 8% Multiracial, 2% Asian, 1% Black/African American, and 1% American

Indian/Alaska Native (Oregon at a Glance School Profile, n.d.). The population included 5%

Ever English Learners, 11% Students with Disabilities, and 25% Free/Reduced Price Lunch

(Oregon at a Glance School Profile, n.d.). I sought out these three participants for this study

because of their similarities and differences. This group represents different genders,

professional backgrounds, age ranges, and program history.

Staci was interested in education upon entering college. While in college, she decided

that her passion might actually be in the field of physical therapy, but she pivoted back to

education when she learned the physical therapy programs she would have to apply for upon

graduating had two-year waiting lists. Her early teaching career found her coaching multiple

sports and instructing in science and health classes. She was not initially involved in Health

Science; a Health Science position existed at the school she was working in, but another teacher

was established in the role at the start of Staci's career. When the rules for Health Science

accreditation changed and the established teacher was not interested in adding the new

certification to his license, Staci jumped at the chance to move into teaching Health Science.

The change required some extra work from Staci, however. In order to gain approval and

receive funding, she had to complete 120 hours of observation in Health Science careers. She

traveled to a number of locations and observed professionals over the course of a few summers

to gain her accreditation.

After transitioning to Health Science as a focus, Staci remained in education for

approximately 15 more years. During that time, she also taught science courses. She ran her CTE

program and made yearly purchases with varying amounts of funding available. Her teaching

space was a classroom that had been designed with science classes in mind. Upon retiring from

Eolian High School, Staci remained associated with the program through a paid position as a

mentor. She also mentored teachers at other nearby schools who taught a variety of subject areas

at varying levels.

Ryan entered Eolian High School as a Health Science teacher with a very different

history from Staci. He had never taught before nor studied education. His previous experience

was working in the Health Science field as a personal trainer and CrossFit instructor. It was

while working in this field that Ryan met some staff members from Eolian High School who

were clients of his. Those relationships paved the way for Ryan to enter education as a coach and

substitute teacher. Because he enjoyed those experiences, he made the move to become an

instructor in Health Science. He went through the approval process of submitting his field experiences to a panel and received approval to lead the program. Initially, Ryan was working part-time as a teacher while continuing to manage and operate a CrossFit gym. After a short time, Ryan decided to enter education full-time and stepped away from his other profession. At that point he started a master's program to extend his license for the new career.

The career change was something Ryan took seriously as he pivoted away from working in the Health Science industry. He said he was interested in purchasing the gym he had been managing, but he and the owners were unable to reach terms on a deal. At that point he determined teaching could be the new challenge he was looking for. Ryan was at Eolian for approximately three years.

Ryan taught additional classes outside of Health Science while working at Eolian. His principal asked him if he would be interested in working with students who had difficult living arrangements outside of school, and he was excited to take on that challenge. The additional classes were something Ryan enjoyed pairing with his Health Science program. Ryan's classroom was a windowless interior classroom that had been converted from a meeting space. It was Ryan's intention to remain in education for a long time when he started at Eolian High School because he enjoyed the work and appreciated how it provided him with a continuous challenge. Ryan left education to pursue opportunities in his previous field that offered increased flexibility. When interviewed for this research he was working from home and was able to make his own schedule. He ended his teaching career at the end of the 2020 school year, right at the peak of the COVID-19 pandemic; however, Ryan said the pandemic did not play a role in his decision to leave. While he stopped teaching that June, he said the plan to leave education was something he and his wife had been thinking about and working on since the previous July.

Ryan stated that his reason for leaving education was quite simple: he desired more flexibility than the rigid teaching schedule could provide. He said his decision was not related to making more money or because of anything that happened within his time teaching. When he started teaching, he was not married, but after starting at Eolian High School he married and started a family. In addition to having his own family, he said it was important for him to visit other relatives at times that a teacher's schedule prevented. He stated clearly that he did not see any way that a career in education could have provided him with the flexibility he was seeking and said there is no possible change that would have kept him in education - funding or otherwise. At the time of his interview, he was still working as a coach in multiple programs at the school and had no intention of stopping.

When Ryan decided he was going to exit education, Amy was brought in to take over the program at Eolian. Like Ryan, Amy came from a career in Health Sciences. She brought 20 years of diverse experience working as a dental hygienist. Amy had worked in clinics before running a non-profit organization in the same field. The non-profit experience led to her teaching at the collegiate level. While at the collegiate level she noticed that her students weren't as prepared as she thought they could be. In her estimation, they lacked the background and study habits they needed. She entered public education after COVID-19 resulted in the suspension of her non-profit clinic. A friend of Amy's had ties to Eolian High School and when a full-time position was presented as an option, she felt it was a good fit. Her own children were in the public education system and she wanted to lead students, so she accepted the position and began the process of gaining her teaching credential. At the time of her interviews for this research, she was working toward her master's degree in education through an online program.

Amy stepped into education in the midst of the pandemic. She taught online for 75 percent of her first year in education. When contacted for this research, she had spent as much time teaching online as in-person - about 27 weeks. Her classroom was new construction and specifically designed for teaching Health Science courses. The space opened directly into the training room at Eolian. At the time of her interview, she had not yet been able to get students outside of the classroom for field trips due to pandemic-related regulations. Amy also had not taught any classes outside of Health Science.

The critical informant, Ron, served as an assistant dean in a community college while overseeing Perkins funding as the regional coordinator in his area. Ron oversaw the expenditures of all CTE teachers in his region and decided whether requests could be approved or denied in matters relating to Perkins expenditures. He had prior experience in CTE as he spent 17 years teaching before taking a position in administration. While he had worked as a CTE instructor, it had not been in Health Science nor in the region he oversaw when interviewed.

The interviews with the participants and critical informant were free-flowing and conversational. At or before the initial interview, each participant signed the necessary forms for IRB approval. The first interview with participants served as an opportunity to hear the stories of the individual and get relevant background information. The participants explained their own histories and shared regarding their successes and issues in teaching with a specific focus on funding. At the conclusion of the first interview, participants were offered the opportunity to remove anything from the record. A second interview took place during which clarifying questions were asked based upon the first interview's responses. The second interview started with a summary of the previous interview and gave participants an opportunity to clarify any misunderstandings. During the second interview, the participants were able to dive deeper into

their stories and also gave their suggestions to future teachers of Health Science. The interviews

ranged from approximately 40 to 60 minutes, much like the focus group Hasselquist and Graves

(2020) conducted while looking at CTE teacher retention.

After each interview was recorded on two separate audio devices for redundancy and then

transcribed on a personal computer owned by the interviewer. At no point were any of the

participants recorded in a video format. The audio recordings were stored and transcribed on

personally owned technology that is the property of the interviewer to ensure participant

anonymity. Participants were assigned a pseudonym for the study and their real names were

never printed or used in any way, including in interview transcriptions.

After each interview, special note was taken of the body language and inflection of

participants. Notes were written by hand during the transcription process, regarding the inflection

that participants used surrounding specific topics. Additionally, notes were taken regarding the

general body language during topics. Nonverbal indicators were important to this study because

it focused on the feelings of the participants. Body language may give as much information about

a subject as the words used. Initial coding took place between interviews; the methods used for

this process are found in Saldaña's *The Coding Manual for Qualitative Researchers* (2021). First

cycle coding results guided interview questions that were asked in subsequent interviews. One

method used in this first cycle was In Vivo coding to identify key terminology that was being

repeated by interviewees. These keys terms were then used to guide the questions asked during

the subsequent interview. For example, the coding showed after Ryan's first interview that

mentoring was a consistent term/topic, so there were questions focusing on his mentor/mentee

relationship with Staci. The consistent topics of conversation from the three participants was then

grouped together to reveal themes that were evident throughout the six total conversations.

Power dynamics were not in play as none of the participants were my subordinates. In no way was my position going to affect the funding of Amy's program, so she was be able to speak freely. Ryan and Staci were in no way affected by me or anyone else in education as they were in a separate industry and retired (respectively), so there were no ethical concerns with them. Ron was also not affected by my decisions in any way.

**Chapter Four - Findings**

Many common themes were revealed by the research. Though the participants had varied backgrounds and entered a profession in education years apart, they shared similar experiences and opinions regarding instructor satisfaction/retention and use of funding.

**Challenging Profession**

There were a number of ways that the participants found the profession challenging. All three mentioned early and often that the curriculum was difficult to create. Despite her existing background in teaching, Staci found the process difficult because there wasn't a set curriculum at the state or national levels that already existed. Though she mentioned there being standards, the curriculum was something that she had to generate without much guidance regarding topic inclusion. Staci attempted to help her fellow Health Science instructors with this as often as she could both before and after her retirement by sharing what she had created.

One of the people Staci shared her curriculum with was Ryan. Ryan said that while inheriting curriculum was a helpful start, it didn't make the job easy. When asked how difficult he found teaching upon entering the profession, he deemed it an eight-out-of-10 because of curriculum creation. In addition to Staci, he received curriculum from other places, but no matter the original source, he talked about the significant effort he put into modifying it to fit his own style. He said there was literally never a time where he presented content without tailoring it to his own needs in advance. Part of the difficulty stemmed from being new to education and trying to implement teaching strategies. Ryan said it took some time, but after about 18 months the difficulty associated with teaching dropped from an eight to a four- or five-out-of-10 because he got into a routine at that point.

Amy also inherited Staci's curriculum, but had a different problem to face: online education. The first year Amy taught was mid-pandemic, so her classes were online. She found herself attempting to take existing curriculum and modify it to work in a very different situation. Amy specifically stated that creating curriculum was hard because of the standards to which different classes/programs had to adhere. Students' option to earn college credit and CPR/First Aid certification in some of her classes made creating curriculum more difficult. She specifically stated that she spent many late nights getting her content ready for students.

Much like Ryan, Amy listed converting the material to fit her style as being a significant obstacle when preparing for class. Upon starting in the profession of teaching, she said that some days the difficulty was a 10-out-of-10. This was not only because she was new but also because of the pandemic, which was requiring her to teach online and meant her students were unable to visit some of the locations for which the curriculum had been designed. Much like Ryan, Amy said the job got easier with time as she was able to dial in the content.

This is particularly relevant as there are opportunities for instructors to use funds on existing curriculum and professional development to assist with creating content. These expenditures will be considered in more detail later in this research.

Interestingly, all three of the participants stated very clearly that the challenge was something they appreciated. Staci liked the opportunity to create hands-on classroom scenarios for her students, despite the lack of existing structured curriculum. Ryan said he liked a challenge, and that he made the curriculum process more difficult than it needed to be in order to be sure his content fit his presentation style. He wanted to know every little detail regarding a lesson, which sometimes made curriculum creation easier and sometimes made it harder. Amy described the challenge of creating curriculum as something that kept being a teacher from

getting boring. In fact, she intended to continue tinkering with curriculum endlessly because she felt removing this challenge would make her job less interesting.

**Rewarding Work**

Something else that was stated repeatedly by the participants was how rewarding the profession was. Staci had the most to say in this regard as she was the most experienced of the participants. While teaching in general is often referred to as being rewarding, Staci explained how there were aspects of teaching Health Science that were rewarding in ways with which few other content areas could relate. Something a Health Science teacher can experience in the first year of teaching is seeing students find clarity and direction for their future as a result of their experiences, which was something Staci mentioned having enjoyed from her career. She said students determined career direction through experiences, both enjoyable and otherwise. Staci also appreciated seeing hands-on learning work with students in her classroom.

Ryan specifically mentioned how rewarding he found it to make an impact on kids' lives beyond what he was teaching or coaching. He enjoyed mentoring students and helping them through difficult times. In fact, Ryan even took on a class outside of Health Science working with kids who had difficult home lives and listed that as one of the greatest things he had a chance to do in teaching.

