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## **Issues Influencing the Certification of Online Career and Technical Educators in the Western Pacific Region**

<sup>1</sup> Benjamin Borja Seman, <sup>2</sup> Amy Adcock, <sup>3</sup> Sunddip Panesar-Aguilar  
<sup>1,2</sup> Riley College of Education, Walden University, United States  
<sup>3</sup> College of Health Sciences, University of St. Augustine, United States

Corresponding Author: **Sunddip Panesar-Aguilar**

### **Abstract**

The problem this study addressed is career and technical education (CTE) teachers' perceived concerns of the eTeacher certification process and perceived support needed to increase CTE teacher participation in the process. Although an eTeacher certification process is available and free of cost in the Western Pacific region, local secondary CTE teachers have resisted enrolling in certification courses, resulting in few CTE offerings for the distance education program. The purpose of this study was to explore the perceived concerns of CTE teachers and the perceived support needed to increase participation in the eTeacher certification process to teach online CTE courses in the Western Pacific region. The conceptual framework of the study was the stages of concerns model. The study was guided by two research questions focused on the perceived

concerns of secondary CTE teachers regarding their participation in the eTeacher certification process and perceived supports needed to encourage secondary CTE teachers to participate in the eTeacher certification process to teach online CTE courses. Data were collected through individual interviews of 10 highly qualified CTE teachers in the Western Pacific region. Data analysis involved two coding cycles, a priori coding followed by axial coding. Findings from this study reflected five themes that indicated a lack of professional development to improve online teaching skills and knowledge on the eTeacher certification process and distance education program in the study site district. The study can lead to positive social change by promoting greater access to CTE courses by students, resulting in them being better prepared for the workforce.

**Keywords:** Career and Technical Education, Secondary School, Professional Development, Online Teaching, Distance Education

### **1. Introduction**

There is a high demand for skilled workers in the Western Pacific region, but foreign contract workers are often hired instead because there is a lack of a skilled local workforce (Torres, 2019) <sup>[15]</sup>. A skilled worker is any worker who has particular skills, training, and knowledge that they can apply to their work (Hayes, 2021) <sup>[6]</sup>. Aligning secondary, high school career and technical education (CTE) programs with the workforce needs of the Western Pacific region allows acting strategically to ensure students in CTE programs develop valuable academic and technical for the state (Suffren & Mezera, 2018) <sup>[14]</sup>. CTE is divided into different clusters focused on business, agriculture, and construction (Stauffer, n.d.) <sup>[13]</sup>. As online learning becomes an accepted and necessary medium for teaching and learning (Garza Mitchell, 2017) <sup>[4]</sup>, there has been an expansion of available distance education programs in the Western Pacific region. However, per the distance education and technology instruction director, the current local program has limited CTE course offerings for high school students due to a lack of certified CTE teachers in the district who teach online.

Providing teachers with training and certification to teach online improves secondary teachers' practice and self-efficacy by delivering new knowledge, skills, and qualifications on effectively integrating old and new materials and approaches to adapt to teaching online (Anas & Musdariah, 2018) <sup>[1]</sup>. According to the distance education and technology instruction director of the Western Pacific region, although online teaching certification courses are available and free of cost in the Western Pacific region, secondary CTE teachers have not enrolled in certification courses resulting in reduced online CTE course offerings for their students. Recent reports from the study site school district, such as the distance education course catalog for Spring 2020, show that only two of the 23 courses offered in distance education were CTE courses. The problem addressed in this study was that although online teacher certification is available for teachers in the Western Pacific region, CTE teachers have not been choosing to be certified to teach online.

