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High School World Language Teacher Perspectives on Computer-Mediated Communication Applications

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Abstract

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Abstract

Computer-mediated communication (CMC) offers opportunities to assist world language students to become global communicators in a digital society. However, perceptions of high school world language (HSWL) teachers on the suitability of these applications are not known. The purpose of this qualitative case study was to explore and document the professional perspectives of HSWL teachers who have taught over 10 years, to learn the benefits and obstacles that they must consider in teaching communicative language skills with CMC. The research questions explored possible reasons that would motivate or dissuade from teaching with these applications. The technology acceptance model extension (TAM2) provided the conceptual framework for this study because it elucidates the cognitive and social processes that affect teacher decisions when reviewing a technology to support their instruction. The collected data included 6 in-depth interviews, field observations, and document reviews. The data analysis began with a precoding based on TAM2, and coding to identify emergent themes such as student immaturity and content-specific professional development. In the findings, the teachers perceived CMC as unsuitable due to the digital divide and the focus on grammatical competence. However, the teachers noted the possible benefits of content-specific professional development. This study contributes to positive social change by providing insight into the current role of computer technology in HSWL instruction and suggestions for how to encourage teachers to adopt innovative uses of digital technology in their CLT practices.

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Dedication

I would like to dedicate this work to my wonderful husband Booker, because he never stops believing in me; my two daughters Chantal and Nia, because they need to know that there are no limitations to what they can achieve in their lives; my cousin Kevin who has been an important presence and comic relief; my cousin Sherrye and best friend Terri who have given me so much support; and my grandfather Al and my aunt Marcia who supported me through most of this journey and now support me from up above.

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I would like to thank my husband, Booker Wright, and daughters Chantal and Nia for all their love and support. We have experienced many major life circumstances, which most families would have asked me to quit, but they always encouraged me to continue. I also would like to thank Dr. Toledo, Dr. Jayasena, and Dr. White for allowing me to take on a study that very much interests me. It has been a very long process, and I appreciate your direction and patience.

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Chapter 1: Introduction to the Study

Introduction

According to the results of several past literature investigations, high school world language teachers could provide digital settings for target language interaction, even at the novice level by including computer-mediated communication applications (CMCA) in their teaching practices (Chikasanda, Otrel-Cass, Williams, & Jones, 2013; Cok, 2016; Kissau, Algozzine, & Yon, 2012). World language courses (also referred to as foreign language and second language courses) focus on the study of other languages and cultures outside of the United States. Some colleges nationally and internationally incorporate CMCA to assist in world language communicative language teaching (Curcher, 2011; Dogoriti, Pange, & Anderson, 2014). Computer-assisted language learning (CALL) has traditionally supported instruction for grammatical competence in K-12 and postsecondary levels (Blake & Kramsch, 2013; Cok, 2016). The World Wide Web (Web) offers CMCA for communicative competence (the ability to communicate in the target language), such as blogs, social media, and web-conferencing (Turgut, 2017). Per the Common Core State Standards (CCSS) for high school education (adopted by 42 states in the United States), a literate person in the 21st century must be able to demonstrate communicative skills through technology applications (Common Core State Standards Initiative (CCSSI), 2016, para. 5; Florida Department of Education, 2016a; Florida Department of Education, 2016b). Additionally, because high school world language courses are college preparatory, foreign language educators' curriculum should include similar technology objectives (ACTFL, 2017c; CCSSI, 2016; International Society for Technology Education (ISTE), 2017; Zinser, 2012).

Currently, there is no specific CCSS for high school world languages, meaning that teachers are not required to uphold these standards in these courses (ACTFL, 2017c; CCSSI, 2016). As a result, it is not clear what would motivate world language teachers to include innovative technology in their teaching practices. However, according to some researchers technology is no longer a choice for teachers because most students are prolific users of technology (Sulaimani, Sarhandi, & Buledi, 2017). Previous researchers have discussed how teacher technology self-efficacy affects adoption (Kale & Goh, 2014; Tsourapa, 2018). Other researchers have focused on teachers who had a general interest to include CMCA, but maintained traditional CALL (Pritchett, Wohleb, & Pritchett, 2013; Rezaei & Meshkatian, 2017). Other researchers have centered on teachers who had a general interest to include CMCA, but maintained traditional CALL (Pritchett, Wohleb, & Pritchett, 2013; Rezaei & Meshkatian, 2017). Therefore, investigating world language teacher perspectives on the benefits and obstacles of teaching with digital technology will give insight into the present state of technology inclusion in high school pedagogy as reported by the participants in this study.

A gap in the research exists regarding the effectiveness of CMCA for teaching high school world language communicative competence, and whether teachers find the applications to be suitable for their students. This study has the potential to provide world language, (also referred to as foreign language and second language) educators an understanding of how their peers view the suitability of CMCA to (a) assist high school course instruction, (b) change or expand current pedagogical styles, and (c) be an additional knowledge skill for teaching. Also, administrators could recognize the need for improving professional development opportunities for world language teachers.

This chapter includes an introduction, background, and purpose of the study. Also included is an explanation of the research design, which was the map of the study to address the research questions. Other important areas include the significance of the study, the conceptual framework which guided the analysis of this study, and the connection this study to improving social changes in the field of world language education.

Background

Most past literature on CMCA inclusion investigated university-level world language classes. The focus was on language management systems (online classrooms), web conferencing, blogs, and social media (Curcher, 2011; Dorgoriti et al., 2014; Woo, Chu, Wah, & Li, 2013). Flórez, Pineda, and García (2012) claimed that college students were motivated to interact in the target language online because they could work collaboratively with their classmates without direct teacher instruction. They also alleged that students did not feel as intimidated communicating online as they did in the classroom.

Many past researchers have found that college students used higher order thinking skills through sociolinguistic competence (giving and receiving messages, collaborating, and problem-solving) when connecting social practice with target language communication (Blake & Kramsch, 2013; Erguvan, 2014; Lawanto et al., 2013; Mitchell, Myles, & Marsden, 2013). Although studies on college students were insightful, college students are adults with developed self-regulation unlike a high school student (Jacques & Marcovitch, 2010; McClelland, Ponitz, Messersmith, & Tominey, 2010). Adolescent students are in the developing stage of self-regulatory

skills, requiring teacher guidance and supervision when learning to work with web-based applications (Krashen, 2003; McClelland et al., 2010; Vygotsky, 1978; Zelazo & Lee, 2010). Therefore, the web-based applications used in the college studies may or may not be suitable for high school students. According to the Federal Communications Commission, Children's Web Protection Act (2017) places restrictions on many CMCA, which they deem inappropriate for minors to use in school (Children's Web Protection Act, 2017; Consumer's guide, 2016). Consequently, it is not clear whether college-focused findings best represent high school world language students' communicative language learning experiences and outcomes.

The American Council on the Teaching of Foreign Languages (ACTFL), provides national standards for high school teachers to follow when choosing activities, materials, and technology to incorporate into their teaching practices (American Council on The Teaching of Foreign Languages, 2017b). ACTFL and the International Society of Technology Education (ISTE) joined forces and suggested that K-12 students need computer experience to communicate globally in the digital future, as shared in the ACTFL national standards (CCSSI, 2016; ACTFL, 2017a; ISTE, 2017; Florida Department of Education, 2016d). CCSS, ACTFL, and ISTE all call for traditional teaching to transform into the blended learning combination of face-to-face (in-class) and digital settings (CCSSI, 2016; Florida Department of Education, 2016a; Florida Department of Education, 2016b; ISTE, 2017). The expectation is that students will be able to communicate effectively in all settings, including the Web.

ACTFL recommends that high school world language teachers follow the communicative language teaching (CLT) CCSS for high school language arts using

technology (ACTFL, 2017c). The language arts CCSS focuses on teaching students to communicate through collaboration and higher-order thinking practices and demonstrating these skills through CMCA. However, high school world language teachers considering adopting a new computer technology must make decisions based on how the technology will support their ability to attain their instructional goals (Alias, 2013; ACTFL, 2017c). Therefore, it is not clear whether teaching with CMCA and following the CCSS expectations are compatible with high school world language CLT objectives and styles.

With a paucity of literature on high school foreign language teachers' professional opinions, usage, and considerations about computer-mediated communication applications, I sought teachers with ten or more years of experience as high school foreign language teachers in Florida, to explore their perspectives on the suitability of CMCA for CLT. The study is a qualitative case study to give the teacher participants the opportunity to share their first-hand knowledge and perspectives on this topic. The findings of this study provided first-hand evidence related to the challenges and benefits of teaching high school foreign language courses with CMCA for communicative competence to other educators, administrators, and the community members. The findings of this study will also increase the understanding of high school foreign language teachers' instructional procedures and methods; as well as, support current and future dialogues about technology inclusion in foreign language instruction.

Problem Statement

CALL in world language classes continuously evolves and offers students an additional platform for practicing their communicative skills through CMCA. As teachers

use CALL to assist their grammatical instruction, they can use CMCA to support their CLT digitally (ACTFL, 2017a; ACTFL, 2017b; ACTFL, 2017c; ISTE, 2017). Currently, it is not known if world language high school teachers view CMCA as a benefit or an obstacle to teaching students how to read, write, speak, and listen through digital technology. Because students communicate through the Web in their lives outside of class, learning to interact in the target language, in the same manner, would make their learning relatable and meaningful (Mitchell et al., 2013). However, without knowing the perspectives of the teachers, who design and implement the curriculum, the suitability of CMCA in high school world language classes is not reassured.

Currently, The American Council of Teaching Foreign Languages works with the International Society of Technology Education to provide teaching standards, which promote digital technology such as CMCA. These standards support the CCSS, which focuses on preparing students to be college and career ready in the 21st century (ACTFL, 2016; ACTFL, 2017c; CCSSI, 2016; Florida Department of Education, 2016a; Florida Department of Education, 2016b). However, when some high school world language teachers maintain traditional pedagogy or use of educational technology they are not supporting these expectations. It raises questions about the effectiveness of traditional teaching methods in a world where digital communication is increasingly important (ACTFL, 2017b; ISTE, 2017).

According to Turgut (2017), the current perception is that teachers do not take full advantage of the features that online applications offer to instruction. Instead, they use these applications to provide information to their students. Whyte and Alexander (2014) and Čok (2016) proposed that teachers would recognize the benefits of including CMCA

to teach communicative skills if current literature focused on the effect and suitability of "specific tools for specific skills" (p. 117). Richardson and Mishra (2017) suggested that including CMCA promotes student creativity in the presentation of their assignments. Also, Mitchell, Myles and, Marsden (2013) propose that communicative language learning through the Web contributes to current communication practices that are prevalent in many world language communities. However, no published studies have examined high school foreign language teachers' practices and perceptions to verify these claims (Harris & Hoefer, 2011; Ma, 2012; Pritchett et al., 2013). Cox and Graham (2009) suggested it would be beneficial to explore the views and experiences of current teachers across the disciplines who have diverse technology knowledge.

Purpose of the Study

The purpose of this qualitative case study was to explore and document the professional perspectives of experienced high school world language teachers. The intention was to learn the benefits and obstacles that they must consider teaching communicative language skills with CMCA. The intention was to explore possible reasons that would motivate or dissuade them from teaching with these applications.

Research Questions

The following research questions guided this study:

Research Question: What are the perceptions of experienced high school world language teachers on the suitability of computer-mediated communication applications to support world language communicative language instruction?

In addition, the following sub-questions provided focus for gathering the qualitative data:

Sub-question 1: What are experienced high school world language teachers' viewpoints about the benefits and obstacles of including computer-mediated communication applications to teach world languages?

Sub-question 2: What are experienced high school world language teachers' viewpoints about incorporating computer-mediated communication applications to assist communicative language teaching?

Sub-question 3: What are experienced high school world language teachers' viewpoints on whether teachers need technology expertise with computer-mediated communication applications to teach communicative language teaching?

Sub-question 4: What are experienced high school world language teachers' viewpoints about the role that the teacher plays when incorporating computer-mediated communication applications to assist communicative language teaching?

Nature of the Study

A qualitative case study was the most appropriate approach for exploring the perspectives of veteran high school foreign language teachers on the suitability of CMCA to assist CLT. I chose qualitative research to learn in-depth experiences versus generalized to see what teachers contend with daily. I decided that a case study design would enable me to investigate how world language teachers make decisions to include technology in their teaching practices because I could examine their teaching philosophies, practices and working environments (Yin, 2013). Using the extension of the technology acceptance model (TAM2), I was able to discover how the teachers perceived

the usefulness of CMCA through cognitive processing, social influences, and perceived ease of use.

The participants were a critical case purposeful sample who worked in a homogeneous environment (Miles, Huberman, & Saldana, 2014; Stake, 2006). They all taught a world language and were responsible for meeting the same administrative requirements. The findings were logical generalizations indicating that the participants' perspectives could be representative of other veteran high school foreign language teachers (Patton, 202, p. 237). This study was not designed to take place over an extended period. The objective was to explore perspectives about the past, present, and future teaching methods using CMCA to assist foreign language teaching.