Amy's most rewarding moments had been related to student learning at the time of her interview. She specifically listed the 'aha moments' as being particularly rewarding for her. She enjoyed when students understood something new and said that it was more rewarding than what she had experienced working in the industry. While she found it rewarding cleaning the teeth of someone who was in desperate need, she found teaching offered her something a dental clinic couldn't.

Considering participants' feelings regarding rewarding opportunities is an important aspect of this research. Determining how instructors use funds to create rewarding opportunities will be addressed later in this research.

**Importance of Hands-On Learning**

As would be expected in most Career Technical Education clusters, Health Science appears to benefit greatly from offering hands-on learning. Staci created a lot of curricula over the course of her career, and she tried to include hands-on learning often. In-class labs like dissections were a big part of what she offered to hold the interest of her students. Additionally, she enjoyed using simulation kits to increase interest and help students deepen their understanding of what patients would be going through.

Amy inherited these materials and lauded the benefits of the simulation kits. Using simulation kits to show students what someone with cataracts would be dealing with was invaluable, in Amy's estimation. Amy said:

> The reality is the kids that are in [Health Science classes] are going to treat more older people than they're going to treat people that are our age. And so [there are] things like glasses that simulate macular degeneration and cataract issues. And then [we have] awesome gloves. I've played with them, that you're trying to open things and hold things and they simulate arthritis, or loss of dexterity, and there's one that's mobility with walking to understand where they're coming from. So I love doing that kind of stuff, because [the students] get super jazzed about it. They enjoy that.

The students not only learned, but also enjoyed the activities. That was important because Amy explained how much she enjoyed her students' enthusiastic reactions to these hands-on lessons.

Considering how funding is used to create opportunities for hands-on learning will be considered in greater detail later in this research.

**Impact of Professional Relationships**

In their own unique ways, each participant made it clear that relationships with peers were instrumental to both their success and their enjoyment in teaching. Each had very different ways of sharing this and very different relationships.

Staci explained that within a building the Health Science teacher is on a proverbial island because there aren't other instructors sharing classes or content (in most cases); however, Staci benefited from relationships in spite of this. When Staci took on Health Science and worked to get the credential added to her license, she had to put in a lot of extra work. To her benefit, she wasn't alone in this. Two other teachers from her region were going through the same process and a friendship was formed. The trio would meet together at the local community college for events and enjoyed sharing content and ideas with each other. Throughout her time in teaching, Staci remained close with those teachers and was still in contact with them even after her own retirement, sharing information and remaining friends. Staci was thankful that her local community college kept bringing them together for trainings from industry professionals and for related events. There were stories she told about the three of them visiting CTE-specific schools as part of professional development to see what other programs were doing. She found those trips valuable and said the trio took pride in their successes as a group.

After retiring, Staci became a key relationship for both Ryan and Amy. Initially, Staci was involved with an official mentoring program through her former district, and Ryan was one of her mentees. Ryan described his relationship with Staci as being hugely important when he was new to teaching. She provided him with all of his content for multiple classes and was a

huge help with curriculum. He said she visited his classroom weekly for two years and provided helpful tips and tricks. They were in contact with each other a lot through text messages, emails and face-to-face meetings. In fact, Staci was even willing to oversee the expenditures of Ryan's program for him. As he explained it, she offered to help him by determining what the program needed and going through the appropriate channels to spend the right amount of money on approved expenditures. Ryan said he always agreed with her purchases and found it to be both a relief and a blessing to not worry about money when he was starting out.

Staci and Ryan's relationship was an example of how funding can be used to build meaningful relationships for the new instructor. Staci was not a volunteer mentor. Ryan's district paid her a stipend to perform that role.

Ryan also had relationships with other teachers in the building, though they did not have the same impact on him that Staci did. Ryan specifically stated that he formed relationships with co-workers through coaching, professional developments, and in-building Professional Learning Communities (PLCs). These relationships allowed him to ask people for advice, observe other teachers as they were teaching, have places to eat lunch, and enjoy his time in the workplace more. Ryan did not feel these three types of relationships were equally valuable. This is an interesting consideration for decision makers regarding funding as only the relationships formed during his professional developments had an associated cost.

Amy's experience had been quite different from the other two. Though she worked in the same building, she started during the pandemic and therefore was teaching without others around her. Staci served as her unofficial mentor and Amy was very appreciative of that, but so much of what she took from Staci had to be modified for classes taking place online through Zoom. Still,

Amy said there was no one else she would go to when she needed help. This role was no longer a paid position for Staci. She was helping Amy without receiving a stipend.

Another way in which Amy differed from Ryan and Staci was that she could not get assistance from other programs or create relationships with teachers having similar experiences. While Staci talked and emailed with two fellow Health Science teachers and Ryan had fellow coaches and co-workers to meet with, Amy felt as though she lacked those supports. In her second year she found some online resources that she found incredibly helpful. A group on Facebook provided the space for her to have relationships with peers at no cost to her program. She found that helpful as it allowed her to ask for help from other teachers. Specifically, she found it reassuring and validating to hear from teachers who were experiencing some of the same issues. When she first began teaching, Amy said she had some self-doubt, so it was also helpful to her confidence hearing that others were using similar methods to her own. One relationship in particular helped Amy. She found a teacher who worked about an hour away to share content with and ask questions. While she had not yet met that teacher face-to-face when interviewed, she looked forward to meeting him and his family in person once pandemic-related concerns had subsided.

The need for professional relationships was made clear by all participants, but they had reached those relationships in varying ways with varying financial burdens. Staci's trips with similar teachers from the local area required paying a substitute, Ryan's professional developments with in-building teachers took place in the summer but included travel and a conference fee, but Amy's joining of a Facebook group could have been accomplished before her teaching career started at no cost had she been informed about the group's existence.

**Excitement/Passion for Teaching and Health Science**

Having a passion for education and an excitement regarding Health Science was something that all participants alluded to in different ways. Staci spoke not only of her own excitement regarding the content, but also touched upon how important excitement was in some of the new teachers she mentored after retiring.

Ryan spoke about his excitement for teaching and learning new skills. He specifically recalled being thrilled to take new teaching techniques and strategies he had learned and implementing them into his own instruction.

A similar excitement was clearly perceptible when listening to Amy. While discussing one of her favorite units she taught which used hands-on equipment, she literally stopped herself and apologized for getting too excited about her content.

The critical informant, Ron, was particularly pointed about the importance of excitement in teachers of CTE programs. He said it was his observation that successful teachers who stayed in the profession of education tended to be excited and open to creating for their program. He also said new teachers should be passionate about what they were doing and ready to go after new challenges to make the program better as a result of their energy.

Later in this research we will consider how this excitement can be cultivated through the use of funds.

**Common Expenditures**

With regards to expenditures, each participant and the critical informant had interesting perspectives concerning how funding should be used. All participants said their enjoyment and level of feeling rewarded by teaching was directly affected by the positive outcomes experienced by their students. With this in mind, the following sections will look not only at how the money directly affected the instructors, but also how it affected the pupils in their classes. As previously mentioned, there are three common expenditures on which instructors find themselves able to spend money: field trips, equipment purchases, and professional development.

**Field Trips**

Staci said her expenses for field trips included travel and registering students for events. She would suggest to other Health Science instructors that they take students to career fairs and on tours of industry facilities. These events were beneficial to the students as they gained interest and found questions they would like answers to, but were also beneficial to the instructor. Staci said field trips allowed instructors to ask industry members for guidance. Ryan shared a similar sentiment, noting that instructors benefitted from the new perspectives that could be revealed on a field trip.

There were also some limitations shared by both Staci and Ryan when discussing field trips. Staci stated that field trips were mostly good, but that the teacher had to be prepared to step in because someone else was in control. This was a sentiment shared by Ryan. He listed a number of limitations related to logistics. Scheduling was an issue, but his bigger issues/concerns were related to the unknown surrounding field trips. He specifically discussed relying upon other people to take care of the students and the schedule. There was stress associated with hoping industry members would stick to the plans.

There were some alternative options that participants listed with regards to field trips that both limited stress and financial expenditure. All three participants had used - or planned to use following pandemic-related restrictions - student observations as an alternative to field trips. Instead of setting up field trips with bus rides, meals, and entry fees, the participants would find local options that students could visit individually or in small groups. Staci had her advanced students fill out the appropriate paperwork to travel to local Health Science-related locations (dental clinics, pharmacies, physical therapy offices, etc.) during class time. These experiences were part of the curriculum that Ryan and Amy received from Staci, although Amy had been unable to send students out because of COVID-19. Both Ryan and Staci discussed how this required work outside of class time. Staci described making many phone calls to get these experiences set up, but felt the time was worth it. Students were able to learn about what they were interested in due to the individualization of the experiences. Staci had students list their interests and then attempted to provide them with related locations.

Another alternative that the participants had experience with was bringing in volunteers to speak to classes. According to the participants, these guest speakers do not require use of funds. Staci did recall using funds to pay a nurse to teach certain topics early in her career, but that changed as she earned the necessary credentials to teach those things herself.

The guest-speakers option allowed Staci's students to hear from experts without the hassle of coordinating an entire field trip. Ryan also pointed out that guest speakers were able to keep kids interested with their unique knowledge. Something else he appreciated was the way they allowed him to teach in a different manner by asking his own questions and moving about the room while a new face presented to his students.

Another benefit Staci reported was having speakers lead hands-on activities related to their field of expertise. Amy also found this to be helpful and specifically pointed to a nurse who came to her class and showed the students the process for infection control.

All of the participants reported that hearing from professionals in their classrooms resulted in their own learning. Staci recalled having one guest speaker that the students weren't taken with but said he still made some good points and she learned a bit from him herself.

**Equipment Purchases**

Purchasing equipment was frequently discussed by the participants during interviews. Staci noted how purchasing equipment had allowed her to teach content on her own timeline. She could include more hands-on learning opportunities for students. Amy had access to the same simulation kits Staci had used and reported many similar positives; however, Amy went further when listing the positives of having constant access to equipment in her classroom as helpful, stating she was able to teach at her own pace and combine simulations for specific lessons. The equipment was valuable enough that Amy added to the program's collection of simulation kits at the end of her first year.

Simulation kits were far from the only equipment the participants listed when discussing purchases. Staci said she had used money on equipment that allowed her students to experience dissections without the unfortunate odor that usually accompanied such labs. The purchases were reusable and readily available for class when needed. Amy praised this equipment as well.

The expense surrounding equipment purchases was consistently mentioned, as all three participants recalled having grouped students together because the program couldn't provide a one: one ratio of equipment to students.

Ron had a lot of experience with guiding instructors in purchasing equipment. He specifically mentioned how different CTE programs had differing levels of need in this regard. Something of importance Ron mentioned was how new instructors hadn't always known what a program needed. Ron hoped to see instructors leading phenomenal programs and said that it often meant they had great equipment. In his estimation, having better equipment available raised the bar for the program and resulted in a better experience for the students who were taking the classes.

Ron also explained how there were alternatives to purchasing equipment. In many cases, new programs in CTE could rely upon the curriculum and equipment of a nearby community college. Approved CTE programs were associated with a mentoring college, which could greatly influence what was taught as well as what equipment was available. With regards to Health Science specifically, Ron mentioned how the college had employed a traveling nurse who could teach lessons at nearby schools. Ron said programs often purchased their own equipment to avoid being reliant upon the community college after a few years, but that it wasn't necessary. In theory, a program could continue using the equipment and expertise provided by the college indefinitely.

The college had also provided equipment in a different way, according to Ron. Sometimes college programs had upgraded and sent the older equipment to a local program in need of it. He specifically recalled one Health Science program that was starting up and wanted to create spaces that replicated medical facilities. They purchased curtains to hang from the ceiling but waited and received hand-me-down medical beds at no cost when the community college upgraded its equipment.