Without proper professional development (PD) and training, teachers may be unprepared for the task of teaching a course online to a dispersed population of students (Rehn *et al.*, 2018) [11]. Preparing CTE teachers to teach online has additional considerations compared to traditional coursework because so many CTE programs use specialized equipment or models to deliver instruction, require hands-on learning, and rely on in-person hours for students to meet credentialing standards (McKay *et al.*, 2021) [8]. The Office of Curriculum and Instruction CTE director stated in an interview that the Western Pacific Region public school system has 40 certified CTE teachers, only four of whom are certified to teach online. In the distance education course catalog for Spring 2020, the district’s public school system offered 23 courses in distance education, and only two were CTE courses. Government officials, such as a local congressman, have also expressed their hopes for the Western Pacific region to implement more CTE course opportunities (Erediano, 2019a) [3].

**2. Problem and Research Question**

The purpose of this study was to explore the perceived concerns of CTE teachers and the perceived support needed to increase participation in the eTeacher certification process to teach online CTE courses in the Western Pacific region. The following research questions were used to guide this study and explore the issues that influence CTE teacher participation in the eTeacher certification process:

**RQ1:** What are the perceived concerns of secondary CTE teachers regarding their participation in the eTeacher certification process to teach online CTE courses in the Western Pacific region?

**RQ2:** What are the perceived supports needed to encourage secondary CTE teachers to participate in the eTeacher certification process to teach online CTE courses in the Western Pacific region?

**3. Materials and Methods**

A qualitative methodology was used, as the research study aimed to explore the perceived concerns of secondary CTE teachers related to the eTeacher certification process to teach online CTE courses in the Western Pacific region in this study. Individual interviews provided a clear and detailed understanding of the needed information. Carrying out individual, open-ended interviews eliminated the chance of participants not sharing their personal views due to being in a large group.

**3.1 Participant Sampling**

The population pool for participants in this study included 40 CTE teachers. A purposeful sample was used to select participants who fit specific criteria to ensure a fair and unbiased study. To take part in the research study, participants had to be employed by the study site district, highly qualified CTE teachers in the Western Pacific region, and teaching at the secondary level (i.e., Grades 7 through 12). To be deemed a highly qualified teacher in the Western Pacific region for this study, an individual had to have obtained a bachelor’s degree, hold a certificate teaching license, and have passed Praxis 1 and 2. The research study included 10 highly qualified, Grade 7–12, CTE teachers who taught online in the Western Pacific region. Participants were certified or noncertified to teach in the district online through the eTeacher certification process.

**3.2 Data Collection**

Data were collected using open-ended, semistructured, one-on-one interviews with each participant. Each interview lasted 30 to 45 minutes. Table 1 shows the alignment of the interview questions for noncertified CTE teachers with the overall research questions, and Table 2 shows the interview questions for the certified teachers. Technology was used to make accommodations for the participants and to assist with conducting the individual interviews online. For the safety and confidentiality of the meetings, the link to the room was shared only with the participant taking part in that specific interview.

**Table 1:** Interview Questions for Noncertified CTE Teachers

Interview questions	RQ1	RQ2
Tell me about your experiences with distance learning/education either as a teacher or student.	X	X
Based on your knowledge/experience on distance education, from the perspective of a distance education teacher, what are your concerns with its implementation?	X	
Describe how you utilize an online learning platform to teach a CTE class.	X	
How is the quality of instruction important when teaching a CTE course in distance education?		X
What certification programs does the district offer to become a certified distance education teacher?		X
What would encourage you to participate in the eTeacher certification process?	X	X
Why or why not should the certification process become a certified CTE teacher for distance education is mandated by the district?	X	X

**Table 2:** Interview Questions for Certified CTE Teachers

Interview questions	RQ1	RQ2
Tell me about your experiences with distance learning/education either as a teacher or student.	X	X
Describe how you utilize an online learning platform to teach a CTE class?	X	
How is the quality of instruction important when teaching a CTE course in distance education?	X	
Why did choose to become certified to teach CTE courses at a distance?		X
How did the certification process help you become an effective CTE distance education teacher?		X
What do you think would be a motivating factor for non-certified teachers to participate in the certification process to become a certified CTE distance education teacher?	X	X
Why or why not should the certification process become a certified CTE teacher for distance education is mandated by the district?	X	X