The qualitative case study included interview questions that were open-ended with the expectation that the participant responses would reveal unanticipated themes and patterns (Patton, 2002; Yin, 2013). Also included were other data gathering techniques such as documentation reviews, field observations, and a researcher journal to collect the evidence that answered the research question (and sub-questions). I used a researcher journal, which was a spiral notebook and the memo section of the NVivo Pro 11 software, to review and analyze my thoughts about the interview experiences, my role as the interviewer, and areas that needed reanalysis. By doing this, it helped to determine patterns and themes in the interview responses (Janesick, 2011). All collected data were in Nvivo Pro 11, which included the recordings from a digital recorder and Livescribe materials (digital pen and recording paper), and photos from the iPad document camera. A detailed explanation of the methodology for this study is in Chapter 3.

Conceptual Framework

The conceptual framework for this study is an extension of TAM developed by Davis (1986) to explain how and why people make their decisions to adopt a computer technology. Davis suggested that TAM includes two prime constructs: perceived ease of use and perceived usefulness to categorize these decisions (Chau, 1996; Davis, 1986; Davis, Bagozzi, & Warshaw, 1989). Davis also offered that perceived ease of use includes the personal feelings, attitudes, and self-efficacy with technology. He then proposed that the perceived usefulness construct is about people determining whether the technology would be beneficial to their job performance. TAM2, the extension of TAM created by Venkatesh and Davis (2000), is a concentration on the perceived usefulness piece. As the intention of this study was to explore teacher perceptions of the suitability of CMCA to assist with their teaching, it was necessary to seek guidance from a framework that focused on the perceived usefulness.

According to Venkatesh and Davis (2000), perceived usefulness segments into the concepts: perceived ease of use, social influence, and cognitive processes. In other words, when the teachers are considering CMCA, they question the amount of effort must need to use, who wants or expects them to teach with CMCA, and what the benefits or obstacles to teaching and student learning would be. I used the ideas from TAM2 to guide the understanding of the teacher perspectives about changing from teaching with traditional CALL to facilitating active student learning with the assistance of digital technology.

Definition of Terms

Common Core State Standards (CCSS): A common set of state developed educational goals to prepare all students for college and careers intended for life after high school graduation (CCSS, 2016).

Computer-assisted language learning (CALL): The use and study of computer applications, language teaching, and learning (Ma, 2012, p. 1202).

Communicative competence: The ability to communicate in the target language appropriately in social contexts, employing correct grammar and semantics (Mitchell et al., 2013).

Communicative language teaching (CLT): An approach to teaching second and foreign languages where interaction in the target language is the goal for communicative competence (Richards, 2006).

Computer-mediated communication applications (CMCA): Communication online between two or more people using instant messaging, blogs, e-mail, web conferencing systems, virtual worlds, social media, or any applications, which involve communication via the Web (Pfaffman, 2008).

Educational technology: As defined by the Association for Educational Communication & Technology, it is the facilitation and improvement of performance through implementing digital strategies to impact positive learning, teaching and leading in our technology-powered world (International Society of Technology Education, 2014; What is descriptive research?, 2016).

Face-to-face (F2F): Courses and conversations which take place in person.

Foreign language proficiency: The ability level in communicating in a foreign language.

Grammatical competence: The ability to produce grammatically correct sentences in a language; the knowledge of the parts of speech, tenses, phrases, clauses, sentence patterns, and how sentences are formed (Richards, 2006). (See *linguistic competence*.)

Information and communication technology (ICT): All forms of computing systems, telecommunications, and networks, which includes communication, such as devices, computers, software and hardware, and CMCA (Alias, 2013).

Linguistic competence: The knowledge of grammar, vocabulary, and how to express the language. (Hymes, 1972) (See Grammatical Competence)

Output quality: Evidence of how computer technology assists students to learn the subject matter (Venkatesh & Davis, 2000).

Perceived ease of use: The degree of effort that technology requires the teacher or student to put forth effort (Davis, 1986).

Perceived usefulness: The degree to which a computer technology will assist workers to meet their job-related objectives (Davis, 1986).

Sociolinguistics: the giving and receiving of messages, collaborating, and problem-solving in the interaction of more than one person communicating in the target language (Blake & Kramsch, 2013; Canale and Swain, 1980; Hymes, 1972).

Technology acceptance model (TAM): The theory of how a teacher decides whether or not to include a new technology by considering the perceived ease of use, and the perceived usefulness.

Technology acceptance model (Extended) (TAM2): An adaptation of the technology acceptance model theory, with the sole focus on the of perceived usefulness, construct that centers on social influences, cognitive process, and perceived ease of use for technology adoption consideration.

Target language: The educational term for a world language that students learn.

Web 1.0: Online tools for researching, writing, and working on applications that do not require collaboration or communication, such as the search engines Google and Yahoo! (Lee, 2010).

Web 2.0: Online tools for creating, collaborating, and sharing content using tools such as blogging, wikis, and social networks (Web 2.0 Tools, 2014).

Web-based applications: All computer-mediated communication programs and tools accessed over a network connection that communicate with the user via the world-wide-web (technopedia.com).

World language, foreign language or second language: As defined by ACTFL, it is "a form of human communication used to interact and negotiate with other people, to understand and analyze oral, written, or signed texts, and to create culturally-appropriate oral, written, or signed products and presentations for a specific audience and task" (ACTFL, 2017a, para. 1).

Zone of proximal development: Vygotsky's theory that a student learns and improves with the assistance of an advanced peer or the teacher (Vygotsky, 1978; Vygotskiĭ, Hanfmann, Vakar, & Kozulin, 2012).

Assumptions

The primary assumptions of this study involved participant professionalism, honesty, and integrity in their responses. The expectation was that all replies would reflect participants' experiences, practices, and expertise in the target language(s). The next assumption was that the participants know the traditional teaching methods and were familiar with CALL activities. Another assumption was that the participants had insightful perspectives to indicate the benefits and shortcomings of actual teaching with web-based applications. The final assumption was that the participants would have self-awareness as professionals of what made their instructional practices successful.

Scope and Delimitations

To gain insight into the perceptions of experienced high school world language teachers about the suitability of CMCA to assist CLT, I purposefully chose a small sample size of teachers from one local high school. The school offered a diverse set of languages courses (Spanish, French, American Sign Language, and Chinese). Although the teachers' main teaching objectives would be the same, their approaches, practices, and philosophies had the potential to be varied. I invited seven out of the eight teachers to participate. All had over 10 years of teaching experience, except for one who was a first-year teacher and therefore did not qualify. One teacher declined, leaving a total of six teachers who participated.

The intention was to explore the views of teachers who had experience with changing pedagogical styles and CALL. The participants all were generally familiar with CMCA. However, not all were experienced users in their teaching practices at the high school level. I used open-ended interview questions to encourage the participants to respond without restrictions and to add any additional information that they felt would be pertinent to the study. The interview questions were about the teachers' instructional experiences, perspectives, and skills. The intention was to discover reasons for possible reluctance to incorporate CMCA in their practices.

I chose TAM2 to guide the analysis of the revealed teacher perspectives on why or why not including CMCA in their instruction would benefit their teaching objectives and student learning outcomes. The technological pedagogical content knowledge (TPACK) pedagogical framework was an added reference to understand the teachers' views on the role of professional development and technology knowledge on their job performance and teaching skills.

Limitations

Six teachers from the same high school world language department were the participants in this study. Their perspectives may not be representative of all high school world language teachers. However, having participants in the same building guaranteed the validity of each person's accounts of resources, administrative mandates, Web access, and planning time. It would be a challenge to generalize their perspectives to match those of all high school foreign language teachers, as they taught different languages and class levels. Nevertheless, the small number of participants communicated detailed responses,

which revealed influences that affected the teachers' decision to include web-based applications.

Veteran teachers had experience using traditional teaching practices, and they were most likely to have established routines and methods. The participants were not novice teachers who learned to teach with the Web in their pre-service methods courses. Their technology training mainly took place in professional development. Therefore, they were only able to share their perspectives based on possibilities. Since they were familiar with alternatives to computer technology, these participants provided insight as to why some high school foreign language teachers were reluctant to change their teaching styles and incorporate web-based applications.

Researcher bias was an additional potential limitation of this study. I have 15 years of teaching experience as a French teacher at the high school level, as well as four years as a middle school teacher. I did not teach with CMCA. I have been a part of World Language departments, with several colleagues. Also, I taught using both traditional and student-centered instructional methods and using CALL.

Significance of the Study

This research provided insight into the effects of including computer-mediated communication (CMCA) to support world language communicative language teaching (CLT). The veteran teachers gave perception into the benefits and obstacles of incorporating computer technology in their teaching practices with high school students. They appreciated the collaboration and task-based language learning activities that can take place through CMCA, although cautioning that student self-regulation and availability of devices were challenges.

The participants recommended the kind of computer technology training that would encourage them to use CMCA. Their suggestions could benefit other foreign language educators, administrators, and professional development organizers. With the increased awareness of preparing in-service teachers how to incorporate digital technology, the world language teachers would be providing activities that are meaningful to their students. The study findings come from participant first-hand experiences. Following the TAM2 model, job-related factors that researchers should consider besides teachers' attitudes and self-efficacy were significant revelations to improving future professional development opportunities.

Summary

The primary use of CALL for teaching vocabulary and grammar has extended to CMCA to assist CLT. However, it is not clear if high school world language teachers today have adopted this technology. Instead, some teachers prefer to continue with traditional teaching practices and uses of technology. The conceptual framework for this study was TAM2, an extension of the TAM proposed by Davis (1986). It guided the understanding of what high school world language teachers' think about the suitability of adding CMCA to their instruction based on their professional perceptions and experiences. The chapter included a brief explanation of the significance of the study, methodology, and definitions of terms that are throughout. The data collection consisted of interviews, field observations, and document reviews. The participants shared the same working environment, teaching objectives, and access to technology.

Chapter 2 includes the conceptual framework and a review of literature about CMCA used to teach world language communication skills. Chapter 3 provides a detailed explanation of the process for collecting and analyzing data and a complete description of the participant selection and trustworthiness of the study. Chapter 4 reveals the findings and analysis of the study results. Chapter 5 reviews the study through a discussion of the theoretical implications by confirming, disconfirming, and adding knowledge to the current literature. The study's findings can contribute to positive social changes in the fields of educational technology and world language education.

Chapter 2: Literature Review

Introduction

According to current technology and world language teaching standards for K-12, teaching practices would benefit student learning by adding web-based applications to sufficiently prepare students for global interaction and future jobs (ACTFL, 2017a; ACTFL, 2017c; CCSSI, 2016; Haight, 2011). I examined current research, which covered the benefits of teaching world languages with CMCA from the student and teacher points of views. These studies highlighted wikispaces, learning management systems, blogging, and web-conferencing applications. This chapter includes a description of the literature search strategy to explain the research process, and the conceptual framework. Then, the literature review included six sections: (a) the history of technology in world language instruction, (b) CMCA, (c) CLT, (d) student perspectives on learning with CMCA, and (e) teacher attitudes on technology.

Literature Search Strategy

Most of the studies included in this review were published from 2010 to 2018 to ensure that the information obtained was both accurate and up to date. Although many current articles exist on CMCA and instruction, very few include world language instruction, which is why I included several significant studies that were more than 5 years old. The review excludes teachers' perceptions of world language grammatical language teaching (GLT) to focus on communicative competence. However, several studies referred to vocabulary and grammar teaching with and without CALL.

Many studies were primarily from international colleges, universities, and a few elementary levels. Also, some research included K-12 American teachers who taught

various subject areas. The reviewed studies were from areas related to teaching and learning with technology in second language courses, language proficiency instruction, professional instruction skill needs, and differences between high school and college level world language classes. Several of the studies in this review were of second language courses taught in international universities where English was a foreign language. Also, included in the study was literature on students' experiences using educational technology.

Research for these areas were found in several different resources. They included the following: the Walden Library; Google Books; Proquest Central; Academic Search Complete; ERIC; Education Research Complete; Education from SAGE; Ed/ITLib Digital Library; Education Research Starters; Oxford Education Bibliographies; Walden University ebrary Reader; Google Scholar; and Thoreau: Search Multiple Databases. All articles are cited from peer-reviewed journals. The reviewed studies were drawn from areas related to teaching and learning with technology in second language courses, language proficiency instruction, professional instruction skill needs; and differences between high school and college level foreign language classes. Several of the studies in this review were of second language courses taught in international universities. English being the foreign language. In addition, the review included literature on students' experiences using educational technology.