One other way Ron had seen programs get equipment was by acquiring canned curriculums. Ron said that these curriculums were available for purchase and were often accompanied by associated equipment. While it was still an expense, he said these purchases could be a solid way for a new instructor to get started in a program with both curriculum and equipment purchased together.

**Considering Ryan's Equipment Purchases**

Ryan never decided how his funding should be spent. Staci offered to take care of the equipment purchases for him early on, and Ryan was happy to have that off his shoulders. In fact, Ryan even suggested all new teachers be offered the choice of having a mentor handle spending.

However, examining some other statements from Ryan lead to questions as to whether he may have benefitted from taking charge of his own spending. Again, he saw the value in those purchases, as he said, "I've [taken] first aid, you know, a bunch of times, which is great, and it's necessary, and I think that's a skill that should be at the top for all the kids; however, it's just not my wheelhouse to really get deep into it." Though Staci was able to use purchases to maintain the direction the program had been headed in, Ryan shared some of his ideas for future spending which were quite different from the items that were purchased.

While simulation kits, replica skeletons, CPR dummies, and other hands-on purchases were helpful to Ryan when it came to running his classes, he listed two expenditures very quickly when asked what he would have added had he remained in Health Science: a sauna and a cold tub.

Though Staci's background was as a teacher and she had not worked in a Health Science field, she did get her certification to teach First Aid classes. Ryan's background was very

different from this. He came from a career in personal training. His area of focus and expertise surrounded healthy lifestyles. He was an expert on nutrition and recovery. Listening to him talk about the benefits of using a sauna made it clear he was passionate and excited about sharing the information with students. As previously mentioned, Ryan had learned about the science behind using a sauna and cold tub, shared it with his students, and was happy with the response. Purchasing a sauna is a big commitment for a program, but Ryan felt it would be worth it. He already had a number of teaching strategies in mind for his classes. While the lessons learned would be relevant to working in Health Science, Ryan also felt like his students would be able to learn lifelong information that would benefit them individually, no matter what career path they chose. He'd been planning it in his mind and said he had 10 weeks worth of content that centered around having access to a sauna. Even without an actual sauna in his program, Ryan said the students had been excited when he presented his content.

Beyond using the sauna in his teaching, Ryan looked forward to the entire school benefitting from the purchase. Ryan felt it would help with athlete recovery. He envisioned teachers using it after school and was confident there would be a sign-up sheet because it would be so popular. And those were just a couple of his ideas, as he said he felt like he had 15 other uses for it as well.

While he had planned on looking into those purchases after phasing out his mentor, he made the transition out of education first. It's impossible to say that purchasing a sauna would have changed his future in education, but when asked for his suggestions to assist in the shortage of Health Science instructors, he listed providing freedom and flexibility to modify curriculum as being key to creating instructor incentive to remain in education. "I think the more freedom you

give them to modify things definitely creates incentive [to stay]," Ryan said. Freedom and

flexibility could also be related to the purchases made for a program.

**Professional Development**

Professional development (PD) was where the participants had the fewest shared

experiences. PDs vary greatly in style and substance. Staci's experience led her to be careful

when choosing a PD to attend. While some were good, she had also attended PDs where she

didn't find the content beneficial. Staci also said that the best part of many PDs was meeting

people. Some of those people were teaching the same things she taught and others were members

of industry. In either case, she found it valuable to get email addresses for asking future

questions.

Ryan attended one professional development during his time in education, but he

attended it twice. The Advancement Via Individual Determination (AVID) Conference was

something Ryan felt had been incredibly important for him as a new instructor. He was new to

teaching and said he benefitted greatly by learning teaching strategies from the sessions he

attended. During his time at the AVID conferences, he took a lot of notes and was excited to

implement the strategies upon returning to work.

While Amy had not attended an AVID conference at the time of her interview, she had

recently returned from the national conference for CTE instructors. She said that had been good

for meeting people and getting resources.

One technique Staci applied as she became more experienced was discussing the

available options with instructors at the community college level. She said they were often able

to guide high school teachers to the best professional developments in specific content areas.

Ron had another solution regarding a shortage of useful PDs. As part of his role overseeing

funds, he heard from many instructors about the professional developments they were hoping to attend. He said he often received emails from teachers about a conference, looked into the conference himself, and then emailed the information to other teachers of similar content to provide them the opportunity as well.

Ron also explained that he didn't consider conferences the best type of PD in most cases. While he did say conferences were great, he believed trade shows were better. He explained that trade shows offered instructors opportunities to see what was new in their field. In changing industries with new technology, this could be particularly effective.

Low-to-no cost options were also listed by participants as alternatives to traditional PD. Staci recalled going to her local community college for trainings to learn new skills from local industry personnel. The community college would facilitate and organize it and local instructors could simply attend without much travel or expense. Ryan's experiences mimicking professional development took place within schools. Ryan recalled visiting the Health Science programs from other schools in his area. He felt this was incredibly beneficial, and it didn't require registration or major travel; these opportunities were scheduled and organized by the administration in Ryan's building. Ryan reported that he designed his program based on what he learned while visiting other schools.

Amy did much of her learning through her computer. She said she had resources like the National Consortium of Health Science Educators to learn from and reported relying upon the STEM Hub in her region. Amy and Ryan also explained that they benefitted from their online master's courses. These had to be completed for their personal accreditation as required by the state's Department of Education, but the result was something that benefitted the program at no cost to the institution.

**Funds Affecting Satisfaction and Retention**

Participants' responses shed light on the ways instructors find enjoyment in Health Science education and showed how funds were commonly used. The following section looks at how those responses can be intertwined.

**Generating Excitement**

During the interview process, participants exemplified different ways using funds can facilitate instructor excitement. Staci was already excited to begin in Health Science when she moved into the position, but she also explained how her time observing professionals in the field gave her some great experiences to share with students and affected her feelings toward her own program. Staci still remembered her experiences well and said, "I got to go over to [Nearby Town] - this is my favorite one - the Cath Lab, which was incredible. I got to see them do a stent in a guy's heart. And I saw a femoral artery stent. And a vertebroplasty, which is incredible. Barbaric, but cool." Though her initial exposure to industry didn't have a direct cost associated with it, some teachers may have to travel or pay entrance fees for professional developments to mimic her experiences. It was also clear in talking with Staci that her excitement had often coincided with the excitement of her students, so using funds to facilitate student excitement through field trips was valuable to her.

Ryan was excited when he learned new teaching strategies while at conferences. In a related way, he was also excited to share new information with his students. While new learning may come from professional development for many, Ryan also acquired new information through his online master's program. For example, because of his background, Ryan was already aware of saunas being beneficial to people's health; however, in his master's program, he learned more about the science behind saunas and the impact they had at the molecular level. He was

excited about this new information and incorporated it into his curriculum. The students were also excited about it, and had Ryan remained in teaching, he was hoping to add a sauna to his program through the use of federal funds.

This idea of equipment purchases and instructor excitement being tied together was also clear in talking with Amy. She showed enthusiasm for the unit she taught about geriatrics and reported using her funds on simulation kits that helped her create interesting lessons and teach through meaningful experiences.

Ron had a lot of experience with instructors using funds for professional development and equipment purchases, and he explained how he had seen each of these expenditures generate excitement in instructors. Ron said instructors hired into an approved program often started making equipment purchases resulting in excitement. He had seen instructors begin to mold programs to their own interests through purchasing equipment. It's his observation that a new instructor would alter the program to fit their interests resulting in instructor satisfaction.

Regarding professional development, Ron tried to get groups from the same school to attend conferences together. When it was feasible and funding allowed, Ron would send administrators and counselors along with the instructor to conferences like the one Amy attended. He had found that having a group attend led to increased excitement and a shared vision for the program that extended beyond the individual teacher. Having a group from the school sharing the excitement was important to Ron. Additionally, Ron found that learning new techniques and technologies could also make a difference in teacher excitement and retention. One story Ron told that emphasized this point was about a CTE teacher who was sent to Concrete World:

I had a shop teacher [at] one of the rural schools [who] was going to retire because not only was he teaching construction [and] automotive, he was also the head football coach. All sorts [of] pressure. And I sent him to concrete world [and] he came back, "[Gosh], this is so cool!" And he learned all about live-edge wood and resin and all sorts of stuff other than concrete. So he stuck it out for two more years [and] then he retired.

Ron had never been to this annual conference himself but had heard great things from other attendees in the past.

Ron also explained how professional development and equipment purchases went hand-in-hand when it came to generating excitement. Teachers would learn about new equipment at a professional development, become excited about the prospect of using the equipment, and then use funds to make a purchase for their program. Ron also paired the two by sending teachers to trainings for their new equipment following a purchase. This increased excitement as they learned the nuances and it ensured instructors would carry their excitement into the classroom instead of letting the equipment sit unused.

**Helping Overcome Challenges**

Ryan made it clear that he felt his experience attending professional developments helped him with learning to build his curriculum. Ryan said he learned teaching strategies while at the AVID conference that made him more comfortable and confident in the classroom. He said he took copious notes and merged the techniques with his own content upon returning from the conference. This was not without its downside as he reported needing to spend additional time working outside of contract hours on curriculum creation, but he did say he was excited to implement the strategies.

Amy said the biggest benefit from attending the CTE conference was meeting other attendees and being able to get resources for later. She noted how there was representation for the online Facebook group which she had found so valuable. Additionally, she said that being able to talk with other teachers face-to-face about the challenges and what they were doing in the classroom was validating. She gained confidence in her own ability as a teacher.

While none of the participants had experience with using funds on a canned curriculum, Amy said she wished she had, and Ron stated that it could be valuable for new instructors. Amy said she would suggest new teachers use funds on standards-based curriculum. Much of what she inherited from her mentor required updating, and a new curriculum would have helped her with that early challenge. For teachers who were not provided with material to adapt, canned curriculum may be beneficial for providing them with a starting point, Ron said.

**Creating Professional Relationships**

It seems clear that the most common way professional relationships were created through the use of funds was in the form of professional development activities. Staci went on trips with groups from Eolian High School that included her principal. Later, Staci listed her principal as someone she frequently talked with about her program. Ryan said the relationships generated during his trips were very important to him. He listed three main types of relationships with co-workers: those created through coaching, those created through professional learning communities (PLCs), and those created through trips/professional development. Ryan said the in-building relationships he formed with fellow coaches had been most important to him, but listed his friendships created through professional development as being second. During his trips he had roommates he got to know better, spent time with his administrators, and was able to socialize with other co-workers. Following those trips to conferences he felt comfortable asking

the associated co-workers for advice and would sometimes sit in on their classes when time permitted.

Amy also listed professional development as being a key to meeting people in similar professional positions. She had not been able to find such an opportunity for face-to-face meetings during the pandemic. Amy listed a small group from Eolian High School who attended a conference and said they enjoyed spending evenings together. In her opinion, it is important to have a few relationships in the building, and that conference assisted with that.

**Creating Hands-On Learning Opportunities**

All participants and Ron talked about the importance of having equipment readily available for hands-on learning. Amy said she felt purchasing equipment was the most important expenditure for Health Science teachers because it made classes hands-on. Ryan also listed purchasing equipment as being the most important expenditure for Health Science teachers with regards to instructor retention. While there were some alternatives listed by participants such as guest speakers and field trips that have equipment available, the only way participants were able to list as definitely making class more hands-on was through purchasing equipment.

Professional development may have a place in the discussion, however. Ron explained that sometimes a piece of equipment would get purchased and sit untouched because the instructor didn't actually know how to use it, which was why he encouraged instructors to attend equipment-specific trainings when making large expenditures. So, while professional developments may not make classes hands-on all on their own, in some cases they play a role.