**3.3 Data Analysis**

Data analysis consisted of two cycles of coding. Coding is a fundamental aspect of the analytical process and how the researcher breaks down the data collected to make something new (Elliott, 2018) [2]. For the first cycle coding, a set of a priori codes were used to align to the CBAM framework, methodology, and research questions as recommended by Nieuwenhuis (2015) [9]. These codes were used for first-level concept coding to identify broad categories with the data (Saldana, 2015) [12]. Table 3 shows a priori codes focused on the stages of concern construct of CBAM (Hall, 2010). When conducting the interviews, the caption function was turned on so that each interview could

be transcribed, and when reviewing the recording of the interview, corrections of any inaccuracies were made from the automated captioning function.

**Table 3:** A Priori Codes Based on Stages of Concerns to be Used for Data Analysis

A priori codes	Description of code
Unconcerned	The teacher is concerned about other educational concerns rather than the CTE certification.
Self	The teacher describes personal feelings of uncertainty in whether they should participate in the eTeacher certification program. They might voice supervisor support related to online teaching.
Task	The teacher is concerned about time, logistics, schedules, and fitting everything in that must be done related to eTeacher certification.
Impact	The teacher is focused on how the eTeacher certification is affecting their ability to serve students and what can be done to increase outcomes.

**4. Results**

Five themes were identified and each theme was matched to the research questions. The findings of each research question are summarized, and examples from the interviews are provided. A total of ten interviews were conducted, with each participant numbered according to the order of the interview.

**Theme 1: 21st Century Knowledge/Skills**

One of the emergent themes observed in the second coding phase, axial coding, was 21st century knowledge/skills. Numerous categories were developed during the initial coding phase of the a priori codes that led to this theme such as; navigation, standard norm, college and career readiness, multimedia tools, quality of technology skills or process. 21st century knowledge and or skills are defined as the collaboration, solving complex events, using technological tools, using language, symbols and texts (Karatas & Arpaci, 2020). All of the participants shared their acknowledgement on the importance of distance education most especially after the experience of schools closing due to the COVID-19 pandemic. Participant T1 stated in the interview “I think everyone should be certified. It’s really about being able to use what they know about literature and translate it into the digital world as a standard knowledge and expanded skills.” According to the participants, during the shutdown of schools due to the pandemic, the district leaders decided as a course of action to invest in online learning through the learning management system of Blackboard Ultra (BBU). Classes were held online and students were able to receive their education without entering their school campus and/or classrooms. Participant T6 shared “now that distance education is almost like a norm as in the students I get in the classroom now are aware how to navigate BBU.” Participant T6 also shared how the students were also knowledgeable on how to access and navigate through their classes on BBU which included Blackboard Collaborate, the online classroom portal, and utilize other functions such as sending messages and emails.

T1, T3, T4, T6, T9, and T10 shared the benefits of the online learning experience was the ability for teachers, especially those who aren’t as tech savvy, to learn and enhance their knowledge and skills with online educational technology. They also shared the need for further knowledge and training on the different multimedia resources and how

to effectively use it in their lessons and classes online. Students are also given the opportunity to be introduced to online learning which one of the most important innovations is in the U.S. higher education system in the past two decades (Xu & Xu, 2019) [16]. Participant T8 shared that he had also experienced distance learning as a student and that at the time, “it was just not as enticing. Video was still very slow and wasn’t as accessible but it’s actually pretty decent now.” Participant T3 stated “it was a challenge only because of accessibility that some of the students have. For students that had good internet connection and equipment, it was easier for them.”

**Theme 2: Student to Student/Student to Teacher Engagement**

Student to student and student to teacher engagement was noted by all participants as an important factor in the learning and teaching process. Participant T4 stated “Interaction with an online teacher is not the same as interaction with the classroom teacher. We noticed this with students who have difficulty in learning, reading issues, focus issues, and time management issues.” T4 also shared how difficult it was for the teacher and student to participate in a drama class without being able to see the audience which includes reading their body language. The same was also shared with regard to the audience viewing the presenter. Participant T2 shared the experience of having to teach online due to the pandemic and stated that “the hard part is trying to get the students to go online to login, especially since with distance learning, they’re normally at home. I always find myself having to call every parent of students who are absent.” Participant T5 stated frustrations in art class when students are drawing and “there is no one there to guide them and give immediate feedback.” Participant T5 shared that as their teacher, his frustration was that he “cannot find out who’s looking online and going beyond the studying to just look for answers.”