I used specific keywords. The keywords and terms used included: *high school world language teachers' perspectives on computer-mediated communication assistance in communicative language instruction*, *world language or foreign language teaching AND computer-assisted language learning (CALL), computer-based instruction in*

foreign language classes, high school foreign language computer-based instruction, computer-mediated communication applications, computer-mediated communication applications AND foreign language learning, computer-mediated communication applications AND foreign language teaching, communicative language teaching and CALL, computer-mediated communication applications AND communicative language teaching, benefits and disadvantages of computer-mediated communication applications to assist communicative language teaching, computer-based instruction and teachers' perspectives, computer-based instruction and high school language teachers' perspectives, computer-based instruction and high school foreign language teachers' perspectives, high school language teachers' perspectives of face-to-face and computer-based instruction, Wikispaces and world language learning, blogging and skype and world language learning, synchronous and asynchronous learning in foreign languages, students' views and experiences with computer-mediated communication, second language acquisition and CALL, socioculturalism AND communicative language learning AND technology, t*echnology based language learning, and task/problem-based language learning AND CMCA*.

Conceptual Framework

Traditionally, teachers make decisions about using CALL tools to assist their grammar teaching. A part of this decision includes which ones will offer the best support. The same takes place when they consider whether to include CMCA such as Wikispaces, blogs, skype, and social media (ACTFL, 2017a; ISTE, 2014). Teachers decide which applications will not only help them to meet their teaching objectives, but whether this assistance will encourage positive learning outcomes. Venkatesh and Davis (2000)

decided to extend Davis's original TAM to focus on the perceived usefulness concept. They believed this to be the true determiner of whether someone would adopt a technology.

Venkatesh and Davis (2000) decided to deviate from researching worker attitudes to investigating their job-related philosophies. They proposed TAM2 to suggest that perceived usefulness means "the extent to which a person believes that using the system will enhance his or her job performance" (Venkatesh & Davis, 2000, p. 187). For high school world language teachers, this means that they would look to see how much CMCA could assist their teaching of speaking, listening, reading, and writing skills. They suggested perceived usefulness to consist of the concepts: social influences, cognitive processes, and perceived ease of use.

Social Influence Process

Social influences come from high-ranking people (administrators) from school districts, state and national departments of education, and professional national associations who have influence over teachers' decisions to adopt computer technology (ACTFL, 2017b; ISTE, 2016; Florida Department of Education, 2016a). Although, Venkatesh and Davis (2000) note that after the teachers have experience with the adopted technology, the social influence dissipates because teachers know the capabilities of the technology. Social influences relate to Vygotsky's interpsychological claim that society influences learner development (Vygotsky, 1978). The examples of social influences are *subjective norm, voluntariness* and *compliance; internalization of social influence,* and *image* (Mazman, Usluel, & Çevik, 2009; Venkatesh & Davis, 2000).

The subjective norm refers to the teachers' perceptions that they should be compliant with whatever technology the administration suggests should or should not be adopted (Mazman & et al., 2009; Venkatesh & Davis, 2000 p. 187-190). Voluntariness and compliance denote teachers who volunteer to use an innovative technology that is not a requirement (Mazman & et al., 2009; Venkatesh & Davis, 2000). Conversely, the Florida Department of Education issued World Language Standards, which include online teaching expectations (Florida Department of Education, 2016a). Those teachers who follow these standards are complying with district expectations.

The internalization of social influence suggests that if experts claim the benefits or downfalls of a technology, some teachers would trust their opinion (Venkatesh & Davis, 2000). For instance, The American Council of the Teaching of Foreign Languages (ACTFL) promotes the inclusion of digital technology. Therefore, some world language teachers would believe that they need to teach with the Web. Also, the social influence *image* occurs when teachers believe that incorporating innovative technology will benefit their job performance evaluations (for promotions or pay raises) and their professional image (Chau, 1996; Venkatesh & Davis, 2000).

Cognitive Processes

This concept correlates to Vygotsky's (1978) proposition of intrapsychology, that students internalize social influences. Cognitive processes of possible adoption take place when foreign language teachers reflect on how CMCA could assist their instruction to meet their lesson plan objectives (Howard, 2011; Venkatesh & Davis, 2000). Teachers focus on the practicalities of including CMCA in addition to traditional face-to-face CLT. Also, Venkatesh and Davis (2000) suggested that once teachers have experience with the

adopted technology, they will continue the cognitive processing to make sure that the technology continues to be job related.

According to Venkatesh and Davis (2000) the cognitive process includes *job relevance, output quality,* and *result demonstrability* for initial adoption contemplation (p. 190). Job relevance means that CMCA are able to meet the communicative language instructional goals or task-specific goals (Venkatesh & Davis, 2000 p. 190). For instance, the teachers would have to decide if blogging or wikis would help students to meet the benchmarks for the Florida Next Generation World Languages Standards 9: Communities, that include online student communities, presentations, and discussions (Florida Department of Education,(2016c), pp. 20-21). (See Appendix A) Output quality refers to whether CMCA could assist in augmenting student target language communicative competence (Venkatesh & Davis, 2000, pp.190-191). Teachers would search for result demonstrability in student evaluations or assessments from other teachers who have taught with CMCA (Venkatesh & Davis, 2000, p.191). In other words, if other teachers have found beneficial learning outcomes, then they would be more inclined to adopt because of the proven positive results.

Perceived Ease of Use

According to Davis (1986), the perceived ease of use (PEU) centers on whether the teacher believes that the computer technology (CMCA) would take a lot of time and effort to use. The PEU derives from teachers' attitudes and self-efficacy about the technology under review. For instance, one concern could be about how much time to devote to areas such as training, planning, class time, and grading. If the teachers believed that CMCA would be easy to incorporate, they would most likely have

optimistic *attitudes toward using* them making their *intention to use* favorable (Davis et al., 1989, p. 985). On the other hand, if they perceived CMCA to be too time consuming, then their attitudes toward using them and their intention to use them would be negative (Davis et al., 1989, p. 985).

Bandura's (1982) self-efficacy theory supports Davis's claims about PEU when he submitted that self-efficacy influences behavior performance. Marzano and Kendall's (2007) *self-system* also supports Davis's (1986) suggestion. They proposed that teachers' attitudes and experience using computer technology determines their motivation to incorporate the Web in their teaching methods (An & Reigeluth, 2012; Kale & Goh, 2014; Pritchett et al., 2013). In addition to thinking about how they themselves can learn and work with the new technology, teachers may consider how easy it will be for students to use it and whether it will be difficult to keep students on task (Frankfort-Nachmias, & Nachmias, 2008).

Perceived usefulness (PEU) impacts teachers' beliefs about job-related usefulness (Davis, 1986; Davis et al., 1989; Venkatesh & Davis, 2000; Wu & Gao, 2011). One consideration could be about the amount of effort and time needed to incorporate CMCA, which could affect how teachers see the practicality of including them. However, the reviewed studies were primarily quantitative and provided general findings, especially in foreign language education. In contrast, the present qualitative study provided in-depth findings from high school foreign language teachers (Boyce, & Neale, 2006; Yin, 2013).

Through TAM2, Venkatesh and Davis propose that high school world language teachers undergo a contemplative process when deciding to include technology such as CMCA for CLT, through social influence and cognitive processes (Chau, 1996; Davis,

1986; Venkatesh & Davis, 2000). Howard (2011) suggested that teachers refer to instructional compatibility and previous results of other teachers who taught with CMCA. Experienced world language teachers consider technology inclusion based on their teaching experiences and knowledge of how to teach the target language(s) (Davis, 1986; Davis et al., 1989).

Professional development

Shulman (1986), proposed the pedagogical content knowledge (PCK) theory, where he suggested that a teacher's ability to effectively instruct comes from their content proficiency of how to present it for their students to learn successfully. Mishra & Koehler (2006) extended this theory to include technological knowledge. They proposed that currently, teachers also need to be proficient in educational technology, and extended PCK to TPACK (technological, pedagogical, and content knowledge). In other words, according to Mishra & Koehler TPACK includes a current needed knowledge skill, which is the ability to teach content with a computer and digital technology beyond the conventional educational technology, such as books, chalkboards, overheads, etc. (Betrus, 2008; Saettler, 2004). Digital technology includes the Web (CMCA), computers, tablets, and cell phones (International Society of Technology Education, 2014; What is descriptive research?, 2016). Therefore, professional development is where technological knowledge encourages the teachers' ability to use such equipment and software (Harris & Hoefer, 2011; Mishra & Koehler, 2006, Mishra & Koehler, 2011).

The Koh et al. (2013) review of TPACK literature determined that teachers should share best practices and resources to encourage more use of CMCA as examples of the cognitive process results demonstration in TAM2 cognitive processing (Davis,

1986; Venkatesh & Davis, 2000). Koh et al. also pointed out that some information and communication technology (ICT) professional development opportunities did not make enough of an impact for teachers to include more technology in their teaching practices. They suggested that when professional development is consistent, teachers will be more inclined to practice the TPACK theory. The participants of this study gave their views of this claim in their interview responses.

Arslanyilmaz (2012) found value from combining technology, pedagogy, and content knowledge skills in second language instruction. The topic was online task-based language learning using the chat tool WebCt-Vista. An important theme in Arslanyilmaz's study was that technology and real-world interactions are an enduring part of society which teachers should embrace. This is an example of the social influences on teachers' decision to adopt CMCA as intended by TAM2 (Chau, 1996; Venkatesh & Davis, 2000). Arslanyilmaz further explained that traditional use of compter-assisted language learning (CALL) does not match students' abilities to interact with others in a real life context. His findings support Krashen's (2009) claims that students do not learn to speak fluently through drill and practice methods.

The college participants in the Arslanyilmaz (2012) study had intermediate and advanced proficiency levels. They participated in dyad tasks to perform in the target language. Through these interactions, the intermediate students were relying on the advanced students to assist the communication, as suggested in Vygotsky's zone of proximal development. Arslanyilmaz discovered that both groups of students improved their language fluency and accuracy and even went beyond their current capabilities.

The purpose of the Arslanyilmaz (2012) research was to examine the suitablitiy of CMCA in CLT. The positive results suggest that TPACK would be beneficial to world language teachers. The result demonstration of this study could contribute to the perceived usefulness of CMCA. Therefore, teachers should know innovative ways to combine technology, pedagogy, and content knowledge in current second language instruction. Per the TAM2 model, teachers look to the perceived usefulness of web-based applications to determine whether they can provide realistic experiences.

Arslanyilmaz (2012) found that intermediate-level students had more negotiations of meaning because they didn't know as much as the advanced students. The intermediate-level had to negotiate meaning of a linguistic form, conversational structure, or message content (Arslanyilmaz, 2012, p. 33), which Krashen (2003) discusses in his input hypothesis' focus on comprehensible input between the sender and receiver in communication. Overall, Arslanyilmaz was able to point out that CMCA led to positive social interactions that contributed to students learning because the partners had to use higher order thinking skills to navigate the target language. The positive results of this study provide contemplative teachers with positive result demonstrability as the cognitive processing indicates in TAM2 (Venkatesh & Davis, 2000).

The Review of the Literature

In the following review, I began by exploring how educational technology has historically assisted world language teaching, following a chronological order. The next area consists of a review of studies about communicative language learning and computer-mediated communication. The last two sections are reviews of studies about

student and teacher perspectives of learning how to communicate using computer-mediated communication applications (CMCA).

History of educational technology assisting world language teaching

Educational technology has traditionally played a significant role in foreign language education, from books and chalkboards to the Web (Gass, Behney, & Plonsky, 2013). The military was the first to use computer technology in the United States for mass instruction in a foreign language as part of military training (Saettler, 2004). Soldiers needed to be able to communicate effectively with military departments and native speakers when stationed overseas. American schools followed suit, recognizing the need for improved global communication skills (Blake & Kramsch, 2013; Saettler, 2004). Educational technology use in instruction has evolved with society (Molenda, 2008). Second language education has incorporated audio (radio and recordings), visual (film and overhead projectors), audiovisual (television, VHS, and DVDs), and computers using the Web Web 1.0. (Nowrozi, 2011; Molenda, 2008). Currently, the Web expansion to Web 2.0, can provide assistance to student learning and development of world language skills.

Audio technology. Audio technology in the 1930s, a broadcasting system in Cleveland Ohio, developed educational programming for subjects such as math, social studies, science, and world languages audiences (Betrus, 2008; Saettler, 2004). The radio became known as the *school of the air* (Betrus, 2008, p. 220). Although this movement was innovative at the time, some problems resulted in educational technology as being supplementary and not mandatory. For instance, in Cleveland the broadcasts were aired to many school districts at the same time, but the problem was that the school districts

had varied daily schedules and curriculums. In addition, organized teaching for mass populations did not allow for adjustments or changes in teaching methods (Betrus, 2008; Molenda, 2008). Teachers viewed the broadcasts as overwhelming. They wanted subjectivity and control of their teaching practices (Molenda, 2008). In 1957, the BBC of England described radio broadcast instruction as being informal teaching, implying that educational radio was better for support ing instruction (Molenda, 2008; Saettler, 2004). Nonetheless, the radio broadcast instructional method influenced one of the most influential teaching methods in second languages, the audio-lingual method.