**Creating Rewarding Experiences**

Amy stated that student enjoyment resulted in instructor enjoyment. With that in mind, this section looks at how the different types of expenditures that resulted in participants witnessing students' learning and enjoyment.

Staci listed seeing effective hands-on learning as rewarding. She also said being able to provide students with certifications like Basic Life Saving (BLS) first aid had been gratifying to her. These rewarding experiences were achieved through equipment purchases in her classroom. She used funds to purchase first aid mannequins that provided students with hands-on opportunities and the official certifications.

Much of the same was true for Amy as she said her students' best learning had taken place through hands-on activities. In addition, Amy said choosing the correct equipment ensured students would learn the most important lessons.

With regards to field trips, Staci said that seeing students find direction and clarity for their futures had been satisfying. She felt their experiences in the field were a very important factor in this. She told stories about students who realized they did or didn't like a career after spending time in the field. It felt rewarding to Staci to see her students make wise decisions for their futures based on the experiences her class provided. Additionally, she saw them returning from field experiences with new-found questions and increased excitement.

## Participants' Advice to New Instructors

Whether it was while reminiscing on the start of their own careers or thinking about what should be the case for the start of future instructors' careers, participants shared information that gave insight into what would be beneficial to new teachers.

**Form Meaningful Relationships**

From her own experience, Staci found a number of valuable relationships that helped her when starting in Health Science. Right from the start she formed a relationship with local Health Science teachers through her certification process. Staying close with them was clearly important to Staci's enjoyment and success in the Health Science discipline. Also, during the certification process, she met with an advisory committee which was comprised of local healthcare workers and community college educators. As she moved forward, Staci consistently spoke with professionals in the field for guidance on equipment purchases and reached out to find local experiences for her students. These experiences led to Staci suggesting that new teachers meet with people from the industry, meet with community college instructors, and talk with teachers from other districts. In many cases, these conversations revolved around the use of funding. Ron agreed with much of that, as he encouraged new teachers to have an advisory committee and to take advantage of the expertise available at local community colleges.

Ryan said visiting with teachers from other districts directly influenced his own program. Ryan patterned his program after one he saw when visiting a local high school. He met with the teacher to ask questions and brought back a copy of the curriculum to use in his own setting. Mimicking an existing program may mean needing to make similar financial investments into the program. Ryan also became close with multiple co-workers and found value in those connection. It is important to create these relationships with peers, according to Ryan, and attending professional developments assisted him in that.

**Understand Funding and Limitations**

Something the participants and critical informant made clear was how important it is to understand how funds can and cannot be used. Amy suggested that all new Health Science

instructors learn how funding works early on. Experience running a non-profit had prepared Amy for this, but she made it clear that learning the specifics of what the different funds were eligible for was important.

Ron echoed this. In his role, he oversaw the use of Perkins funds for the region he was in charge of and explained that each district and region had done things differently. The region Ron was in charge of set aside a percentage of funds to be spent on professional development each year. While schools were given a specific amount of money to spend on their programs, teachers were able to attend conferences, trainings, or trade shows at no additional cost to their individual program, school, or district by tapping into the separate funds. That money was set aside for professional development and could not be used for other purposes, so teachers in Ron's region didn't need to decide between equipment purchases and professional development in many cases. Learning this could result in new teachers having access to more funds than they initially realize.

Along with attempting to understand how funds can be used, communicating with the professionals who oversee those funds is also advisable. Ron explained that Perkins funds were not eligible to pay for membership dues, but that many times annual dues were included in the cost of attending a conference. Perkins funding could be used to send teachers to the conferences, so the dues were covered in that way. In addition, Ron explained that he often communicated with community college instructors regarding the high school teachers' planned purchases. He discussed the equipment they were planning to buy and got input surrounding other available options, which was beneficial to the high school and its instructors.

**Concluding Thoughts**

It was clear based on participant responses that many different factors played a role in CTE/Health Science teacher enjoyment/retention. Both long-term and short-term rewards with student achievement were valuable to the participants. Determining how the use of funds can create rewarding experiences for instructors may play an important role with regards to retention.

Another point that came from the participants regarding their own enjoyment and retention was the way they responded to a challenge. Staci explained how much extra work she had put into her job scheduling opportunities for students to observe professionals in the workplace and explained how rewarding it had been to hear her students espouse the benefits of those adventures. Ryan specifically stated that he entered education because he viewed it as his next challenge. When he began to get the hang of teaching, he asked his administrators if he could start a new class because he saw that as the next obstacle he could face. Amy said she intended to continue to alter her teaching throughout her career, maintaining the challenge of teaching, because that's how she could keep from getting bored. The way each teacher approached the trials of education appears to have been key to their enjoyment, and determining how to use funding to provide new challenges or assist with persistent ones is an important consideration.

Participants made it clear that administrative support was important to instructor retention. Staci said she had been on an island teaching classes that differed from everyone else in her school but listed her principal as the person with whom she could confer. Her administration took a vested interest in the success of her program and spent time helping her to plan and execute the vision going forward. Ryan also mentioned administrative support as key to his enjoyment, listing his supervisors as being the ones who coordinated his trips to other schools

and professional developments. Additionally, he had a mentor who supported him and worked

with him in a role similar to an administrator.

Amy's situation was different as she was unable to spend time with her administrator at

the start of her teaching career. Conversations were more difficult to come by, but she did enjoy

spending time with her supervisors at the conference she attended. Administrators attending

conferences concerning CTE may improve the experiences of the instructors with whom they

work.

Besides paying for the professional developments, funding may affect relationships with

administration through the spending process. Communicating about purchases and

instructor/administrator collaboration appears to be valuable regardless of how the funds are

ultimately spent.

Ron also stated how important an invested administrator was in CTE instructor retention.

According to Ron, unsupportive principals had a high rate of turnover. He had seen programs

struggle to keep teachers until an administrative change occurred, and then the program was able

to retain its instructor. Having an administrator who saw the value CTE provided - such as higher

graduation rates - was important, in Ron's opinion. He also said that the administrator needed to

value the instructor and not take advantage of them by over-working them and spreading them

too thin. Ron said the administrators he worked with in his regions had been great for teachers

and the turnover rate of CTE instructors had been low for the schools he oversaw as a result. In

his role, Ron worked with administrators frequently and said he met with them more often than

he met with teachers. Because Ron allowed each school to make decisions about how they spent

money, his administrators were key to guiding their programs. The inclusion of administrators in

this process and professional developments may be a hidden value related to instructor retention.

With regards to funding, participants made it clear that there were strengths and weaknesses to using resources in any of the common ways. And while each had their own opinions, it seemed to be a consensus that spending a majority of the funds on equipment purchases was deemed beneficial. Staci said she felt new teachers would benefit most from receiving proper training, but listed equipment purchases as being second. Ryan and Amy both stated they felt purchasing equipment was the best way to use funds. According to Ryan, he could have found alternative ways to learn the art of teaching if he had needed to, but there wasn't a replacement for offering students hands-on learning. Amy's thoughts were similar, as she said she felt 90 percent of funding should be used on purchasing equipment.

**Chapter Five - Discussion**

Speaking to three Health Science teachers with very different backgrounds and experiences was a valuable aspect of this research. All three worked in the same building and had even shared an administrator. There were some surprises, however, not the least of which was Ryan's explanation for leaving the profession of education.

RQ 1: What stories do Career Technical Education (CTE) Health Science instructors tell regarding funding as a mechanism for increasing Health Science instructor career enjoyment/satisfaction and retention?

While the trials associated with teaching change over time, the career will always present obstacles. As Ron explained, improving the program is the challenge that is constantly facing the teacher. Making a Health Science/CTE program phenomenal is an attainable goal for most, but it isn't one with a finish line. A program needs to be constantly improved.

With this in mind, it's important that the stories told by the participants are considered and applied to each new instructor. In Ryan's case, funds were used to send him to the AVID conference. He came back with resources that made the challenge surmountable and helped him to become a stronger teacher. For Amy, she felt isolated because of the pandemic-related change to online education. As restrictions subsided, she was able to go to a national conference with administrators from her building. This trip prompted her to get more involved with the National Consortium of Health Science Educators, which she benefitted from. Amy also said she felt purchasing a curriculum would have been beneficial at the start of her career because of how difficult it was to create curriculum early on. This purchase was not made because Amy had been unaware of the difficulty she would face when she started teaching. As a result, Amy spent time beyond her contracted hours to prepare for her classes and found it very difficult at times.

All of the participants mentioned the importance of hands-on learning in their classes, so new teachers entering a program should consider if there is sufficient equipment available for those activities. Participants also mentioned the value of experiences in the field, and if a program is isolated, it may be important to find funding for transportation.

Participants found it rewarding to see students learning, both about the content and about their potential futures. Staci discussed the effort she put into finding fantastic placements for the advanced students in her classes when they ventured outside of the classroom, and she saw those efforts pay off when they returned excited about what they had seen out in the field. Students in the Health Science program learned through hands-on experiences as well as hearing from industry professionals. Whether these experiences took place in the classroom or during an excursion, the results were valuable for the instructors.

Amy specifically pointed to the excitement her students showed when they were able to take blood pressure accurately during class. She enjoyed seeing their reaction when she would confirm they had done it correctly. That's the reason she purchased equipment for her classroom which allowed this and similar activities to take place.

When describing what is important in a new teacher in Health Science, both Ron and Amy said the same thing: they need to be passionate and excited about what they are doing. What encourages that excitement varies from person to person. Listening to Staci recall her time in education, it was clear that she had been excited about guiding students toward the correct career in Health Science-related fields. There were many times during her interviews that she would steer the conversation back toward how her students went on to great careers in Health Sciences after graduating. Staci told stories about her students' high school experiences in the field guiding them toward those careers. Ryan's excitement seemed to stem from improving as a

teacher and making a difference in the lives of students while they were still in high school. He said he had been excited to implement new teaching strategies and to help kids who were dealing with rough situations. It was also clear that he had been excited to share his own areas of expertise with students while discussing the benefits of saunas and cold tubs. Amy's excitement seemed to stem from students gaining knowledge in her classroom and preparing them for the future. She enjoyed telling about a nurse teaching proper sterilization and talked in detail about specific lessons that her students had enjoyed in the classroom.

Staci discussed the importance of having a mentor, a role she performed in an official capacity which required payment. Both Ryan and Amy said her support was important for them, but also mentioned the support they felt from administrators and peers. In many cases these relationships were built and strengthened through trips revolving around professional developments. Amy specifically mentioned how vital she felt supportive relationships were as difficult situations arose in teaching. She explained how it could be challenging early on, but having individuals to offer support and resources made it easier.

RQ 2: How do these stories shed light on the perceived barriers for current CTE Health Science expenditures?

The uniqueness of each participant's stories considered alongside the similarities shows a potential path for future instructors. There isn't a magical purchase that will make the career easy. No training will take all of the effort out of curriculum preparation. No purchase will make a program flawless without room for improvement. New instructors are going to face challenges in the profession, but being aware of this and determining how funds can best assist with overcoming the challenges early on is essential. When making that determination regarding funds, it's important to consider the uniqueness of the situation and individual(s) involved.

At one point, Amy explained how different it had been to teach in a classroom as opposed to an industry setting. Coming from teaching at the college level, she was used to having everything that would be found in a dental office, but that was not feasible within a high school classroom. That limitation led to finding other ways to assist in students' learning. Amy set up stations, showed example photos, brought in speakers, and generally found other alternative methods to get students to learn the content. Amy was able to bring in a nurse who taught her students about sterilization. Amy said, "(S)he brought all kinds of stuff, and then made the kids gown up, and do it so that everything stay[ed] sterile. And then it was funny because she'd stand there and she'd be like, 'Well, I hope your patient doesn't die from that infection.'" Finding ways to teach the lessons without a clinical setting is important for new instructors in Health Science.