**Theme 3: Motivational Factors**

All participants shared views on motivational factors pertaining to distance education and taking time to be certified for teaching online and teach in the distance education program. Of the four participants who are certified to teach in the distance education program, whom are participants T1, T3, T7 and T9, only T1 and T9 had actually participated in teaching in the online program. Participant T7 stated that “as a professional, especially at this age, they really do need that face to face instruction. They need the social aspect of teaching and learning first before a more independent style of learning.” Participant T3 stated that his “class is a very hands on application type of class where students have to perform certain things such gardening and going outside and demonstrating certain themes in regards to agriculture.” Participant T1 stated her interest “to see how else you could reach those that we can’t because of one’s location.” T1 shared how she “wanted to challenge myself if I’m able to teach effectively and efficiently through the online platform or any Blackboard or online.” T1 also stated,

“distance education is very convenient, considering if all student have access to online and are able to know how to navigate what they need to do in order to be successful. It is very much important to really sit

down and pick and choose their instruction.”

Participant T9 stated that, “as a student, flexibility was the most important advantages. As a teacher, learning about the different programs, resources, and medias available made my teaching easier and also more fun.”

Participants T2, T3, T5, T6, T7, T8, and T10 all shared that a huge motivational factor for them is monetary compensation. For Participants T3 and T7 whom are already certified to teach online, both shared that they foresee many challenges extra work being that their classes are more hands on. With the extra load of work, they would prefer an increase in compensation. Participant T2 shared how he already has a side business and stated “I can make more with the business. I hear from what other people make and my business makes more with the same amount of time or less.” Participant T5 shared,

“time is money, so make it worth my while. Compensate me for the time I’m going to take away from my friends and family and my own social life in order to, better a practice or skill, to do more for a community or society purposes.”

Participant T6 stated when asked what would motivate him to participate in the eTeacher certification process, “with my situation, that would be monetary.” He explained that he was satisfied with what he was currently doing and values his time at home with his family, so a significant amount of compensation would be a determining factor. Participant T8 shared that his experience teaching music online during the time of the pandemic made him realize that there was a need “to bridge the gap between new teaching strategies and old in order to maximize instructional quality towards teachers for distance education.” With that he foresees a lot of work to be done and would like to be compensated for the additional work of getting certified then making the attempt to teach music, which requires a lot of hands on practice and guidance, in an online environment. He also stated “more certification backed with more compensation will always motivate somebody but also just what motivates them with more opportunity.” Participant T10 stated,

“my honest answer, especially now at this time that we’re all trying to survive would be higher pay. I am interested in learning more about access to accommodate learners online and the new technologies out there and PD but a higher pay would be more influencing for me.”

Participant T4 shared his motivation factor to be certified and teach online would be, to simply try to make sure that the thing that I would spend the most time with other than the mechanics would be to recognize that there are that there are these drawbacks. And you have to take those drawbacks into account. And taking these drawbacks into account. You can at least warn your students as to what as to what they’re missing, which I think is only fair.

Other motivational factors shared by the participants were catered more towards students such as stated by Participant T4,

“I think that allows the students the ability to schedule when it’s most convenient. It provides substantial

opportunities for education at night, weekends. And this could be particularly of use with students that are currently trying to hold down part time or full time jobs.”

T10 stated, “being able to work in your own space and at your own time is a great thing.”