The audio-lingual method (ALM) is a teaching style that focuses on listening and oral repetition (Larsen-Freeman & Anderson, 2011; Mart, 2013). In the past, technology for listening instruction included records, reel-to-reel tapes, and cassette tapes. Digital recorders and CDs have currently replaced that equipment (Saettler, 2004; Mitchell et al., 2013). The approach posits that learners become proficient in the target language through listening and repeating vocabulary and grammar (Larsen-Freeman & Anderson, 2011; Mart, 2013). Auditory language labs were locations for students to practice their listening and speaking skills using programmed instructional activities (Mart, 2013; Saettler, 2004). These activities usually were from the textbook and teacher created materials (Mitchell et al., 2013). Students could produce quick responses, with the expectation that they would develop communicative skills in the target language (Larsen-Freeman & Anderson, 2011). However, ALM lacks social interaction. Krashen and Terrell (1995) contended that students should learn second languages through communication, which is in a natural approach.

Another concern about ALM is that it does not match all of the students' diverse learning styles that enable them to develop target language proficiencies (Tomlinson & McTighe, 2006). For instance, ALM does not meet the needs of visual learners who benefit from pictures and images (Mart, 2013). Educational technology expanded to include visual aids. Although students could see pictures in a book, visual technology assisted teachers with other creative ways to supplement their lessons.

Visual Technology. The chalkboard and overhead projectors assisted teachers' lectures by visually displaying grammar structure formation, and verb conjugations (Krashen, 2003). The overhead projector, textbooks, and filmstrips were used to show pictures and maps of the areas where people speak the target language (Blake & Kramsch, 2013). Additionally, teachers could use these tools to show people interacting in different social situations. However, educators found that pictorial instruction (slides and silent films) and audio instruction (radio and recordings) were not sufficient learning assistance when used separately (Mitchell et al., 2013). Researchers of educational technology realized the importance of combining both media in teaching methods (Saettler, 2004).

Audiovisual Technology. By the end of the 1960s, millions of students received educational television instruction to supplement learning (Betrus, 2008; Molenda, 2008; Saettler, 2004). In 1995, the Ford Foundation and federal government subsidized educational television for both K-12 and college level instruction (Betrus, 2008; Molenda, 2008; Cavanaugh & Blomeyer, 2007). Television showed realistic social interactions, which assisted teachers to instruct language proficiency skills in context, allowing students the chance to witness conversations that they could later emulate. One

such example is an instructional television series on PBS entitled French in Action, created by Pierre Carpretz ("French in action", 2015). Student viewers could see native speakers interacting in the target language. However, similar to live radio, live television education did not allow teacher interaction with learners (Johnson & Johnson, 2008). Teachers did not have a chance to include any repetition or interruption to ensure student comprehension. Students did not have the opportunity to ask or answer questions during the lessons. Educators thought that this made learners too passive (Betrus, 2008; Johnson & Johnson, 2008).

Analog technology became a new format to further assist language instruction (Betrus, 2008; Molenda, 2008; Saettler, 2004). The invention of analog technology such as videocassettes enabled teachers to show movies that students could watch, listen, and read (subtitles). French in Action later became available on video with teaching supplements such as textbooks, workbooks, and assessments ("French in action", 2015). Additionally, the BBC created Muzzy, a second language video program. It provides lessons in French, German, Spanish, Italian, and English for young children. Students learn the language through listening and repetition (Muzzy BBC, 2018). Currently, both Muzzy and French in Action can be found in DVD format and online (Muzzy BBC, 2018; "French in action", 2015). No past literature has reviewed these programs.

Other technology applications which were developing at that time were computers. In 1961, the University of Illinois created the PLATO project, which consisted of multi-user computers for instruction (Molenda, 2008; Saettler, 2004). By the 1980s, schools were using mainframe computers and microcomputers in learning laboratories and classrooms. Eventually, worldwide, most classrooms had at least one

computer (Molenda, 2008). World language educators were discovering that computers were changing learning and instruction (Betrus, 2008). Instructors began teaching with computer assisted language learning, through Web 1.0.

Computer-Assisted Language Learning. Computer-assisted language learning (CALL) consists of Web 1.0 software programs where students can practice their target language knowledge using the computer with the Web (Cennamo, Ross, & Ertmer, 2010; Lee, 2010). Also, CALL is offline, where students can write essays through wordprocessing, and they can create Powerpoint projects presentations (Blake, 2011). Online, CALL through Web 1.0 is intended for reading, researching, and drill and practice activities (Lee, 2010). Web 1.0 provides online libraries, encyclopedias, and search engines as alternative settings to the library (building) (Lee, 2010).

World language teachers discovered that they could use CALL to help students work on increasing their grammar competence (Cennamo, Ross, & Ertmer, 2010). CALL became a tool to reinforce vocabulary and grammar by using controlled drill and practice exercises (Mitchell et al., 2013). Based on the behaviorist theory, these activities promote Bloom's (updated) lower domains of cognitive development: *recognizing, recalling, and executing* (Krathwohl, 2002, p. 215; Manzaro & Kendall, 2007, Kindle HDX version Location No. 1309-1312). Blake (2011) referred to this as *Tutor CALL*, which requires direct teacher instruction (p. 21). Blake's (2011) article highlighted various types of Tutor CALL, such as multimedia glosses (hyperlinked definitions, usually videos, pictures, text), and automatic speech recognition (digital pronunciation training and feedback) (pp. 22-23). These are examples of natural learning language programs where students receive automatic feedback (Elimat, 2014; Thomas, Reinders, & Warschauer, 2013). These

activities give students the chance to practice independently, preparing them to use the target language for higher order thinking capabilities (Krathwohl, 2002, p. 215; Manzaro & Kendall, 2007). Although Blake gave a thorough account of CALL examples, he does not indicate whether world language teachers knew about these applications because his paper was not an inquiry. Kessler (2018) suggested that currently, world language teachers remain unfamiliar with digital technology. This present study explored high school world language teachers' knowledge and usage of digital technology.

Expansion of traditional CALL to CMCA. Educational Web uses advanced from autonomous research (independent work, similar to referring to an encyclopedia) in Web 1.0, into social uses (cooperative learning) of the Web in Web 2.0 (Blake & Kramsch, 2013; Molenda, 2008; Thomas, Reinders, & Warschauer, 2013). Web 2.0 provides computer-mediated communication applications, where students can learn social negotiation using multiple perspectives in task-based language learning (Januzewski & Molenda, 2008). The Web became an additional platform for teachers to assign cooperative learning activities promoting collaboration, similar to those usually done in the classroom. Vygotsky's (1978) description of cultural mediation (applications) in the theory of socioculturalism suggests that objects from previous generations change future environments (Moll, 2014; Vygotsky, 1978). In other words, just as CALL became an additional educational source for practice to paper and pencil, CMCA are extra (digital) settings to the classroom (Blake & Kramsch, 2013; Larsen-Freeman & Anderson, 2011).

Chai et al. (2012) gave a clear example of how transitioning from CALL to CMCA is the same as grammatical competence being the basis of communicative competence, as suggested by Hymes (1972) and Omaggio Headley (2001). The

Singaporean Ministry of Education launched an education master plan in 2008 that promoted the use of information and communications technology (ICT) for "self-directed learning and collaborative learning with ICT" (Chai et al., 2012, p.153). The learning initiative is similar to the Common Core State Standards, ACTFL, and ISTE teaching objectives (CCSSI, 2016; ACTFL, 2017a; ACTFL, 2017c ; International Society of Technology Education, 2014). The Singaporean government believed that giving teachers computer-based exams as an alternative to paper-based exams would encourage them to teach with more technology in class (Chai et al., 2012).

Reviewing the history of educational technology assistance revealed the evolution of transforming technology to be suitable to support world language teaching. It was shown that audio and visual learning separately did not adequately teach the students to become proficient. However, as a combination (audiovisual), teachers were exposed to new possibilities of enhancing their teaching. Consequently, the next step was to include computer-assisted language learning as a part of societies changing needs of technology.

Computer Mediated Communication (CMCA)

Computer-mediated communication is an interaction between two or more people online using web-based applications (Cennamo, Ross, & Ertmer, 2010). Using CMCA give students a digital alternative or addition to the classroom (blended learning) to practice communicating in the target language (Cox & Clifford, 2014; Palloff & Pratt, 2007; Pfaffman, 2008; Mitchell et al., 2013; Trinder, 2016). They can correspond in the target language through email, web conferencing, instant messaging, and social media (Blake & Kramsch, 2013). Most studies in this review centered on Wikispaces, blogs, Moodle, and other web-based applications, yet the literature did not identify CMCAs as

suitable for high school world language teaching practices. CMCAs have two different formats, asynchronous (at various times) and synchronous (in real time) (Cennamo et al., 2010; Januzewski & Molenda, 2008; Kessler, 2018).

Asynchronous CMCA. This approach could make learning convenient to students because they can practice their language skills without time constraints (Cennamo et al, 2010; Graesser, Chipman, & King, 2008). Students can access asynchronous computer-mediated communication applications (ACMCA) anywhere the Web is available (in a classroom, or at the student's home, etc.). Under teacher guidance, CMCA such as Wikispaces and social networking are potentially suitable environments for students working together on discussions, task-based lesson learning (TBLL), and other metacognitive skills (Janssen, 2014; Mohammadi & Talebinejad, 2015; Sanavi & Tarighat, 2014). Another ACMCA is synthetic learning environments or games, which provide simulated learning opportunities for role-play activities in various realistic cultural situations using the target language (Blake, 2011; Blake & Kramsch, 2013; Cennamo et al, 2010).

Synchronous CMCA. Web conferencing and Chat discussions such as Skype are examples of synchronous computer-mediated communication applications (SCMCA), enable students to speak with other schools, each other (outside of class), and even native speakers in real time (Cannon-Bowers & Bowers, 2008). They can type instant messages or use their web-cams to see the other person although conversing online at the same time (Cannon-Bowers & Bowers, 2008; Cennamo, Ross, & Ertmer, 2010). Few studies covered SCMCA in foreign language instruction. Further indicating a gap in

understanding how high school foreign language teachers would perceive the usefulness of SCMCA in CLT.

A metacognitive difference between ACMCA and SCMCA is that more reflection can take place in asynchronous settings because students have the chance to edit their work, whereas in synchronous settings, students have to provide immediate responses (Januzewski & Molenda, 2008; Molenda, 2008; Cennamo, Ross, & Ertmer, 2010; Kessler, 2018). The same happens for teachers providing feedback. Although SCMCA enables immediate feedback, ACMCA allows teachers to be reflective and provide thoughtful comments.

CLT and CMCA

According to the results of several past literature findings, communicative language teaching (CLT), which is grammar and communication combined, explained how traditional instruction and use of (computer-assisted language learning) CALL alone does not promote effective language acquisition (Huang, 2018). Huang (2018) found that traditional instruction and use of computer-assisted language learning (CALL) alone does not promote effective language acquisition. Sanavi and Tarighat's (2014) emphasized that conventional teacher-centered foreign language teaching includes memorization and "pre-thought" information as opposed to encouraging students to generate their ideas or evaluate facts through problem-solving and reading comprehension activities (p. 79). Crouse (2015), Thompson (2015), and Sherf, Graf, and Clifford (2015) proposed encouraging world language teachers to consider increasing functional use of the target language in their pedagogy to promote students to express their thoughts, and question others. David, Moses, Anthony, and Olufemi (2017) added that the inclusion of CMCA

like blogs and wikis not only support students interacting in the language, but they also reinforce interactions between teachers and students.

However, Whyte (2014) found that most of the teacher participants adapted their own teaching style (teacher-centered pedagogy) when they were asked to use Interactive Whiteboards for task-based language learning. In other words, they used the technology in a limited way without exploring methods that would require more student interaction. These studies posited that there is more to world language courses at the K-12 level than just learning words and grammar. Past literature suggested that teaching students how to use the language supplements grammatical competency (Al Asmari, 2013; Benhardt, Molitoris, Romeo, Lin, & Valderrama, 2015). It remains a question of whether high school teachers agree that they using these applications are appropriate for the world language course objectives and practices, further indicating the need for this study.

Critical Thinking Skills. As the a prime focus in the promotion of K-12 instruction, teaching critical thinking skills must include the use of digital technology for college readiness, it was necessary to review the previous literature about whether foreign language teachers perceive that this objective supports CLT (CCSSI, 2016). However, due to the paucity of studies about using CMCA to assist with high school world language classes, current literature focused on national and international college-level courses. Existing second language teaching resources such as Mitchell et al. (2013) posited that CMCA augments the relevancy of CLT. Reviewed investigations discussed positive findings of how CLT encouraged students to acquire critical thinking skills with the assistance of CMCA such as Wikispaces (blogging) and Skype.