Staci was able to spend her funding in ways that related to her own excitement. She talked about students requesting the opportunity to go and look at the in-class equipment related to a career they were interested in. Amy also spent her money on things she was excited about, as she would get equipment that taught the lessons she knew students needed to learn in the classroom. Ryan, however, did not spend his funds in the area of his own excitement. He was able to go to the AVID Conference and was excited about the information he brought back, but his equipment purchases were not related to his areas of interest and passion.

It's difficult to see how spending money can affect having a support system, but in addition to the spending of the money there may be value in the process. Having administrators, advisory committees, funding coordinators, professionals in the field, and community college instructors working with the teacher to decide what is best for the program may be just as valuable as the actual expenditures.

RQ 3: What potential solutions to the issue of retention and job satisfaction are

illuminated by these stories?

The process for determining what a new teacher needs appears to be something that

should come as a team effort. A combination of supportive administrators, advisory committees,

funding coordinators, professionals in the field, community college instructors, and teachers

should work together to determine what new teachers and their associated programs need in

order to be successful in facing the inevitable challenges.

Additionally, it's important for those interested in teaching Health Science to realize that

they are signing up for a new challenge. Being aware that creating content is going to be time-

consuming and using funds to assist in this process is key for new teachers. Making wise

decisions regarding their use of funds is one way they can make those obstacles easier to

overcome. Appropriate trainings or new equipment purchases will assist new instructors in being

successful. As Ron pointed out, it's all about the instructor's vision. Ryan's desire to teach using

a sauna is a good example of this. His vision for the program differed from his predecessor, so he

would have needed to alter his purchasing in order to teach the content he was most interested in

and comfortable with.

Finding rewarding experiences is dependent upon the individual and the available

resources. Staci talked about taking students on trips to a local medical university at little-to-no

cost, but that same opportunity isn't available everywhere. Teachers in rural locations may have

to use funds on transportation for similar experiences. The key to finding short-term reward

seems to be in determining what students need to learn in a given class and then using funds to

best teach the important lessons. That will look different based upon the instructor's background,

the school's location, the existing equipment, and other factors. Ultimately, it comes down

executing a plan to see the instructor's vision through. When that happens and students reap the benefits, teachers find their reward.

It's important that instructors have excitement, but it also appears important that there is an outlet for that excitement. For individuals who are not excited about their content, going to a professional development of some sort can help. Ron told of a teacher who added two years to the end of his career after seeing new equipment and techniques in the related industry. It's important that funds can also be used to encourage existing excitement. A trip to a convention followed by or associated with an equipment purchase could result in fostering excitement. Without a way to bring the passion back to the program, it fizzles out.

The participants' responses suggest that for teachers in Health Science it is important to have a form of renewable excitement. New students provide some of that opportunity, but using new equipment, finding new techniques, and leading new excursions are more tangible ways to replenish a passion that would otherwise go stale.

Getting multiple voices into the conversation regarding the spending of funds is also key with regards to retention and job satisfaction. There are ways that funds can be used to assist in creating relationships. In certain instances, professional development funds can be used for groups of people to attend the same conferences/trade shows. Ron said that when it was an option, he attempted to send counselors and administrators along with the teacher to create a shared vision. Having a team travel together and consider the program is a good way to get a new instructor into situations where support is felt and relationships are nurtured.

**Implications**

The use of funds is going to vary greatly based upon the needs of each individual teacher, program, and region. This research shows how making calculated decisions based upon the situation may be able to affect the enjoyment of the instructor.

The research revealed a few keys to instructor enjoyment. Teachers need to find rewarding opportunities for their students because these experiences are also rewarding for the teacher. All of the participants shared unique ways for finding teaching rewarding. It's interesting that each person interviewed had a unique perspective in this regard. Finding rewarding experiences and using funds to ensure they are consistently present will only help to increase instructor retention.

Instructors need help with curriculum creation at the start of their careers. This aspect of teaching makes the profession very challenging. While participants seemed to enjoy challenges, being sure that individuals have the resources to successfully navigate the early difficulties is important. Determining how funding can ease the stress associated with early challenges would likely help to keep individuals in education. Whether it's paying a mentor to help, buying canned curriculum, or getting equipment the instructor is comfortable with, funding can help with the challenges that curriculum presents.

Encouraging their own excitement and passion for teaching is imperative to instructor enjoyment. In order to nourish this excitement and passion, instructors need to tailor the program to fit themselves. Purchasing equipment is a great way to do this. Only one participant in the study did not choose how to spend funding, and he was the one who left education early. This could be unrelated, but it's worth consideration.

Having meaningful relationships with administrators and peers makes a difference in enjoyment and retention as well. Leading a CTE program can feel lonely. When other departments in a school meet, the Health Science instructor is often isolated. Having contact with instructors of similar content from other schools is important. These relationships can be facilitated through professional development. Additionally, sending counselors and administrators on trips with the instructor can strengthen the in-building relationships and staff investment as well.

The broad implication of this research is that each new instructor and their associated support system needs to identify how using funding can assist the new teacher to find rewarding experiences, overcome challenges with curriculum, develop/enhance excitement, and build meaningful relationships.

Doing these things will not guarantee teacher retention. Inevitably, there will be instructors who leave the profession for any number of reasons. In many of those cases, nothing could have been done to make a difference. When schedule flexibility is desired, the end result will likely be the loss of that educator; however, considering the use of funds and making wise, personalized decisions at the beginning of a teaching career could make the choice to leave tougher and may be enough to tip the scales.

## Recommendations for Future Research

This research only scratched the surface with regards to determining how to affect the shortage of teachers in the Health Science field. Many other considerations need to be looked into beyond the idea of increasing satisfaction and retention through existing funding.

Quantitative research should take place to determine the reasons why teachers are leaving CTE education and Health Sciences specifically. Being able to identify the most significant

barriers to retaining educators would provide administrators and those associated with education the necessary information to make the appropriate changes.

Quantitative and/or qualitative research should also be conducted to consider the impact of financial expenditures on students. The current study has focused on teachers, but considering how students perceive the value of these expenditures would be valuable for decision-makers moving forward.

Qualitative research should be conducted to assist in determining what Health Science instructors find rewarding. This study has shown that instructors find rewarding experiences to be important to their enjoyment in the profession, but learning more about these rewarding experiences and how to cultivate them efficiently is important.

Qualitative research regarding the effectiveness and impact of canned curriculums in Health Science instruction should take place. Ideally, this research should look at the impact canned curriculum has on the instructor as well.

Qualitative research regarding the impact of administrators on CTE instructor retention should be conducted. Participant responses suggest that this is a key factor in enjoyment and retention.

**Recommendations for Policy/Practice**

New Health Science teachers should find themselves working as part of a team. Industry partners, community college instructors, administrators, and mentors should form a committee to help formulate a vision for the program. These committees should help new instructors understand how funding works and guide them in finding all available funds. Decisions regarding the use of funds should ultimately be made by the instructors but should be preceded by healthy communication with the committees that takes place at least annually. The instructors

will not only benefit from the decisions that are made, but also from the process that leads to those decisions.

These committees should also serve as advocates for the new instructor. States, regions, districts, and schools oversee funding in different ways, so it's important that new instructors have knowledgeable people working to ensure sufficient funding is being provided to them.

Wherever possible, a new instructor should be provided with an existing curriculum. Whether it is canned or comes from a mentor/nearby instructor, it gives new teachers the start they need to keep the challenges reasonable. It doesn't make the first years easy, but it makes them easier.

## Closing Thoughts

Teaching courses in Career Technical Education offer teachers unique opportunities, but with those come unique challenges. In order to affect instructor satisfaction/retention, it appears it's not only important how the funds are spent, but also how the spending decisions are reached. Working with a diverse group of professionals to make informed decisions is an important step in creating the type of environment that gives support to the new instructor. Instructors in CTE don't have peers in the same building to work with like other disciplines often do, so alternative methods need to be found to offer the assistance these teachers need. In addition to discussions about equipment purchases, spending time with professionals is valuable for gaining knowledge.

It also appears to be important that instructors are given the freedom to shape a program to fit their own interests. Professional development, equipment purchases, and field trips can all be tailored to the interests of the instructor in an attempt to create ownership and buy-in. This is important because it influences instructor excitement, which is key for the experiences of the students and affects instructor enjoyment.

It seems like the majority of funds should be used on equipment purchases, but there are situations where that isn't true. Canned curriculum for new instructors may sometimes be more valuable, especially since it comes with associated equipment in certain instances. Professional developments can also be beneficial to instructors in a number of ways; however, the greatest value appears to be having students participate in hands-on learning as it adds value to the classroom experience.

Taking the time to learn about the program and its restrictions is necesary. Assessing the instructor's strengths, the program's equipment, the local opportunities, and the available funding should guide decisions moving forward. Instructors should also be given access to other programs of similar content when starting out. This initial assessment should guide the instructor's vision of the program. This process should include determining how available funds may be used. This may result in additional funds being found for purchases that a new instructor would not intuitively know about.

If at all possible, new instructors should have a mentor they are able to turn to for assistance and guidance as they begin teaching. This mentor can help with everything from funding, to classroom management, to content creation. It may be necessary for funding to be used to pay the mentor, but the added value stated by participants in this study suggests the expenditure is worth it.

The path to enjoying teaching is not going to follow the same steps for everyone, but there are certainly keys that will help instructors get the most from the experience. Considering the information shared by the participants and critical informant could help new instructors make solid decisions that affect their careers in a positive manner.

References

Advance CTE: State Leaders Connecting Learning to Work, Council of Chief State School

Officers (CCSSO), & Education Strategy Group (ESG). (2018). Strengthening the Rural

CTE Teacher Pipeline. CTE on the Frontier. In *Advance CTE: State Leaders Connecting

Learning to Work.* Advance CTE: State Leaders Connecting Learning to Work.

Anderson, K., & Anderson, R. G. (2018). Career and Technical Education Teachers' Perceived

Tool and Equipment Availability Related to Teaching Two-Stroke Engines Content: A

Preliminary Study. *Career & Technical Education Research, 43*(3), 213–226. https://doi-

org.georgefox.idm.oclc.org/10.5328/cter43.3.213

Anderson, K., Anderson, R. G., & Swafford, M. (2018). Effects of a Professional Development

Session on Career and Technical Education Teachers' Perceptions of Two-Stroke Engine

Inspection and Testing: A Preliminary Study. *Career & Technical Education Research,

43*(3), 259–274. https://doi-org.georgefox.idm.oclc.org/10.5328/cter43.3.259

Arneson, A., Hodara, M., Klein, S., Regional Educational Laboratory Northwest (ED), &

Education Northwest. (2020). Career and Technical Education in Oregon: Exploring Who

Participates in High School and the Outcomes They Achieve. In *Regional Educational

Laboratory Northwest*. Regional Educational Laboratory Northwest.

Bartholomew, S. (2014). Why we cannot afford to lose CTE in schools. *International Journal of

Vocational and Technical Education, 6*(2), 7–12. https://doi.org/10.5897/IJVTE2014.0149

Bas, K. (2019). The Relationship between Classroom Management Skills and Self-Confidence of

Social Studies Teachers. *International Journal of Education and Literacy Studies, 7*(4),

62– 68.

Blissett, R., & American Enterprise Institute (AEI). (2020). Why Career and Technical

Education? Exploring Policymakers' Expressed Motivations for Supporting Perkins V. In

*American Enterprise Institute*. American Enterprise Institute.

Boone, H. N., Jr., & Boone, D. A. (2009). An Assessment of Problems Faced by High School

Agricultural Education Teachers. J*ournal of Agricultural Education, 50*(1), 21–32.