#### **Theme 4: Quality/Relevant PD**

Each a priori code had categories pertaining to quality and relevant PD. While all participants agree that online learning is vital to a student’s educational experience in the 21st century, most were hesitant about mandating teachers to become certified to teach online for reasons such as fear for colleagues who aren’t tech savvy, certification does not necessarily mean quality teaching, the power of choice, lack of knowledge, and more. Quality PD and trainings was preferred recommendation from the participants. According to Participant T1,

I think knowing the dynamic of at least some that are not so tech savvy is my reason why it shouldn’t be mandated because at the end of the day, everyone should have a choice on what they want to build on.”

Participant T5 shared how he doesn’t agree with some policies with regards to distance education. From his experience having to teach online during the pandemic, he stated,

“although they said that they want privacy to a household because some households less fortunate than others, I also believe that the primary role of parents is to set up an area in the house for education in the timeframe.”

He shared that “teaching online was difficult because you’re trying to gauge students work but where’s the fidelity?” I cannot know who’s looking online or behind the blank screen”. Participant T6 stated that distance education “doesn’t fit with CTE like other subject areas. Most CTE courses are very hands on and it is difficult to replicate that practice in an online setting.” Participant T8 shared, I already know how I want to go about with this and students just need to know what the expectations are. So as far as certifications go, just show us what to do, what to press and that will motivate me to become better.

#### **Theme 5: Accessibility and Parental Involvement**

Due to the COVID-19 pandemic that forced schools in the district to close and offer services remotely, teachers in the district gained experience teaching online. The participants had much to share regarding their experiences and observations on online learning with their respective CTE courses. All participants shared their biggest concern which also resonated with the public school district and parents were the accessibility issue for students. Participant T3 stated “it was a challenge only because of accessibility” either with an electronic device or internet connectivity. Participant T2 stated “there were a lot of limitation especially with families out there in our island that are struggling; some families might not have power at their homes.” All participants shared their observation of an increase in student absenteeism and a lack of motivation on the end of the student, parent support, and challenges at home. Participants T2, T4, T5, and T7 shared their concern

with regards to lack of parental involvement and support. Participant T2 stated “there’s no support at home, even if we call them. Another hard part is when there’s no contact number or phone numbers change,” Participant T5 stated,

“I believe it’s on the parent or guardian that you got to do something to ensure your child is able to pick up internet activity. We gave them everything they needed such as school issued devices; they need to meet us halfway.”

Participant T7 shared “it also depends on what the educational values are in the students’ home.” Another topic that constantly being brought up by all participants was the fact that CTE consist of courses that requires a lot of hands on activities in order to build skills pertaining to the subject field. While participants T1, T6, and T9 shared how they didn’t feel as affected with online learning in comparison to other CTE teachers due to their classes being computer related, they did acknowledge that it would be difficult to teach online with a class that requires hands on learning. Participant T6 shared,

if we were to go back to full online learning, I’m pretty sure the students are capable of continuing their

learning, you know, being that all students are issued a laptop or iPad, but for classes like agriculture or music, or those who really require specific tools, it would benefit the kids if they had their own resources.

Participant T2 stated,

“CTE is very hands on. So, it’s difficult to teach CTE distance wise because I can always show them a video but that’s as far as that goes. Sometimes students, they do get frustrated when they draw because there’s no one there to really like, guide them.”

Participant T5 shared,

“I’m able to upload video links with the program. I’m able to upload all the worksheets and everything with the program. I’m able to record videos, tutorials classes. The most important thing is the actual student to student engagement, student to equipment engagement. Not allowing us to be in the workshop or lab doesn’t give the right learning experience.”

Table 4 shows the alignment between the emergent themes and each of the study’s research questions.