Most studies reported the benefits of using CMCA to encourage students to foster their critical thinking skills although interacting in the target language. Pellet (2012) and Yu and Zeng (2011) found that their college students who received Wikispace assignments, planned, generated, and completed their tasks although using the target language. Both studies discovered that the students were motivated to complete the assigned problem-solving activities because they were working independently of the teacher. Mohammadi and Talebinejad (2015) found that the college student participant's writing quality advanced due to their peers' comments because they were able to ask questions and edit their work. They claimed that Wikispaces provided a setting to foster the students' creativity. Buripakdi (2013) conducted similar research to answer the research question: "How do digital writing or weblog design projects affect students' writing ability, confidence, and performance?" (p.128). Buripakdi found that by keeping weekly journals in the target language using blogs, the students expressed themselves creatively in the target language, gained self-confidence in their writing ability, and improved their critical thinking skills. In a study on the effects of authentic language learning, Ozverir, Ulker, and Herrington (2017) determined that with the assistance of CMCA, outside of the classroom activities enabled the students to be reflective and seek perspectives from other peers although continuing to utilize the target language.

To explore CLT and critical thinking through oral communication, Sanavi and Tarighat (2014), Lee and Markey (2014), and Romaña Correa (2015) found that college student participants at the intermediate level expressed their opinions efficiently through oral discussions about real life stories and situations. Sanavi and Tarighat (2014) found that critical thinking in the target language taught the students to make profound

connections to the language and improve the students' speaking abilities. Romaña Correa (2015) whose student participants' ages varied from 18 to 40 years old, found that adding Skype encouraged the student participants (p. 147). They claimed that the participants were not reluctant to take chances with the language because they wanted to communicate effectively with their partners.

Also, in a study on graduate students learning intercultural communicative competence (ICC) although using the target language and Web 2.0 tools, by Lee and Markey's (2014) determined that learning directly from native speakers was realistic and meaningful (p. 282). They posited that the combination of task-based instruction and Web 2.0 applications gave both groups of learners the chance to learn each other's cultural activities and modern colloquial terms and phrases (p. 292). They even suggested that teachers should use Skype to inspire profound oral discussion assignments. However, unlike Lee and Markey, Romaña Correa's participants only interacted with other non-native speaking students, therefore limiting their ability to raise cultural awareness of the target language's culture. Although Sanavi and Tarighat offered insight into critical thinking building, they did not investigate teaching how CMCA could assist. Thus, failing to provide an understanding of whether digital assistance makes a difference in critical thinking development in CLT. Therefore, this present study was essential to add insight into the secondary level CLT with CMCA assistance, by exploring whether the teachers would find such activities to be appropriate for their students.

Using a mixed methods design, Lee and Markey (2014) included discussions on real topics that encouraged peer feedback. They determined that the assignment be pedagogically successful but neglected to investigate whether the teachers' agreed.

Romaña Correa's (2015) data collection included "surveys, focus groups, and the teacher's reflective journal" (p. 151). However, the teacher's reflections were not discussed thoroughly in the discussion of the study. Further demonstrating the need to explore teachers' in-depth perspectives on using CMCA to support CLT in the target language. With the focus on the beneficial experiences of the students learning to interact using the target language in ways that promote intelligent conversations, these studies failed to provide the teacher perspectives on this experience. It is not clear whether the instructors perceived using Skype as a useful tool to assist this learning.

Student Perspectives

In this section, researchers centered on students' evaluations of learning how to communicate in the target language using CMCA. The student participants were elementary level and university level students; none included high school. The reviewed studies primarily revealed that group work activities between children and adults led to a sense of community yet needed the direction of the teacher. Also, studies such as Mehri and Izadpanah (2017) revealed that students were motivated to learn with online applications.

Learning communicative competence with CMCA. Curcher (2011) investigated whether student engagement and higher-order thinking skills increased when students worked with CMCA. He wanted to see if Arabic-speaking students could learn a second language (English) in a way that matches the socioculturalism theory. Dogoriti, Pange, and Anderson's (2014) objectives were to examine how the combination of an online classroom and a social networking system influence the students' success in world language courses. Curcher and Dogoriti et al. both investigated how college students used

social networking to develop a sense of community, enrich their language learning and pique their interest outside of the classroom.

Curcher (2011) and Dogoriti et al. (2014) were case studies that used surveys to measure college students' opinions. Curcher's participants were 27 students in Dubai, who learned through the traditional rote instruction in the Islamic culture (p. 85). Dogoriti et al. studied Greek students learning English as a world language (p. 256). They examined Moodle and Facebook, as Curcher researched Ning (a social website) linked to Blackboard (an online classroom) and Diigo, a social bookmark network (Diigo, 2016). Although these are possible CMCAs that high school teachers could consider including in their instruction, the Children's Web Protection Act designates restrictions on some social networks and Web applications (Children's Web Protection Act, 2016). These examples of social media may or may not be allowed in K-12 schools. Consequently, these studies could not sufficiently answer the research question of my study.

Dogoriti et al. (2014) found that the participants reported positive experiences with social interaction among themselves and with the teacher. The students conveyed that they were motivated to work actively on their assignment. However, they claimed that Moodle was not exciting because it was just like being in a classroom. However, they found Facebook very interesting. Curcher's (2011) participants reported that they would recommend Ning for communicative language learning because they could write and read each other's (blogs). They could reflect on what they were writing and on how they responded to their classmates. Some students reported that they liked not having to bother the teacher. Not all of the students participated in the activity, but those that did were happy to work together. Such a discovery would need to be researched to see if high

school students agreed or disagreed with these views. Nonetheless, they do not provide any indication of the teacher perspectives. Also, Curcher's participants disclosed that using Diigo (to share resources) was too difficult to understand (Diigo, 2016).

Curcher (2011) and Dogoriti et al. (2014) proved that socioculturalism takes place in second language communicative learning activities. Also, both studies showed that the participants appreciated the critical thinking skills and collaboration aspects of their projects. Curcher and Dogoriti et al. found positive student experiences, although, without data from teachers, these results could not be verified and did not prove to meet the teachers' learning objectives.

Woo et al. (2013) used the mixed methods design to research Chinese students learning to use the target language (English) by co-constructing a writing task and including classmate feedback on a Wikispaces tool called PBworks (PBworks, 2016; Woo et al., p.123). The participants were 119 elementary students aged 10-12 years, along with their three English teachers (p. 123). Woo et al. interviewed the teachers and a selection of students. They found that students could discover information online that assisted with their revisions when working on Wikispaces. The students found the PBworks application to be useful because they could access it at home or wherever they could access the Web. Nevertheless, the students were still reliant upon their teachers for direct instruction.

Unlike Curcher (2011) and Dogoriti et al. (2014), Woo et al. (2013) included a few teachers as participants. They learned that the teacher believed the students worked well together exchanging ideas. The teachers posited that students had an easy time

accessing information from the Web. However, one teacher did not believe that it was appropriate for their students to use the Web.

Woo et al. (2013) reported three elementary teachers' general perspectives. The findings lacked distinct views about how the CMCA was useful and assisted with meeting their lesson's learning objectives, verifying the claim of this study that there is insufficient research on teacher viewpoints about incorporating CMCA, to assist the development of sociolinguistic and metacognitive skills (particularly from high school world language teachers who instruct for college readiness.) Also, this study was unable to provide an adequate representation of high school students' self-regulatory capabilities (Driscoll, 2005; Jacques & Marcovitch, 2010; McClelland et al., 2010). Whereas, this present study fulfills this gap.

The findings from these three studies suggested that sociocultural interactions in the target language with the assistance of CMCA enable students to use higher order thinking skills to perform real-life problems or tasks. Although Curcher (2011) and Dogoriti et al. (2014) provided students' opinions, that insight cannot replace the viewpoints of professional teachers. Whereas Woo et al. (2013) did include some teachers' outlooks from elementary level teachers, they were too general and not representative of high school instructors. Furthermore, these studies were quantitative. The discoveries did not provide in-depth clarifications, which was the intention of this qualitative case study.

Interestingly, Pellet (2012) was the teacher and the researcher. This study had the potential to provide a discussion on the results demonstrability of the lesson and the output quality of the students' work from an instructor's perspective. However, she only

reported as the researcher. According to her students, Pellet playing both roles did not allow her to facilitate their learning actively. It would have been beneficial to have learned the Pellet's reflections as an instructor about whether including CMCA assisted the students' communicative competence. Since the studies did not seek such perspectives from the teachers, the studies fall short in answering the research question for this study about the suitability of CMCA in world language teaching classes.

Two limitations of these studies are present, which further purport the necessity of this current study. One is that the participants were both international and national college students. Although they certainly provided insight into the positive aspects that CMCA has when supporting CLT in university world language courses, they fail to provide an accurate understanding of high school world language courses. The next, as Shu-Mei, Marek, and Wen-Chi (2016) indicated, student perceptions are not reliable due to their views of how comfortable and convenient it is for them to learn the material using the digital technology. Whereas, the teachers' and researchers' perspectives are more focused on the learning objectives and outcomes of their instruction.

Teacher Attitudes

The literature in this section examined the impact of teachers' attitudes and self-efficacy to understand their inclusion of technology in their teaching practices (Davis, 1986). In Venkatash and Davis's (2000) extended version of TAM (TAM2), they proposed that teachers choose computer technology that has perceived usefulness to their instruction. Advantages such as the teachers' perception of how much effort would go into using the technology; who in the school system (or other educational professionals) influence the teachers to add computer technology; and how does this technology support

their teaching practices and goals. Some investigations reported that teachers had a genuine interest in including CMCA but omitted in-depth explanations of why they did or did not do so (Kale and Goh, 2014). Other studies reported that teachers' found value from CMCA for student learning.

Self-efficacy. Haight (2011) found that the higher the teacher self-efficacy was with technology, the more likely they would include it in their teaching. He proposed that these teachers were not intimidated and were willing to take chances. Tsourapa's (2018) findings supported this when explaining that teachers' positive attitudes encourage them to use technology. Other studies such as Kale and Goh (2014) determined that teachers who reported being proficient with the Web demonstrated that self-efficacy was not the only factor for reluctance to include the Web. They suggested that workload and the teachers' age also were determiners. With studies such as these, lacking in-depth world language teacher perspectives, it remains unknown how world language teachers view teaching high school courses using digital technology and the Web.

General interest but reluctance. Some studies found that teachers were interested in teaching with CMCA was high, but few attempted (Al-Seghayer, 2017; Broussard, Hebert, Welch, & VanMetre, 2014). Other studies found that the teacher willingness was because they believed that technology inclusion was a part of their job description (An & Reigeluth, 2012; Dogoriti & Pange, 2012). Tsourapa (2018) used a mixed-methods design and found that teachers believed in the importance of getting students prepared for 21st-century skills involving the Web. Kale and Goh (2014) also learned that the teachers thought the Web would improve their workload efficiently and that they should include more (of the Web) in their lessons. Interestingly, in their study,

only a minimal number of participants indicated that the Web decreased their workload. A detailed inquiry and explanation would have revealed why that was the case. Dogoriti and Pange (2012) found that close to 90% of their teacher participants (Greek university foreign language instructors) would incorporate the applications because they believed that their students would be motivated and interested. Curiously, out of that percentage, 81% were not using any CMCA (p. 29). Instead, they continued to use the conventional materials and technology, such as textbooks, PowerPoint, Word processing, or used digital technology to give information to the students, not two-way communication (Dogoriti & Pange, 2012, p.32). As a result, it remains unknown why the teachers felt this way.

Rezaei and Meshkatian (2017) found that world language teachers at the college level in Iran had positive attitudes about using social media to encourage target language communication outside of the classroom. However, they believed that implementation was not realistic because of the digital divide among their students. These findings were general and lacked in-depth explanations. Nevertheless, in a qualitative study of teachers piloting a new Arabic language teaching software, Al-Busaidi et al. (2016) found that the teachers had grave concerns about the availability of devices for their students to use. They reported a lack of computer lab availability.

Pritchett et al.'s (2013) findings were that American K-12 world language, Language Arts, and Social Studies teachers believed that CMCA such as video sharing was significant to their instruction. Erguvan (2014) conducted in-depth interviews with college instructors in Kuwait about the strengths and weakness of using Achieve 3000, (an online English literacy program also used in the United States), to understand the

impact that the program had on student achievement. The instructors commented on the students' motivation because of the innovative way to learn and they were pleased that their students were turning in more high-quality work. Conversly, Al-Busaidi, Al Hashmi, Al Musawi, and Kazem (2016) revealed that high achievers started out very motivated, but quickly lost interest in learning the online program. The students became bored because they finished quickly. If students are not engaged, then they tend to become disruptive, which becomes a concern about self-regulation capabilities (Jacques & Marcovitch, 2010).