Bottoms, G., Egelson, P., Sass, H., Uhn, J., National Research Center for Career and Technical

Education, & Southern Regional Education Board. (2013). Improving the Quality of

Career and Technical Alternative Teacher Preparation: An Induction Model of

Professional Development and Support. Appendices. *National Research Center for Career

and Technical Education*.

Bottoms, G., McNally, K., & Southern Regional Education Board, A. G. (2005). Actions States

Can Take to Place a Highly Qualified Career/Technical Teacher in Every Classroom. High

Schools that Work Series. In *Southern Regional Education Board (SREB)*. Southern

Regional Education Board (SREB).

Brand, B., & American Youth Policy Forum. (2008). Supporting high quality Career and

Technical Education through federal and state policy. In *American Youth Policy Forum*.

American Youth Policy Forum.

Brown, A. (2013). Middle school girls sample "hard hat" life at construction camp. *Tech

Directions, 72*(6), 13–16.

Bush, J. (2020, February 24). Jeb Bush: Students need ROBUST cte pathways to fill America's

skills gap. here are 3 things states must do to make this happen. Retrieved March 3, 2021,

from *https://www.the74million.org/article/jeb-bush-students-need-robust-cte-pathways-to-

fill-americas-skills-gap-here-are-3-things-states-must-do-to-make-this-happen/*

Career clusters. Career Clusters | Advance CTE. (2021). Retrieved September 11, 2021, from

    *https://careertech.org/career-clusters*.

Career and Technical Educator Licensing. TSPC : Career and Technical Educator Licensing :

    Licensing : State of Oregon. (n.d.). *https://www.oregon.gov/tspc/LIC/Pages/CTE-*

    *Licensing.aspx*.

Chinonso Okolie, U., Nwonu Elom, E., Uchechukwu Osuji, C., & Agu Igwe, P. (2019).

    Improvement Needs of Nigerian Technical College Teachers in Teaching Vocational and

    Technical Subjects. *International Journal of Training Research*, 17(1), 21-34.

Claflin, K., Sorensen, T. J., Velez, J. J., & Stewart, J. (2019). Examining the Relationship of

    Work-Family Conflict and Turnover Intentions of Oregon CTE Teachers. *Career &*

    *Technical Education Research, 44*(2), 114–143. https://doi-

    org.georgefox.idm.oclc.org/10.5328/cter44.2.114

CTE in your State. CTE In Your State | Advance CTE. (2021). Retrieved October 6, 2021, from

    *https://careertech.org/cte-your-state*.

Cohen, M. D., Center on Great Teachers and Leaders at American Institutes for Research,

    Advance CTE: State Leaders Connecting Learning to Work, & College & Career

    Readiness & Success Center at American Institutes for Research (AIR). (2018). A cross-

    state collaboration on increasing access to industry experts in high school. In *Center on*

    *Great Teachers and Leaders*. Center on Great Teachers and Leaders.

Clarno, B. (2020, December). *Department of Education: High school success ... - Oregon*. High

    School Success Planning is Robust, but ODE Can Enhance Benefits of Measure 98 by

    Improving Monitoring and Analysis. Retrieved March 17, 2022,

    from https://sos.oregon.gov/audits/Documents/2020-44.pdf

Desimone, L. M. (2011). A Primer on Effective Professional Development. *Phi Delta Kappan,*
*92*(6), 68–71. https://doi-org.georgefox.idm.oclc.org/10.1177/003172171109200616

Estes, A., & McCain, B. (2019). Four strategies to address equity in cte. *State Education*
*Standard, 19*(3), 10–14.

Falk, J. H., & Dierking, L. D. (1997). School field trips: assessing their long-term impact.
*Curator, 40*, 211–218. https://doi-org.georgefox.idm.oclc.org/10.1111/j. 2151-
6952.1997.tb01304.x

Fletcher Jr., E., Tan, T., & Hernandez-Gantes, V. M. (2019). A comparative analysis of student
engagement in career academies and a comprehensive high school. *Career & Technical*
*Education Research, 44*(2), 144–163. https://doi-org.georgefox.idm.oclc.org/10.5328/
cter44.2.144

Fritsch, J. (2021). Make the most of it: leveraging agricultural science curriculum to maximize
facilities & tools. *Techniques: Connecting Education & Careers, 96*(1), 44–47.

Greene, J. P., Kisidia, B., & Bowen, D. H. (2014). The educational value of field trips. *Education*
*Next, 14*(1), 78–86.

Guskey, Thomas R. (2002) Professional development and teacher change. *Teachers and*
*Teaching: Theory and Practice 8*(3), 381-391, DOI: 10.1080/135406002100000512

Harris, J. C., Warner, M. T., Yee, K., Wilkerson, S. B., Regional Educational Laboratory
Appalachia (ED), SRI International, & National Center for Education Evaluation and
Regional Assistance (ED). (2020). Assessing the alignment between West Virginia's high
school career and technical education programs and the labor market. REL 2020-019. In
*Regional Educational Laboratory Appalachia*. Regional Educational Laboratory
Appalachia.

Hasselquist, L., & Graves, N. A. (2020). CTE teacher retention: lessons learned from mid-career

    teachers. *Career & Technical Education Research, 45*(1), 3–15. https://doi-

    org.georgefox.idm.oclc.org/10.5328/cter45.1.3

Hoachlander, G. (2008). Bringing industry to the classroom. *Educational Leadership, 65*(8), 22–

    27.

Igo, E. A., & Perry, D. K. (2019). Examining the Reasons Agricultural Education Teaching

    Graduates Choose to Enter, Leave, or Stay in the Teaching Profession. *Journal of*

    *Agricultural Education, 60*(2), 109–125.

Keller, M. M., Neumann, K., & Fischer, H. E. (2017). The impact of physics teachers'

    pedagogical content knowledge and motivation on students' achievement and interest.

    *Journal of Research in Science Teaching, 54*(5), 586–614. https://doi-

    org.georgefox.idm.oclc.org/10.1002/tea.21378

Kosine, N. R., & Lewis, M. V. (2008). Growth and exploration: career development theory and

    programs of study. *Career & Technical Education Research, 33*(3), 227–243. https://doi-

    org.georgefox.idm.oclc.org/10.5328/CTER33.3.227

Kotrlik, J. W., & Redmann, D. H. (2009). Analysis of teachers' adoption of technology for use in

    instruction in seven career and technical education programs. *Career & Technical*

    *Education Research, 34*(1), 47–77. https://doi-org.georgefox.idm.oclc.org/10.5328/

    CTER34.1.47

Kraft, M. A., Papay, J. P., & Chi, O. L. (2020). Teacher Skill Development: Evidence from

    Performance Ratings by Principals. *Journal of Policy Analysis & Management, 39*(2),

    315–347. https://doi-org.georgefox.idm.oclc.org/10.1002/pam.22193

Kushins, J. (2015). Pedagogical souvenirs: An art educator's reflections on field trips as professional development. *International Journal of Education & the Arts, 16*(20).

Lambeth, J. M., Elliot, J., & Joeger, R. (2009). A new vision for cte research: The national cte research agenda logic model. *Techniques: Connecting Education & Careers, 84*(4), 50–55.

Leffler, K. (2006). Aspiring architects draft their future. *Tech Directions, 66*(5), 27–28.

Licensure. Portland Community College. (2021). Retrieved September 11, 2021, from *https://www.pcc.edu/pactec/licensure/*.

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior, 2*(2), 99–113. https://doi-org.georgefox.idm.oclc.org/10.1002/job.4030020205

Mouza, C., Cavalier, A., & Nadolny, L. (2008). Implementation and outcomes of a laptop initiative in career and technical high school education. J*ournal of Educational Computing Research, 38*(4), 411–452. https://doi-org.georgefox.idm.oclc.org/10.2190/EC. 38.4.c

National Center for Education Statistics. (2012). Percentage distribution of public elementary and secondary schools with a teaching vacancy in selected teaching fields, by the school's reported level of difficulty in filling the vacancy, teaching field, and locale: 2011-12. Retrieved October 14, 2021, from *https://nces.ed.gov/surveys/ruraled/tables/c.1.c.-1.asp*.

Ndoye, A., Imig, S., & Parker, M. (2010). Empowerment, Leadership, and Teachers' Intentions to Stay in or Leave the Profession or Their Schools in North Carolina Charter Schools. *Journal of School Choice, 4*(2), 174–190. https://doi-org.georgefox.idm.oclc.org/10.1080/15582159.2010.483920

News & information. American Association of Colleges of Nursing: The Voice of Academic

    Nursing. (2020, September). Retrieved September 16, 2021, from

    *https://www.aacnnursing.org/news-information/fact-sheets/nursing-faculty-shortage*.

Northern, A. M., & Petrilli, M. J. (2019). Aligning CTE Courses to Local Labor Markets. *State*

    *Education Standard, 19*(3), 25–29.

O'Connor, P. J. (2012). The professional development needs of academic teachers adding career-

    technical education licenses. *Journal of Career and Technical Education, 27*(1), 34–47.

Omar, Muhd & Self, Mary & Lynn, Ki & Matlock Cole, Ki. (2017). *Retention and Job*

    *Satisfaction: A Study of Career and Technical Education Teachers in Midwestern State.*

    *International Journal of Academic Research in Business and Social Sciences*. 7.

    10.6007/IJARBSS/v7-i14/3661.

Oregon at a Glance School Profile. (n.d.). Retrieved July 22, 2021, from *https://*

    *www.ode.state.or.us/data/reportcard/reports.aspx*.

Oregon Department of Education. (2017). Oregon students continue to improve on-time

    graduation rate. Research Brief: Graduation Rates. In *Oregon Department of Education*.

    Oregon Department of Education.

Oregon Department of Education. (n.d.). CTE revitalization grant. Oregon Department of

    Education : CTE Revitalization Grant : CTE Funding : State of Oregon. Retrieved October

    14, 2021, from *https://www.oregon.gov/ode/learning-options/CTE/FedFund/Pages/CTE-*

    *Revitalization-Grant.aspx*.

Oregon State funding for Dropout Prevention and College Readiness, measure 98 (2016).

    Ballotpedia. (n.d.). Retrieved October 6, 2021, from

*https://ballotpedia.org/Oregon_State_Funding_for_Dropout_Prevention_and_College_Re*

*adiness,_Measure_98_(2016).*

PCRN: Perkins V. (n.d.). Retrieved April 10, 2021, from *https://cte.ed.gov/legislation/perkins-v*

PCRN: Perkins V. (n.d.). Retrieved September 11, 2021, from

*https://cte.ed.gov/legislation/about-perkins-v.*

Perry, A. (2019). Making the most of Perkins V. *State Education Standard, 19*(3), 15–17.

Programs of study. Programs of Study | Advance CTE. (n.d.). Retrieved September 9, 2021, from

https://careertech.org/programs-study.

Raziq, A., & Lane-Krebs, K. (2021). Motivation and Job Satisfaction among Teachers: A Case

Study of Balochistan. *Ilkogretim Online, 20*(4), 2313–2319. https://doi-

org.georgefox.idm.oclc.org/10.17051/ilkonline.2021.04.265

Regional Educational Laboratory Appalachia (ED), SRI International, & National Center for

Education Evaluation and Regional Assistance (ED). (2020). Assessing the Alignment

between West Virginia's High School Career and Technical Education Programs and the

Labor Market. Study Snapshot. REL 2020-019. In *Regional Educational Laboratory

Appalachia*. Regional Educational Laboratory Appalachia.