**Table 4:** Alignment of Themes and Research Question

Research question	Emergent theme
RQ1: What are the perceived concerns of secondary CTE teachers regarding their participation in the eTeacher certification process to teach online CTE courses in the Western Pacific region?	Student-to-student/student-to-teacher engagement
	Motivational factors
	Accessibility and parental involvement
RQ2: What are the perceived supports needed to encourage secondary CTE teachers to participate in the eTeacher certification process to teach online CTE courses in the Western Pacific region?	21 <sup>st</sup> century knowledge/skills
	Quality/relevant PD

Since all participants have had experience with online learning by the shutdown of schools in the district due to the COVID-19 pandemic, they all had background knowledge in teaching online. Their online teaching experience determined the interest level to go through the certification process and teach online. The key findings related to RQ1 are the lack of student to student and student to teacher engagement and the lack of quality PD on how to plan, structure, and utilize media effectively and efficiently in an online classroom setting. Teachers noticed a lack of motivation in the students which lead to multiple issues such as attendance, time management, and an increase on number of students failing and in need of summer school. Teachers expressed the need for quality PD regarding the best teaching practices and methods for teaching distance education. The teachers indicated that they received adequate PD and training on how to operate and utilize Blackboard Ultra, the chosen learning management system in the school district.

According to Powell and Bodur (2019) [10], to promote efficacy of online learning, standards should be created that incorporate tenets of effective PD and address unique environment characteristics. Although each participant recognized that online learning is a part of learning in the 21st century, only two out of the four participants that are certified to teach distance education in the district actually participated in the program.

The key finding for RQ2 was for the district to offer monetary compensation or opportunities for higher pay.

According to Goulimaris (2015) [5], motivation exists as long as an individual tries to satisfy his/her needs and stops as soon as the needs are satisfied. Most of the participants expressed the need of compensation as a motivating factor considering the number of hours, they will have to put into getting certified which is perceived as time away from families, friends, and other daily activities. The teachers who have not participated in the certification process shared little interest in becoming certified mostly due to them not believing that online learning complements their classes which requires a lot of hands-on activities. The teachers expressed their frustration, while trying to teach online, that they are not able to be present and guide their students in developing their skills with regards to the lessons of their respective courses. Having a face-to-face interaction with their students is an important and motivating factor in comparison to a teacher to student relation through a screen. An interesting finding from the study was how all participants agreed to the idea of an online learning platform available as an extension of their classes. Although all schools in the district are back to face-to-face instruction, all participants still utilize blackboard ultra to upload class information/bulletins, assignments, homework, and special projects. Being that blackboard ultra is a district approved online platform, teachers also use it to make special announcements to their students regarding courses as well as their respective school. All participants shared its convenience not only in saving time and resources, but the benefits for students as well as for those who happens to be

absent for a period of time.

## 5. Conclusion

The purpose of this basic qualitative study was to explore the perceived concerns of CTE teachers and the perceived support needed to increase participation in the eTeacher certification process to teach online CTE courses in the Western Pacific region. The research questions were generated to explore the issues that influence CTE teacher participation in the eTeacher certification process. Ten secondary CTE teachers from the Western Pacific Region Public School District were interviewed. After conducting the interviews, the transcripts were generated and organized into the a priori codes that have been created and defined. Categories were then generated that lead to identifying the emergent themes during the axial coding phase of the data analysis process.

Findings from this research indicated the need for professional development for CTE teachers in the Western Pacific region. CTE teachers in the Western Pacific region felt there was a lack of training on how to effectively teach their courses in an online learning environment and were unaware of the eTeacher certification process. They also shared that monetary compensation would be a factor for them participating in eTeacher certification process and teach in the distance education program in the district but are not aware of the district's compensation plan of a distance education teacher. In exploring RQ1, it can be concluded that CTE teachers have varying instructional strategies for teaching online and based on their previous experience teaching online due to the COVID 19 pandemic, most struggled which impacted their opinions of distance education. Additionally, the results showed that most CTE teachers were unaware of the district's monetary compensation for online teachers which is huge motivating factor. In exploring RQ2, it can be concluded that PD is needed for CTE teachers in order to effectively teach their courses in an online learning platform and offer students a 21st century educational experience.

One recommendation for future practices would be to expand the PD to other schools in the district. The same PD framework dedicated to CTE teachers in the current study could be modified to meet the needs of teachers in other content areas. The improvement and participation of teachers providing distance learning opportunities for students could significantly impact students' learning outcomes across the school district.

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