Self-regulation. Adolescents are still in the developmental stages of self-regulation and have different capabilities of being able to work without teacher direction and guidance (McClelland et al., 2010; Vygotsky, 1978; Zelazo & Lee, 2010). The student-centered teaching practices that CLT requires, especially when using online applications may or may not be effective in teaching adolescents. Physiologically, college students have better self-regulatory capabilities than high school students (Jacques & Marcovitch, 2010; Lawanto, Butler, Cartier, Santoso, Goodridge, Lawanto, & Clark, 2013). However, in exploring self-regulated learning, studies such as Lee, Lee, and Kim (2015) and Emelyanova and Voronina (2017) reported students needing teacher direction.

Lee et al.'s (2015) study focused on previous findings of participant researchers on mobile assisted language learning (MALL), where students used iPads and smart phones (p. 341). The general findings were that the students tended to venture outside of the classwork and use social media or respond to text messages, thus proving low self-discipline. There was no mention of the age of the students that these studies researched. Emelyanova and Voronina (2017) found that the Russian college students learning

foreign languages began as resistant to student-centered learning through computer-mediated communication, claiming their lack of self-regulation. However, after the experiment of learning with a learning management system, most of the students favored their experiences. The researchers determined that the teachers could focus more on communicative teaching if they did not force the students to learn in a blended learning method. This finding would not be relatable to a high school curriculum because the schedule and pedagogy are more structured and not as liberal. Therefore, the investigations failed to provide an accurate understanding of high school CLT in the target language via CMCA for efficient learning.

The literature revealed that teacher had a willingness to include CMCA in teaching practices for both the secondary and post-secondary levels, but not enough focus on areas that researchers suggested were obstacles. At least, not enough to explain why high school world language teachers would be willing, yet reluctant to teach with CMCA. Although these investigations had similar intentions to understand teacher perspectives, they primarily used quantitative research designs. The results were general and did not submit detailed information that explored the justifications for the educators' viewpoints. Contrarily, this study sought to explore in-depth teachers' views. Instead of inviting over 100 participants, this present study only required eight. The quantitative surveys produced static answers that the developer of the tool sought. However, the interview questions in this present investigation were open-ended. The teacher participants responded thoroughly using their own words, based on their individual experiences.

Technological Pedagogical Content Knowledge (TPACK). Although we are currently in the digital age, teachers and students are not likely to be completely

proficient in the different CMCAs (Chai, Koh, & Tsai, 2013; Howard, 2011; Smith, 2014; Sulaimani, Sarhandi, & Buledi (2017). The TPACK (Technological, Pedagogical, and Content Knowledge) theory proposes that teachers should have a combination of technological, pedagogical, and content knowledge when designing lessons and assessments (Koehler, 2011; Mishra & Koehler, 2009). The current literature discusses the findings of various teacher participants' perspectives on whether their pedagogical practices would be improved through professional development to promote the increased and effective use of digital technology in the classroom.

One notable explanation from the literature that suggested why teachers would most likely not be interested in teaching with CMCA came from Broussard, Hebert, Welch, and Van Metre (2014). They advised that teachers primarily use the teaching styles they learned from when they were in school. Indicating that it is challenging for some teachers to use digital technology because of improper training in their pre-service experiences. An and Reigeluth (2012) proposed that because today's students do not know the world without the Web, teachers should incorporate CMCA to assist with promoting students to be active learners. However, in a mixed-methods design study on EFL (English as a Foreign Language) teachers in Greece, Tzotzou (2018) discovered that even teachers who knew of the benefits to using CMCA were not likely to use them if they were not confident how to incorporate them in their instruction.

Professional development. A reoccurring theme in the reviewed literature was that teachers would be open to use digital technology if they were enlightened about the job relatedness and student output quality as proposed by Venkatesh and Davis's (2000) cognitive processing in the extended technology acceptance model. Flórez et al. (2012)

and Chikasanda, Otrel-Cass, Williams, and Jones (2013) found that the quantity and quality of professional development determined technology inclusion. Haight (2011) suggested that trainers should recognize that teachers need to know the purpose of using technology for them to consider whether it would be appropriate for their lessons. For Instance, Martin and Carr (2015) studied K-12 teachers and found that when they saw how using Smartboards for creating lessons, collaborating with teachers, and giving lecture notes was more efficient than the traditional ways; those teachers were inclined to use the Smartboards. Nonetheless, there was no indication in these studies about whether world language teachers were a part of their investigations.

Similarly, Chikasanda et al. (2013) postulated that there need to be more open dialogues and training for teachers to be willing to incorporate additional technology and more student-centered activities. Furthermore, An and Reigeluth (2012) reported that their high school teacher participants believed that their current professional development opportunities were not subject specific, provided too much information, and did not provide time for practice. Siko and Hess (2014) supported this by suggesting that teachers cannot be expected to be interested in professional development that does not allow them to practice, reflect on teaching with the digital technology, or even discuss this with their peers. The participants in this present study provided their views based on their experiences and anticipations for future professional development opportunities.

Teacher and student technological knowledge. Another idea of TPACK suggests that teachers should be prepared to instruct those students who will need assistance with CMCA when working on activities (Chai et al., 2013; Koh et al., 2013; Smith, 2014). For instance, Chai et al. (2012) suggested that learners performed better when they knew how

to use CMCA to write in in the target language (Chinese), using keyboards with the Chinese alphabet. They could concentrate on communicating their messages in Chinese although working independently and reflecting on their writing through editing. In the Buripakdi (2013) investigation of students using blogs, the students dealt with technical and Web connection problems. Despite their positive work results, the students' believed they could have produced better work if they knew how to blog. Even though students are very technology savvy, it does not mean that they are familiar with all technology applications (Chai et al., 2013; Koh et al., 2013; Smith, 2014). According to TPACK, the teachers should have known how to use blogs to guide their students during the activity (Howard, 2011; Mishra & Koehler, 2009). However, Chai et al. (2013) and Buripakdi did not question the teachers about these findings or their views on the students' claim. In other words, their intention and findings came close but did not reveal in-depth results.

Despite the many informative results from the studies, they did not provide sufficient information to answer the research questions for this study. General findings from large sample populations failed to deliver insights into the perceptions of content-specific teacher participants. Also, research on self-efficacy and attitudes could not justify whether CMCA tools are acceptable for the teachers' abilities to instruct their lessons. In other words, the literature about teaching staff's attitudes and self-efficacy did not sufficiently elucidate as to how and why experienced high school world language teachers perceive the suitability of computer-mediated communication for communicative language instruction. The investigations that discovered professional development needed improvements failed to examine high school foreign language

teachers' professional views about whether teachers need technology expertise with CMCA to teach effectively.

Chapter Summary

Chapter 2 was a review of several studies on using CMCA as tools to assist the communication component of world language teaching. In this section, the essential concepts to this study, such as the use of CMCA as a tool in CLT, traditional versus student-centered teaching, student' perspectives of learning with CMCA, and teacher perspectives of teaching with technology. The conceptual framework guided the discussions about the role of language learning and social interaction when teaching for second language communicative competence, and the role of technological knowledge in the teachers' consideration of including digital technology in their teaching practices.

The past literature primarily investigated perceptions and experiences of learning with CMCA from college students both nationally and internationally (Kourieos and Evripidou, 2013; Dogoriti et al., 2014). A few inquiries centered on elementary and secondary level students. Those studies on teacher perspectives included both K-12 and college instructors. The central themes, which emerged from the literature review were: (a) CMCA can serve as both a digital alternative and a supportive format to assist target language performance; (b) most of the students (regardless of age) indicated the importance of teachers' guidance when learning with digital technology; (c) a general interest among K-12 teachers to incorporate digital technology exists; and (d) the quality and quantity of professional development determines a teacher's decision to adopt digital technology. Thus, indicating the need for the present study to discover in-depth high school world language teachers' viewpoints to either support or refute these claims.

Many of the studies that examined teachers' views followed the quantitative and mixed-methods research designs. Consequently, they only discovered general perspectives on teaching with computer technology and CMCA (An & Reigeluth, 2012; Kale & Goh, 2014). Those participants' views were of their general interest in including digital technology in their teaching. Some teachers even suggested that teaching with digital technology was a part of their job description. One study of K-12 educators included foreign language teachers' point of view. It reported that they found the use of video sharing via the Web to be favorable. Also, in this section, the areas where the reviewed literature did not answer the research question of this present study were highlighted and discussed.

Regarding the teacher perspectives of the usefulness of CMCA to assist CLT from these studies, none of these studies included any research of their cooperating instructors' viewpoints. It is not known whether they saw any benefits or obstacles of assigning task-based language learning lessons that included CMCA. The instructors could have explained whether they considered communicative language learning efficiently took place using the Wikispaces. The teachers in these studies may have provided essential examples to indicate where students were meaningfully engaging using the language online as compared to no technical assistance, or if there was any difference at all. The participants of this present study addressed the benefits and obstacles of assigning collaborative assignments using CMCA.

Chapter 3 describes the methodology for this study, which was a qualitative case study. Since previous researchers did not seek the professional opinions of high school teachers about the benefits and obstacles of teaching CLT with CMCA, the focus of the

present study was an exploration of these perspectives. The chapter will describe how the qualitative approach was appropriate for answering the research question of this current study. The data collection and analysis methods present the necessary steps involved in the inquiry. There will also be an explanation of participant selection and ethical procedures.

Chapter 3: Research Method

Introduction

The purpose of this qualitative case study was to explore and document the professional perspectives of experienced high school world language teachers. The intention was to learn the benefits and obstacles that they must consider teaching communicative language skills with CMCA. The intention was to explore possible reasons that would motivate or dissuade them from teaching with these applications. Chapter 3 describes the details of the steps to conduct a qualitative case study. Detailed information will support why this research design was the best choice for this study. Also included are the participant selection, ethical measures, data collection, and analysis. The TAM2 construct, perceived usefulness of computer technology for foreign language teaching practices guided the data collection and analysis (Venkatesh & Davis, 2000).

Research Questions

The following research questions guided this study:

Research Question: What are the perceptions of experienced high school world language teachers on the suitability of computer-mediated communication applications to support world language communicative language instruction?

In addition, the following sub-questions provided focus for gathering the qualitative data:

Sub-question 1: What are experienced high school world language teachers' viewpoints about the benefits and obstacles of including computer-mediated communication applications to teach world languages?

Sub-question 2: What are experienced high school world language teachers' viewpoints about incorporating computer-mediated communication applications to assist communicative language teaching?

Sub-question 3: What are experienced high school world language teachers' viewpoints on whether teachers need technology expertise with computer-mediated communication applications to teach communicative language teaching?

Sub-question 4: What are experienced high school world language teachers' viewpoints about the role that the teacher plays when incorporating computer-mediated communication applications to assist communicative language teaching?

Research Design and Approach

The research design was the qualitative case study to explore in-depth professional perspectives of experienced high school world language teachers on incorporating CMCA to assist CLT. Currently, these teachers instruct students who have only known life with the Web, which is a different learning influence then what most experienced teachers faced (An & Reigeluth, 2012; Pritchett et al., 2013). Moreover, previous literature suggested that communication instruction is relatable to students' lifestyles when including computer-mediated communication applications (CMCA) (An & Reigeluth, 2012; Pritchett et al., 2013). An instrumental qualitative case study method for this study allowed for an in-depth investigation of how and why teachers make their decisions about including technology applications (Creswell, 2009; Pierce, 2014; Yin,

2013). A qualitative case study method for this study was employed to investigate why teachers make their decisions about pedagogy and technology applications (Pierce, 2014).

Qualitative and quantitative research methods are both used in social sciences to collect, measure, and observe data (Patton, 2002). In qualitative methods, there is a central question that can be broken down into sub-questions and it is closely monitored by the researcher (Stake, 2006; Yin, 2013). The intention of the quantitative study is to focus on the relationship between independent variables and dependent variables (Creswell, 2009; Patton, 2002). Unlike quantitative questions, qualitative inquiries are detailed and provide explanations about the phenonomen (Stake, 2006; Yin, 2013). Unlike quantitative questions, qualitative inquiries are detailed and provide explanations about the phenonomen (Stake, 2006; Yin, 2013). The focus is on specific participants and their environments, in this case, the high school building (Patton, 2002). Also, the study takes place at the site where participants are located for the researcher to observe the participants and their setting first-hand quantitative studies are not so limited (Yin, 2013).

This case study is instrumental because it focuses on the experiences and natural settings of the participants, to provide an inside view of their working environment and circumstances (Frankfort-Nachmias & Nachmias, 2008; Miles et al., 2014). A case study, through holistic inquiry, provides in-depth insight by using more than one type of data collection (Pierce, 2014). The data collection in this study included participant interviews, field observations, and document analyses. Other options were considered for this study but were not the best choices.

Phenomenology was not the appropriate approach for this study because the focus was primarily on past or lived experiences (Moustakas, 1994). Exploring teachers' current views on the effectiveness of CMCA in communication language teaching requires not only exploring experiences but understanding how high school foreign language teachers decide to include computer technology in their instruction for current and future uses. An ethnography approach was not be suitable for this study either because the concentration would need to be on the nature or culture of the group of teachers (Cresswell, 2009; Patton, 2013; Yin, 2013). The working environment, and how the participants work together as a foreign language department to make instructional decisions, were not the intention of this study (Cresswell, 2009; Patton, 2013; Yin, 2013). In constrast, a case study approach includes the exploration of the individual teachers' responses about past, current, and future teaching methods, to understand their process of adopting technology (Yin, 2013).