Restuccia, D., Taska, B., & Bittle, S. (2018, March). Different skills, different gaps measuring &

closing the skills gap. Retrieved March 5, 2021, from *https://www.burning-glass.com/wp-

content/uploads/Skills_Gap_Different_Skills_Different_Gaps_FINAL.pdf*

Required use of funds - Kentucky Department of Education. (n.d.). Retrieved October 12, 2021,

from

*https://education.ky.gov/CTE/perkins/DocumentsApprovableandNonapprovableexpenditu

res.pdf.*

Ruhland, S. K. (2001). Factors influencing the retention of secondary business teachers. *Delta Pi*

   *Epsilon Journal, 43*(4), 215–228.

Ruhland, S. K., Bremer, C. D., & National Dissemination Center for Career and Technical

   Education, C. O. (2002). *Alternative teacher certification procedures and professional*

   *development opportunities for career and technical education teachers*.

Saldaña, J. (2021). The coding manual for qualitative researchers. *SAGE Publications*.

Saucier, P. R., McKim, B. R., & Tummons, J. D. (2012). A Delphi approach to the preparation

   of early-career agricultural educators in the curriculum area of agricultural mechanics:

   fully qualified and highly motivated or status quo? *Journal of Agricultural Education,*

   *53*(1), 136–149. https://doi-org.georgefox.idm.oclc.org/10.5032/jae.2012.01136

Skaalvik, Einar M. & Skaalvik, Sidsel (2020) Teacher burnout: relations between dimensions of

   burnout, perceived school context, job satisfaction and motivation for teaching. A

   longitudinal study, *Teachers and Teaching, 26*:7-8, 602-616, DOI:

   10.1080/13540602.2021.1913404

Skaalvik, EM & Skaalvik S. Teacher job satisfaction and motivation to leave the teaching

   profession: Relations with school context, feeling of belonging, and emotional exhaustion.

   *Teaching & Teacher Education*. 2011;27(6):1029-1038. doi:10.1016/j.tate.2011.04.001

Snow, A., & Okojie, M. C. P. O. (2013). An Assessment of CTE Programs in Rural School

   District based on Carl Perkins Academic Standards and Placement Identifiers.

   *International Journal of Vocational Education & Training, 21*(1), 5–15.

Song, J. H., Martens, J., McCharen, B., & Ausburn, L. J. (2011). Multi-Structural Relationships

   among Organizational Culture, Job Autonomy, and CTE Teacher Turnover Intention.

*Career & Technical Education Research, 36*(1), 3–26. https://doi-org.georgefox.idm.oclc.org/10.5328/cter36.1.3

Thessin, R. A., Scully-Russ, E., Hildreth, J., & Lieberman, D. S. (2018). Key features to inform student outcomes: learning from a high school healthcare education program. *International Journal of Educational Reform, 27*(2), 185–211. https://doi-org.georgefox.idm.oclc.org/10.1177/105678791802700205

Thorn, B., & Brasche, I. (2020). Improving teacher confidence - evaluation of a pilot music professional development program for primary teachers. *Australian Journal of Music Education, 53*(1), 41–47.

Toglia, T. V. (2013). Gender Equity Issues in CTE and STEM Education: Economic and Social Implications. *Tech Directions, 72*(7), 14–17.

Watkins, L. (2016). Dream BIG! FUNDING YOUR CTE PROGRAM TO MEET STUDENT AND PROGRAM NEEDS. *Techniques: Connecting Education & Careers, 91*(5), 28–32.

Wilhelm, K. (2009). Expo IGNITES interest in manufacturing careers. *Tech Directions, 68*(10), 23–26.

Wilson, L. (2021). Inspiring facilities & innovative equipment. *Techniques: Connecting Education & Careers, 96*(1), 6.

Xue Xing, Garza, T., & Huerta, M. (2019). Factors influencing high school students' career and technical education enrollment patterns. *Career & Technical Education Research, 44*(3), 53–70. https://doi-org.georgefox.idm.oclc.org/10.5328/cter44.3.53

Young, J. R., Young, J., Hamilton, C., & Pratt, S. S. (2019). Evaluating the effects of professional development on urban mathematics teachers TPACK using confidence intervals. REDIMAT - *Journal of Research in Mathematics Education, 8*(3), 312–338.

Zirkle, C., Jeffery, J., & Shrewe, L. (2019). A longitudinal study of alternatively licensed career and technical teachers. *Career & Technical Education Research, 44*(1), 23–39. https://doi-org.georgefox.idm.oclc.org/10.5328/cter44.1.1

**Appendices**

**Appendix A**

Interview Guide - Staci

**Interview One:**

*Introduction:* Thank you for participating in this interview. I really appreciate it. The reason for this interview taking place is because I'm an Ed.D student at George Fox and am researching the factors that lead CTE instructors, particularly those in Health Science, to consider leaving education and how funding is used in the most-beneficial manner regarding instructor retention. I'm hopeful that your experiences will help me understand more about these topics.

*Informed Consent:* The only people who will see this transcript are myself and my dissertation chair at George Fox. Agreeing to this interview does not come with any requirements and you should feel free to end the interview at any time. If there is anything that you say and would prefer be kept off the record, I will be sure to mark that and leave it out of any analysis. Also, when we meet next you may be asked to clarify comments or explain your meaning to ensure your experiences are accurately represented and understood. Please take time to look over the form and ask me any questions about it you have.

*(Wait)*

If you don't have any more questions, we'll get started with the interview:

**\*\*\*Recording Begins\*\*\***

(The following questions will provide an outline, but some will be altered as needed or possibly omitted based upon the responses of the interviewee.)

**Questions:**

• Please tell me the story of how you became a teacher.

  • (Draw to the profession; choice of subject; choice of/transition into CTE)

- Please describe the program you were associated with upon first entering Health Sciences.

  - (Facilities; students; administrative support; funding; program history)

- What background (if any) did you have that was relevant to leading a program in Health Sciences?

  - How did that background help/hinder you?

- How would you describe your career satisfaction as an instructor of a Health Sciences program?

  - Can you share a story that correlates to this generalization?

- When you began teaching Health Sciences, were there any issues that limited your enjoyment in the classroom, and if so what were they?

- What were some of the things you enjoyed most in the Health Sciences classroom?

- Please describe your experience regarding the use of provided funds (Perkins, state, or private) on the Health Sciences program.

  - (Use at start; changes to approach through career; effectiveness)

  - Can you tell any stories that exemplify these experiences?

- How would you categorize your most-effective expenditures? What did they have in common?

  - Can you tell a specific story about your best use of funding?

- What have you learned about CTE instructor retention through your time as a mentor?

- Is there anything you'd like to add?

- Is there anything you would like me to remove from the record?

**<u>***Recording Ends***</u>**

Thank you for being willing to speak with me. I'm looking forward to diving further into what we discussed an then meeting with you again. If you think of anything you would like to amend please feel free to reach out any time or let me know when we talk again.

**Interview Two:**

Thank you for meeting with me again. I really appreciate it. Please remember that you are free to end the interview at any time. Let me know if there is anything that you would like for me to remove from the record and it will be removed. If you are ready we can begin.

**<u>***Recording Begins***</u>**

- Is there anything from our first conversation that you would like to amend or add?

- Last time you talked about how incredibly rewarding the profession is, specifically in the long term with seeing/hearing from former students.

  - In what ways might health science teachers find their jobs rewarding in the short term?

  - Can you think of any way to exploit that long-term reward to keep more teachers in the profession in the short term?

- Would you please explain the in-building relationships you had while teaching and how they affected your commitment to the school/profession?

  - Did coaching and being involved with extracurriculars affect your commitment to teaching?

- What suggestions do you have for Health Sciences instructors with backgrounds similar to your own regarding their use of funding?

- What do you believe can be done to help with the shortage of Health Science instructors?

- Based upon your experiences, what do you feel are the benefits of field trips/guest speakers in the Health Sciences classroom?

- What are their limitations?

- What do you feel are the benefits of professional development for the Health Sciences instructor?

  - What are its limitations?

- What do you feel are the benefits of equipment purchases in the Health Sciences classroom?

  - What are their limitations?

- Which of the three types of purchases (if any) do you feel are most beneficial in attempting to improve instructor retention in the CTE Health Sciences field?

- Is there anything you would like to add that you feel is relevant to either the use of funds, teacher retention/satisfaction, or the combination of the two that we have not discussed?

- Is there anything you would like me to remove from the record?

**\*\*\*Recording Ends\*\*\***

Thank you so much for agreeing to meet with me. My goal is to use the stories you've shared along with the other information gained to provide guidance for CTE decision makers.

**Appendix B**

Interview Guide - Ryan

**Interview One:**

*Introduction:* Thank you for participating in this interview. I really appreciate it. The reason for this interview taking place is because I'm an Ed.D student at George Fox and am researching the factors that lead CTE instructors, particularly those in Health Science, to consider leaving education and how funding is used in the most-beneficial manner regarding instructor retention. I'm hopeful that your experiences will help me understand more about these topics.

*Informed Consent:* The only people who will see this transcript are myself and my dissertation chair at George Fox. Agreeing to this interview does not come with any requirements and you should feel free to end the interview at any time. If there is anything that you say and would prefer be kept off the record, I will be sure to mark that and leave it out of any analysis. Also, when we meet next you may be asked to clarify comments or explain your meaning to ensure your experiences are accurately represented and understood. Please take time to look over the form and ask me any questions about it you have.

*(Wait)*

If you don't have any more questions, we'll get started with the interview:

**\*\*\*Recording Begins\*\*\***

(The following questions will provide an outline, but some will be altered as needed or possibly omitted based upon the responses of the interviewee.)

**Questions:**

- Tell me about your path into teaching.

    - (Draw to the profession; choice of subject; choice of/transition into CTE)

- Please describe the program you were associated with upon first entering Health Sciences.

    - (Facilities; students; administrative support; funding)

- What background did you have that was relevant to leading a program in Health Sciences?

- Tell me about the transition into education from a field in Health Sciences.

    - Please share any stories you have that represent the transition.

- What factors led you to make the decision to exit education for a different career?

    - Please explain what would have needed to change in order for you to have remained in the field of education.

- What do you feel could have been done differently to improve your experience in education?

- How did you spend your funding when you were leading the Health Sciences program?

    - Please tell a story that represents your spending.

- Could any changes have been made that would have resulted in you deciding to remain in education?

**Interview Two:**

Thank you for meeting with me again. I really appreciate it. Please remember that you are free to end the interview at any time. Let me know if there is anything that you would like for me to remove from the record and it will be removed. If you are ready we can begin.

**<u>***Recording Begins***</u>**

- Is there anything from our first conversation that you would like to amend or add?

- Could you start by explaining the hoops you had to jump through to become a teacher (training, etc.) and how much time you put into that?

- How challenging would you say the teaching profession was for you at first?

- Did you enjoy that challenge?

- How did the challenges and amount of effort required change as you have progressed?

- How specifically did you benefit from attending the AVID conference?

  - Do you have any specific stories you could that show this?

- Last time you explained that you met with teachers from other schools who taught similar classes. Can you explain what benefits you received from that time?

  - Did you stay in contact with those teachers?

- You talked about your time coaching at the school. Can you describe how being part of a coaching staff affected your time in teaching?

  - Can you describe the relationships you had with any other colleagues at the school that seem pertinent?

- Did you have any relationships with other Health Science teachers while you were teaching? Were you part of any organizations or created any relationships?

- Please describe your relationship with the mentor you had while starting out in education.

- Last time you mentioned that your mentor oversaw the spending on funds. If you had been in charge of spending, what would you have done differently?

  - Do you feel like making your own purchases would have altered the amount of ownership you felt regarding your program?

  - Was it a relief to not have to worry about accounts and finances?

- What suggestions do you have for Health Sciences instructors with backgrounds similar to your own regarding their use of funding?

- What do you believe can be done to help with the shortage of Health Science instructors?

- Based upon your experiences, what do you feel are the benefits of field trips/guest speakers in the Health Sciences classroom?

    - What are their limitations?

- What do you feel are the benefits of professional development for the Health Sciences instructor?

    - What are its limitations?

- What do you feel are the benefits of equipment purchases in the Health Sciences classroom?

    - What are their limitations?

- Which of the three types of purchases (if any) do you feel are most beneficial in attempting to improve instructor retention in the CTE Health Sciences field?

- Is there anything you would like to add that you feel is relevant to either the use of funds, teacher retention/satisfaction, or the combination of the two that we have not discussed?

- Is there anything you would like me to remove from the record?

**<u>***Recording Ends***</u>**

Thank you so much for agreeing to meet with me. My goal is to use the stories you've shared along with the other information gained to provide guidance for CTE decision makers.

**Appendix C**

Interview Guide - Amy

**Interview One:**

*Introduction:* Thank you for participating in this interview. I really appreciate it. The reason for this interview taking place is because I'm an Ed.D student at George Fox and am researching the factors that lead CTE instructors, particularly those in Health Science, to consider leaving education and how funding is used in the most-beneficial manner regarding instructor retention. I'm hopeful that your experiences will help me understand more about these topics.

*Informed Consent:* The only people who will see this transcript are myself and my dissertation chair at George Fox. Agreeing to this interview does not come with any requirements and you should feel free to end the interview at any time. If there is anything that you say and would prefer be kept off the record, I will be sure to mark that and leave it out of any analysis. Also, when we meet next you may be asked to clarify comments or explain your meaning to ensure your experiences are accurately represented and understood. Please take time to look over the form and ask me any questions about it you have.

*(Wait)*

If you don't have any more questions, we'll get started with the interview:

**\*\*\*Recording Begins\*\*\***

(The following questions will provide an outline, but some will be altered as needed or possibly omitted based upon the responses of the interviewee.)

**Questions:**

• Tell me the story of how you became a teacher.

   • (Draw to the profession; choice of subject; choice of/transition into CTE)

- Please describe the program you were associated with upon first entering Health Sciences.

  - (Facilities; students; administrative support; funding; program history)

- What background (if any) did you have that was relevant to leading a program in Health Sciences?

- How would you describe your career satisfaction as an instructor of a Health Sciences program?

  - Can you share a story that correlates to this generalization?

- What are some of the things you enjoy most in the Health Sciences classroom?

- What aspect of teaching Health Sciences do you find most difficult to deal with?

- Please describe your experience regarding using provided funds (Perkins, state, or private) on the Health Sciences program.

  - Can you tell any stories that exemplify these experiences?

- How would you categorize your most-effective expenditures? What did they have in common?

  - Can you tell a specific story about your best use of funding?

- What sort of equipment do you consistently use in Health Sciences?

- Is there anything you'd like to add?

- Is there anything you would like me to remove from the record?

**<u>***Recording Ends***</u>**

Thank you for being willing to speak with me. I'm looking forward to diving further into what we discussed an then meeting with you again. If you think of anything you would like to amend please feel free to reach out any time or let me know when we talk again.

**Interview Two:**

Thank you for meeting with me again. I really appreciate it. Please remember that you are free to end the interview at any time. Let me know if there is anything that you would like for me to remove from the record and it will be removed. If you are ready we can begin.

**<u>***Recording Begins***</u>**

- Is there anything from our first conversation that you would like to amend or add?

- How challenging would you say the teaching profession has been these first two years?

  - Do you enjoy that challenge?

  - How have the challenges and amount of effort required change as you have progressed as an educator?

- How specifically did you benefit from attending the ACTE conference?

- You talked last time about the National Consortium of Health Science Educators. Can you describe what that resource looks like?

  - Do you get to know the people who are involved? Form relationships?

  - Explain what you gained from joining this group.

- Do you have any relationships with other Health Science teachers? Local or otherwise?

- Can you describe the relationships you have with any other colleagues at the school?

- Please describe your relationship with the mentor you are currently working with.

- What suggestions do you have for Health Sciences instructors with backgrounds similar to your own regarding their use of funding in the future?

- What do you believe can be done to help with the shortage of Health Science instructors?

- What do you feel are the benefits of field trips/guest speakers in the Health Sciences classroom (in general)?

- What are their limitations?

- What do you feel are the benefits of professional development for the Health Sciences instructor?

  - What are its limitations?

- What do you feel are the benefits of equipment purchases in the Health Sciences classroom?

  - What are their limitations?

- Which of the three types of purchases do you feel is most beneficial in attempting to improve instructor retention/satisfaction in the CTE Health Sciences field?

- Is there anything you would like to add that you feel is relevant to either the use of funds, teacher retention/satisfaction, or the combination of the two that we have not discussed?

- Is there anything you would like me to remove from the record?

**\*\*\*Recording Ends\*\*\***

Thank you so much for agreeing to meet with me. My goal is to use the stories you've shared along with the other information gained to provide guidance for CTE decision makers.

**Appendix D**

Interview Guide - Ron

**Interview One:**

*Introduction:* Thank you for participating in this interview. I really appreciate it. The reason for this interview taking place is because I'm an Ed.D student at George Fox and am researching the factors that lead CTE instructors, particularly those in Health Science, to consider leaving education and how funding is used in the most-beneficial manner regarding instructor retention. I'm hopeful that your experiences will help me understand more about these topics.

*Informed Consent:* The only people who will see this transcript are myself and my dissertation chair at George Fox. Agreeing to this interview does not come with any requirements and you should feel free to end the interview at any time. If there is anything that you say and would prefer be kept off the record, I will be sure to mark that and leave it out of any analysis. Also, when we meet next you may be asked to clarify comments or explain your meaning to ensure your experiences are accurately represented and understood. Please take time to look over the form and ask me any questions about it you have.

*(Wait)*

If you don't have any more questions, we'll get started with the interview:

**\*\*\*Recording Begins\*\*\***

(The following questions will provide an outline, but some will be altered as needed or possibly omitted based upon the responses of the interviewee.)

**Questions:**

• Can you please describe your role regarding the use of funds in Career Technical Education?

• How did you find yourself in that role/what is your background in CTE?

- How many CTE positions do you work with? How many of those are Health Science?

  - Based on those positions, how big an issue would you say teacher retention is in CTE?

    - What about Health Sciences specifically?

- What generalizations can you make about the way CTE instructors have used funding in the past?

  - What about Health Science specifically?

- What are some common mistakes you see CTE instructors making with their use of funds?

  - How could this problem be avoided?

- What use of funds do you see as being the most useful for improving a CTE program regarding student enjoyment?

- What use of funds do you see as being the most useful for improving instructor enjoyment in CTE?

- What suggestions do you have for any Health Science teacher who is deciding how best to spend their available funds?

- Have you noticed any trends/correlations regarding how instructors use funds regarding teacher retention?

- Are there any similarities you have noticed in CTE instructors who don't stay in education for three or more years? If so, what are they?

  - Do you have any stories that illustrate this?

- In your opinion, what are the biggest roadblocks for retaining health science instructors?

- Is there anything you would like to add that you feel is relevant to either the use of funds, teacher retention/satisfaction, or the combination of the two that we have not discussed?

**Appendix E**

Participant

# Informed Consent for Research Subject

Please read this form carefully before agreeing to participate in the associated research. Please feel free to ask any and all questions you have as a result of this form or the research in general at any time, including following the conclusion of your participation.

Principal Researcher: Matt Boase

Dissertation Chair: Scot Headley

Purpose of Research:

The purpose of this study is to further the research regarding instructor retention in

Career Technical Education with a specific focus on Health Science. With a shortage of instructors in Health Science in addition to the existing gap in associated fields, determining what factors play a role in the retention or loss of Health Science instructors could benefit both the educational system and society.

While this research will consider all factors influencing retention/attrition, it will also look specifically at the use of funding in Health Science instructor satisfaction. Leaders of approved programs are often able to access thousands of dollars a year, and this research aims to provide direction for instructors and administrators who are attempting to decide how those funds would be most beneficial.

Procedures:

If you choose to participate in the study we will conduct two interviews. The first interview will focus upon your story and experiences in Health Science education while the second interview will include questions relating to your opinion regarding Health Science programs in general. While an outline of questions will be used to guide the interview, follow-up questions will also be asked based upon responses. The interviews will be conversational in tone. Both interviews will take place in a quiet and private location to ensure anonymity. Throughout both interviews all participants and schools will be referred to using pseudonyms. Audio recordings of the

interviews will be recorded on two devices which are privately owned and secure. There will not be video recordings of any interviews.

Audio recordings as well as transcripts will be kept in the sole possession of the researcher and will be seen only by the researcher and the dissertation chair. The recordings and ensuing transcripts will not be stored on any public devices nor using a cloud-service/online drive.

Confidentiality:

Maintaining anonymity of the participants is a priority for the associated study. Any information that may reveal the identity of the individuals or schools involved will be withheld from the research. All individuals and institutions will be referred to by pseudonyms at all times.

Potential Risks and Benefits:

The risks associated with this research are minimal because of the nature of the study and the focus on anonymity. The small number of participants in the study along with the narrative format make anonymity more difficult, however the aforementioned precautions will be taken.

By choosing to participate in this study you will hopefully help improve the educational research regarding teacher retention and CTE funding.

Withdrawal:

Participants are free to withdraw from the study at any point for any reason.

Consent:

I read and understand the information presented in this form and will participate in the study.

Please contact principal researcher Matt Boase (mboase16@georgefox.edu) or dissertation chair Scot Headly (s********@georgefox.edu) with any questions

Name: _____ Signature: _____ Date: _____

**Appendix F**

Critical Informant

# Informed Consent for Research Subject

Please read this form carefully before agreeing to participate in the associated research. Please feel free to ask any and all questions you have as a result of this form or the research in general at any time, including following the conclusion of your participation.

Principal Researcher: Matt Boase

Dissertation Chair: Scot Headley

Purpose of Research:

The purpose of this study is to further the research regarding instructor retention in

Career Technical Education with a specific focus on Health Science. With a shortage of instructors in Health Science in addition to the existing gap in associated fields, determining what factors play a role in the retention or loss of Health Science instructors could benefit both the educational system and society.

While this research will consider all factors influencing retention/attrition, it will also look specifically at the use of funding in Health Science instructor satisfaction. Leaders of approved programs are often able to access thousands of dollars a year, and this research aims to provide direction for instructors and administrators who are attempting to decide how those funds would be most beneficial.

Procedures:

If you choose to participate in the study we will conduct one interview. While an outline of questions will be used to guide the interview, follow-up questions will also be asked based upon responses. The interview will be conversational in tone and will take place in a quiet and private location to ensure anonymity. Throughout the interview all participants and schools will be referred to using pseudonyms. Audio recordings of the interview will be recorded on two devices which are privately owned and secure. There will not be video recordings of any interviews.

Audio recordings as well as transcripts will be kept in the sole possession of the researcher and will be seen only by the researcher and the dissertation chair. The recordings and ensuing transcripts will not be stored on any public devices nor using a cloud-service/online drive.

Confidentiality:

Maintaining anonymity of the participants is a priority for the associated study. Any

information that may reveal the identity of the individuals or schools involved will be withheld from the research. All individuals and institutions will be referred to by pseudonyms at all times.

Potential Risks and Benefits:

The risks associated with this research are minimal because of the nature of the study and the focus on anonymity. The small number of participants in the study along with the narrative format make anonymity more difficult, however the aforementioned precautions will be taken.

By choosing to participate in this study you will hopefully help improve the educational research regarding teacher retention and CTE funding.

Withdrawal:

Participants are free to withdraw from the study at any point for any reason.

Consent:

I read and understand the information presented in this form and will participate in the study.

Please contact principal researcher Matt Boase (mboase16@georgefox.edu) or dissertation chair Scot Headley (s*****@georgefox.edu) with any questions

Name: _____ Signature: _____ Date: _____