The intention of the study was to explore the professional views of veteran high school world language teachers on the suitability of computer-mediated communication applications to assist communicative language teaching. The instrumental qualitative case study was open-ended and included interviews, and document and field observations. All different ways to probe into the actual teaching practices of high school world language teachers. The sample size was small enough for detailed exploration and analysis of the collected data that matched the qualitative tradition (Maxwell, 2013a; Yin, 2013). In the data analysis process, patterns and themes emerged from the findings of the participants' answers (Patton, 2002). A qualitative design enabled this study to explore the

participants' specific professional beliefs, knowledge, and experiences as veteran high school foreign language teachers.

Role of the Researcher

In qualitative studies, the researcher is the primary instrument of the study (Yin, 2013). A researcher's purpose is to oversee the data collection process holistically and systematically (Miles et al., 2014). Therefore, I was an *observer* of the data for this study. It was my responsibility to collect data to obtain quality participant responses and valid documentation to answer the research questions of this study (Yin, 2013). It was vital to gain the support and cooperation of the participants through honesty, reflexivity, neutrality, and self-reflection throughout the process. The intent of this study was not to be disruptive to the teacher's schedules or instruction (Patton, 2002). My role was a *researcher instrument* who was also the *interviewer* and *reviewer* of the collected data (Janesick, 2004, p. 6).

Researcher Bias

According to Stake (2006), a researcher must personally be familiar with the cases. Eight years ago, I was a high school world language teacher in Ohio, where I was a part of a few foreign language departments. With my background as a French teacher, I could relate the most with the teaching practices of the Latin-based language teachers. I am not familiar with the non-Latin-based language teaching methods, primarily because the different high schools where I taught did not offer such languages. Nonetheless, I brought an understanding of the natural setting and experiences of the participants.

I had a personal connection to this site in two different ways. I met the gatekeeper, who was the teacher with whom I made initial contact to conduct my

research several years ago through the Alliance Française organization (Creswell, 2009). Also, my child attended the high school. She had a class with one of the French teachers. I conveyed that this study was for my purposes and separate from in my daughter's learning. I stressed that participation was voluntary and strictly to assist the fulfillment of my degree. Also, I met some of the teachers and the Principal before, and I have been periodically in the building. Consequently, the participants may have recognized me, and could feel comfortable with me exploring their classrooms and perspectives.

To control researcher bias, I kept a researchers' journal for self-reflection. After each interview and observation, I wrote my interpretations and reflections for later review. Using the journal allowed me to make sure that the focus was to objectively learn through the eyes of the participants (Miles et al., 2014; Patton, 2002). Although I have experience teaching high school French, there have been many changes in technology use that I have not experienced, which includes computer-mediated communication applications.

I recognize that all teachers have their own styles and preferences. My expectation was to learn about the various and perhaps diverse approaches and thought processes of other experienced world language teachers. Any similarities and differences that surfaced did not have any bearings on my analysis. There was no monetary compensation for teachers who participated in this study. I provided the participants with a thank you lunch for their cooperation. My appreciation for their participation was not intended to encourage or discourage their participation.

Population and Sample

The case for this study had boundaries by place, participant, and academic department. The choice of participants, sample size, and recruitment process are explained in this section.

Participant Selection Logic

The sample was a group of six out of eight teachers who worked in the same high school world language department in Florida. I have kept in contact with the gatekeeper over the years by phone, email, and in person. I reminded this person that I requested permission to conduct the study from both the school district and then the principal. The gatekeeper identified teachers in the department who were willing to speak with me. The next step was to contact the district office and to make a request to do a study with the teachers from that particular school. The participants of this study were not students. Students were not involved or contacted.

The participants were veteran teachers, each with more than ten years teaching experience. They have practiced traditional teaching and possibly computer-assisted language learning (CALL), so they could provide informed first-hand evaluations of the relative merits of different instructional techniques. As a result, these participants were an appropriate sample to study. Novice teachers would not have been appropriate participants because they potential have been trained to use student-centered methods, CALL, and computer-mediated communication. The veteran participants have experience with traditional teaching and cooperative learning. They could contribute knowledgeable views about teaching foreign languages with CALL and CMCA.

Sample

According to Patton (2002), it may be difficult to determine how many teachers would be enough to reach saturation. Since there were eight teachers to invite to the study, it was anticipated that all would participate. However, one of the teachers did not meet the participation requirements and another declined the invitation. Patton stated, "Insights generated from the qualitative inquiry have more to do with the information richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size" (p. 245). Therefore, the study's findings were dependent upon the meeting the objectives of the research questions. Saturation was reached once enough rich information was obtained, and no new information was discovered from the teachers' perceptions, despite the change in the number of participants.

The sample that I chose was the only one in the district that taught a variety of languages that include French, Spanish, Latin, Chinese, and American Sign Language. They had the potential to provide diverse perspectives on the suitability of teaching communication skills using computer-mediated communication applications. The plan was to explore the in-depth viewpoints of a homogeneous group who share the same natural setting, which in this case was the same high school building (Burgess, 2006; Pierce, 2014; Yin, 2013). This group of teachers was familiar with the national, state, and county world language learning standards, which means that they all had a common course of study to follow for each course level. The teachers all had the same access to computers and the Web. They all followed the same class schedule and meeting schedules. Also, they all had to adhere to the building rules and regulations stipulated by

the administration. Consequently, their commonalities provided both reliability and validity to their responses.

The selected teachers were a part of a homogeneous sample. I could access all the teachers at the same location for interviewing, documentation reviews, and field observations (Bloomberg, 2012; Miles et al., 2014). The expectation was that the participants faced the same challenges and obstacles when it came to accessing student computers for instruction (Miles et al., 2014). The participants were also examples of critical case sampling because each teacher shared his or her perspective on teaching using student-centered methods and web-based applications. Through "logical generalizations", these teachers offered diverse target language teaching viewpoints, confirming that they can best represent other high school foreign language teachers (Patton, 2002. pp. 236-237).

Recruitment

After I received approval from the Institutional Review Board (IRB) at Walden University, I sent a request to the research department of the site's school district for permission to conduct the study. Once the school district approved the study, the next step was to communicate with the high school's principal. Finally, with the principal's permission, the teachers were invited to participate (by email). The letter contained information about the study and why they were chosen to contribute. It will also included background information about myself and why I decided to study this topic. It was clearly stated that the study was voluntary.

I met some of the participants after school in their classrooms. The expectation was that all of the invited participants would contribute to the study. The eight

participants received an explanation of the process and consent forms. The interview questions were emailed in advance to give them the opportunity prepare their answers. They were informed that a pseudonym replaced their actual name and their teaching assignment. I clearly communicated that their participation did ot affect their job performance. Those who were not interested, were not reported to the principal or the district. All communication was professional and respectful.

The questions were about the research sub-questions, (a) What are experienced high school world language teachers' viewpoints about the benefits and obstacles of including computer-mediated communication applications to teach world languages?; and (b)What are experienced high school world language teachers' viewpoints about incorporating computer-mediated communication applications? (See Appendix B)

Responses to the above questions provided enough in-depth ideas to answer the research question for this study. The participants could have additional time to reflect on possible answers before the actual interview to provide optimal responses. They later had the opportunity to change previous responses from the initial interview. (See Appendix D) Once the study was complete, areas that would need review, would be emailed to each participant, asking them to review their interview responses. Upon completion of the study, all participants received thank you letters, and a lunch for all of their time and assistance.

Data Collection

Qualitative instrumentation allowed for an extensive understanding of the study problem. I used the case study, which includes interviews, field observations, and documentation analysis (Stake, 2006; Yin, 2013). I kept copious notes and observations

in a researcher journal as another source of data for triangulation to provide the validity in the analysis (Stake, 2006; Yin, 2013). Also, the participants completed transcript reviews after the completion of interviews, for verification of responses.

Multiple sources of evidence were collected to assure that the study provided optimal results. The data collection methods explored and efficiently documented the findings to answer the research questions and align with the conceptual framework (Creswell, 2007; Miles et al., 2014). Most of the data collection was at the site location. However, one interview took place off campus at a café. If participants were unable to meet in person, they had options to complete the interviews via the phone, Skype, or email. I was the only person who collected all data from the participants.

The participants received a copy of the interview protocol before the meeting time. (See Appendix B) The questions directly from the interview protocol, and notes were marked down on the Livescribe notebook pages. An additional set of questions was available to increase the chances for more in-depth responses if the participant number was too small. (See Appendix E) Each participant received a copy of the transcription via email. (See Appendix G) They had the opportunity to review their responses for accuracy.

The field and documentation reviews had different recordings from the interview protocol. Sketches of the computer labs, library, and classrooms were on blank paper and with pencils. A documentation report form guided the review process of the document collection. (See Appendix F) It included each teacher's set of records and artifacts that they felt could assist this study. The camera on a password protected iPad contained photos of the classrooms and computer labs. The scanner on the same password protected

iPad held documents that needed more intensive review. A flash drive was used to store all downloads of documents, the interviews, consent forms, notes, and the researcher journal. (See Ethical Procedures) Also, the data is stored in the NVivo Pro 11 software on my computer, including . the notes and documents from OneNote, Word, and Evernote for organization and data analysis.

The data collection processes lasted between two to three weeks. The interviews were between one hour to one hour and a half long. The field and documentation reviews did not require additional meetings. The teachers said that I could come back if necessary. I used a digital recorder to ensure the accuracy for reporting. A Livescribe smart pen and notepad were backup recordings of the interviews in case the digital recordings were damaged. The recordings ensured accuracy when transcribing the interviews. I emailed each participant a draft of the transcript and asked them to review the content for accuracy. After all data was collected and I received the reviewed transcripts, I emailed the teachers to let them know that their participation was finished and thanked them for their time. The data collection took place as follows below in this order:

Interviews

A set of structured questions encouraged open-ended responses (with prompting) so that the participants could speak freely. The interview questions inspired the interviewee to provide well thought out responses to the research question. (See Appendix D and E) Patton (2002) stated that the purpose of interviewing is "…to allow us to enter into the other person's perspective…" (p. 341). The teachers gave their perspectives on the benefits and drawbacks of using web-based applications for high

school instruction in their responses. The teachers' views revealed similarities and differences between the target languages and course levels about student-centered (problem/task-based language learning) and traditional instruction with computer-assisted language learning (CALL). Additionally, the questions covered the teachers' perceptions of technology, pedagogy, and content knowledge (TPACK) skills for instructors.

In the interview protocol, the questions are in order of to provide responses to each sub-question. The order was very helpful during the analysis. (See Appendix P) The teachers had the opportunity to share their teaching practices using computer-assisted language learning and computer-mediated communication. Furthermore, they explained their perceptions of teaching with traditional and student-centered methods based on their experiences. After the interviews were completed, the teachers were reminded that they would receive an emailed transcript review and transcript draft for their review. Once the initial data collection was completed, each participant was asked if they would be available for follow up questions. All agreed and follow up questions were communicated through email due to time constraints.

Researcher-developed interview protocol. The decision to use researcher-developed instruments was from the Verstehen tradition of empathy and insight (Patton, 2002). My personal experience as a high school world language teacher enables me to have an "empathic understanding" of this study (p. 52). Accordingly, I developed questions based on my knowledge of the participant's primary instructional objectives. To make sure that the participants were comfortable, the interview was more of a conversation, where I commented on some of their responses to assure them that I understood and that I was listening (Janesick, 2011). When their answers lead to a

question that was out of the interview protocol's order, I made note to return to any missed questions later.

The interview questions were in alignment with the research questions and sub-questions (Janesick, 2011). (See Appendix O) The researcher-developed instruments enhanced in-depth responses to the research questions, I encouraged the participants to expand their responses by including prompts that can be found in table 3.1 and the following prompts when needed:

- Would you give me an example?
- Can you elaborate on that idea?
- Would you explain that further?
- I'm not sure I understand what you're saying.
- Is there anything else? (Boyce & Neale, 2006, p. 5).

Interviewing requires personal interaction. The participants decided on the interview times and locations that matched their conference times.

Field observations

Case studies take place in the natural setting of the participants' environment (Patton, 2002; Yin, 2013). A field observation was of the high school, i.e., classrooms, computer labs, media center, and teacher planning areas. Some observations included the number of available student computers, student desks, and all technology equipment. I used a researcher-created field observation protocol. (See Appendix H) After reviewing sample protocols, I created a checklist to match the technology equipment that I expected to see in the classrooms, media center, and computer labs (Janesick, 2011; Miles et al., 2014; Saldana, 2013). Also, added was room for comments and quick notes. I wrote

reflections in my researcher journal and uploaded the observation protocol to Nvivo Pro 11. At that point, I was looking for the ability to access the textbook websites, and computer-mediated applications such as blogs, Wikispaces, Moodle, Facebook, and Edmodo. Those applications were the most mentioned in the literature review (Curcher, 2011; Pellet, 2012; Woo et al., 2013). The data consisted of digital photos with notes that could scan into NVivo Pro 11 (Janesick, 2010; Miles et al., 2014; Patton, 2002). This type of data collection does not require much personal interaction. Participant interaction was not necessary but was helpful if I had any questions.

Document Analysis

The objective of including a document analysis was to support the interviews and field observations when identifying emerging themes and patterns in the data analysis. After reviewing sources for observation examples, I used a researcher-created documentation observation protocol (Janesick, 2011; Miles et al., 2014; Saldana, 2013). (See Appendix I) I created it to match the documentation and websites that I expected to see from the teachers. I also included 5 questions to answer to make sure that I found everything that I intended to observe. After I took notes, I wrote reflections in my researcher journal and uploaded the observation protocol to Nvivo Pro 11. At that point, I was looking for the The documentation had the potential to verify or refute the findings and evidence from the other data collection methods (Bowen, 2009). Documentation for this study was lesson plans of communication skills activities, example assessments (quiz or project assignment), textbook and workbooks. Also, document data included school policies on student Web usage and any other pertinent information that the participants felt assisted the study.

The objective of the documentation observation was to discover how the textbooks, websites, and other written materials connected to the methods and applications teachers implemented when they instruct communication skills (Bowen, 2009; Yin, 2013). A password protected iPad scanned all documentation that could not leave the building (textbook pages, example assignments). All notations for the documentation was uploaded in Nvivo Pro 11. This type of data collection did not require much personal interaction. It took place when school was not in session to avoid class interruptions, at a specified time that the participants gave. Participant interaction was not necessary but was helpful for clarity.

Once the data collection was complete, I sent out thank you emails. I briefly reviewed the purpose of the research and research questions. I shared with them how their interviews and observations played a role in trying to answering the questions. I provided lunch for the participants and gave them the opportunity to ask any additional questions about the process.

Data Analysis Plan

The analysis followed the guidance of the TAM 2 model, which focuses on the perceived usefulness construct (Vanketesh & Davis, 2000). The plan intention was to explore the how social influences, cognitive processing, and perceived ease of use affect the participants' considerations to use computer-mediated communication. The interview question responses, field observation notes, and data analysis information were uploaded to the NVivo Pro 11 software. The interviews were transcribed through the NVivo Pro 11 software and converted to a Word file. The transcriptions were distributed to each participant to review for accuracy before the analysis. All of the collected data was

uploaded, then placed in categories based on the research sub-question and TAM2 constructs, to determine themes and patterns quickly (Miles et al., 2014; Saldana, 2013). The initial review of the collected data was the first cycle of coding and it began with the entry of the first participant.

The coding procedure involved reviewing all of the collected data and searching for key words and phrases common themes. (See Appendix M) Code words or phrases help to draw connections between the participants' responses. I began with pre-coding using the TAM2 constructs: social influences and cognitive processes (see Table 2.2, p. 24) Next, I implemented causation coding analyzes the participants' reasoning of why they do or do not use computer-mediated communication applications. Finally, attribute coding is an analysis of the "field work setting" and cross-participant analysis (Miles et al., 2014, p. 79). Also, NVivo Pro 11 has analysis tools, i.e. coding, charts, and word clouds ("Nvivo Pro 11", 2015). A search for any patterns and themes in all of the data assisted in the write up the results and discussion of the study (Miles et al., 2014; Yin, 2013).

Researcher Journal

According to Miles et al. (2014), journaling by the researcher will assist in demonstrating the "plausibility, coherence, and compellingness" of the study (p. 316). During the data collection process, I kept a journal of my observations, and self-reflections about the data collection, and data analysis methods. Metacognitive awareness of the methodology process helped with the exploration of patterns found in the responses, although separating any findings that would lead away from the research question. Furthermore, the journaling assisted in minimizing any bias in the reporting of

the findings (Janesick, 2011). The journal was in a spiral notebook and memos in Nvivo Pro 11.

Discrepant Cases

Before each interview, I asked the participant to share their familiarity and experiences with CMCA such as Wikispaces, blogging, Skype, and e-portfolios. More than half of them were not familiar or never heard of the applications (Wikispaces and e-portfolios). I described each application and gave a suggested way to teach with it. Also, the teachers were not aware of the software and equipment in the media center. I shared this information with them to help them reflect on using CMCA to assist their instruction.

Issues of Trustworthiness

For trustworthiness, I understood that as the researcher, it was my responsibility to try to be professional and objective when I conducted the study and reported the findings. I contacted one of the French teachers who was the gatekeeper of the site and introduced me to her colleagues. To avoid any pressure to participate in the interview, I reiterated that participation was voluntary and not an obligation. Each teacher was reminded that a pseudonym for their name and teaching assignment would be used for the anonymity of their responses.

According to Patton (2002), the process of analysis is to "understand the world as it unfolds, to be true to complexities and multiple perspectives as they emerge" (p. 51). Also, regardless of the personal feelings, opinions, and objectives that the researcher may have, the findings had to state the evidence as revealed (Yin, 2013). Trustworthiness of qualitative research is the credibility, dependability, transferability, and confirmability

found in the data collection and analysis (Patton, 2002; Yin, 2013). The following sections will explain the importance of each one in this study.

Credibility

To assure the reader that the findings of this study are trustworthy, the method of data collection and analysis must be credible (Patton, 2002). A case study approach typically consists of the triangulation of interviews, field observations, and document reviews. In other words, a single data source does not provide enough explanation of the results because of the lack of confirmation of accuracy. The objective of credibility is to find consistency in the results of each form of data collection, with enough scrutiny that the finding will reveal that all possible areas have been a part of the review to ensure saturation.

The participants had the opportunity to elucidate their responses or documentation in this study. A comfortable relationship, where the participants felt that they could speak freely was significant to contact the participant with any concerns or questions about the data. Also, the transcript reviews were for the participants to review their interview transcripts (via email) at the end of the data collection process the teachers reviewed a transcript of their individual interviews before the analysis. The review was for verification of their responses to the interview questions (Patton, 2002; Yin, 2013). The transcript review responses were due within three to five days. It was noted that a nonresponse will be the assumption that the transcript is accurate.

The researcher's journal was another way to ensure credibility. It was for recording the initial reactions and impressions of the data (Boyce & Neale, 2006; Patton, 2002; Yin, 2013). It was the chance for reviewing my role in the interview, to make sure

that I did not try to influence any responses with subjectivity or preconceptions. Also, reflexivity allows for a chance to see emerging patterns and themes that can be included in the analysis. These journal entries are helpful because they are available for constant reviewing.

Transferability

A study results may be applicable using similar people and situations (Patton, 2002). The findings of this study have the potential to be applied to other high school world language departments in Florida and nationally. The analysis provided thick and rich descriptions of the participants, settings, and documentation, to which world language educators were able to relate (Patton, 2002). In a homogeneous group, the participants may have similar issues and their views may be more uniform. However, the responses from this study provided greater transferability because there were eight participants chosen (six participated) to provide various perspectives in foreign language teaching. Although it is not guaranteed, these responses may resonate with other high school world language teachers who consider including computer-mediated communication in their teaching practices.

Dependability

The results of this study will prove to be dependable through a triangulation of the data collection and an audit trail. These two processes ensure that the study was consistent and steadfast. In other words, the data was reliable with the research questions. All attempts were taken to eliminate personal opinions during the interviews and write up of the findings, "to minimize bias, maximize accuracy, and report impartiality" (Patton, 2002, p. 93). The dependability of this study will enable another researcher to replicate

the steps and to determine similar findings. Triangulation found in the audit trail has the potential to make this possible. The interviews, field observations, document reviews and researcher's journal are triangulated data for this study. The researcher's journal is the audit trail because the entries were recorded field notes and reflexivity notations. The audit trail will also consist of the data collection and notes found in the NVivo Pro 11 project file.

Confirmability

Confirmability is the ability to validate the study's findings by the reader or other researchers. The participants received a copy of their interview transcript to review as a transcript review for accuracy. Also, a researcher's journal will contain notes on the interviews, field observations, and documentation reviews. The details will consist of reflections on each data collection process, an analysis that reveals coding themes, and highlights of pertinent information from the artifacts. Miles et al. (2014) indicate that this course of action is gathering "backstage information" (p. 311), allowing the reader or other researchers to have a complete picture of the inquiry to understand and verify the process.

Ethical Procedures

The school district and principal(s) received my biographic information, my letter to the participants, and a reference to the IRB. Upon administrative approval, the teachers received an invitation to be a part of the study (see Appendix C). The participants received a brief description of each data collection instrument, an agreement form (which included their rights as a participant, highlighting anonymity), and detailed information about the study process. It is equally important to share the processes for data collection,

analysis, a research publication, and storage of findings. Therefore, all this information was provided to the participants. It was essential for the participants to know that this study would be professional.

Participant agreement documentation provided explanation of the five-year limit that the Walden Institutional Review Board (IRB) and Research Center have stipulated for holding collected data. The data for this study (recorded in physical copies and a flash drive) is in a safe. Audio recordings were uploaded in NVivo Pro 11 Pro for transcribing. A password-protected computer stores all other electronic data. I will destroy all data five years after the completion of the study. I intend to follow the ethical protocol in research studies. The protection of the participants' anonymity was by assigning each teacher a pseudonym to protect their identities. Transcript reviews of the findings were distributed with the individual participants to verify their results, to make sure that they were aware of what I planned to report. The purpose of sharing this information about the study process was to ensure that everyone is comfortable and understands the process. The purpose of sharing this information about the study process was to ensure that everyone is comfortable and understands the process.

Chapter Summary

This study was a qualitative case study on the perceptions of high school high school foreign language teachers about the suitability of computer-mediated communication applications to assist communicative language teaching. The chapter included an explanation of what a qualitative case study involves and why it was the appropriate choice for the present study. Repeat the most important points of the chapter in your summary; don't just describe them. It also contained a comparison and contrast to

other possible approaches, phenomenology, and ethnography: a case study does not center on past events or require the interviewer to immerse in the culture of the participants (Yin, 2013).

TAM2 was the basis of the data analysis. The constructs of perceived usefulness (social influences and cognitive processes) were the categories in the pre-coding. I chose a purposive, homogeneous, and convenience sample, to analyze participants who have a uniform set of working experiences. Each participant received a thorough explanation of the purpose and nature of the study along with an agreement to participate in the study. The teacher participants were guaranteed the anonymity of their identity, through the assignment of letters to replace their names. The intention was to reassure the participants that their time and views are valuable and were not for exploitation. The data collection consisted of classroom and building observations, interviews and any documentation such as lesson plans and written teaching standards. Transcript reviewing, triangulation, and a researcher's journal safeguarded the reliability and validity of the data.

Chapter 4 describes precisely how the data collection and analysis took place. A full description of the participants including their demography is an illustration of their professional experience. Each research question is answered following the TAM2 (technology acceptance model extension), which focused on the perceived usefulness about CMCA found in the results. Also, the chapter contains the coding process in the data analysis.

Chapter 4: Results

Introduction

The purpose of this qualitative case study was to explore and document the professional perspectives of experienced high school world language teachers. The intention was to learn the benefits and obstacles that they must consider teaching communicative language skills with computer-mediated communication applications. The intention was to explore possible reasons that would motivate or dissuade them from teaching with these applications. Chapter 4 presents the present study findings after a review of the research question, setting and demographics, data collection, and analysis.

The Research Questions

Central Research Question

Research Question: What are the perceptions of experienced high school world language teachers on the suitability of computer-mediated communication applications to support world language communicative language instruction?

In addition, the following sub-questions provided focus for gathering the qualitative data:

Sub-questions

Sub-question 1: What are experienced high school world language teachers' viewpoints about the benefits and obstacles of including computer-mediated communication applications to teach world languages?

Sub-question 2: What are experienced high school world language teachers' viewpoints about incorporating computer-mediated communication applications to assist communicative language teaching?

Sub-question 3: What are experienced high school world language teachers' viewpoints on whether teachers need technology expertise with computer-mediated communication applications to teach communicative language teaching?

Sub-question 4: What are experienced high school world language teachers' viewpoints about the role that the teacher plays when incorporating computer-mediated communication applications to assist communicative language teaching?

Setting and Demographics

The setting of the study was a public high school in Florida. Approximately 2500 students attend this school, with a high graduation rate and Advanced Placement (AP) courses and exams participation. The world language courses offer AP classes in Spanish, French, Latin, Chinese, but not in American Sign Language. A total of eight teachers make up the world language department, out of 90+ teachers in the site (the public high school). The student population consists of 2070 students which comprises 46% minority students, and 26% lower socioeconomic population. The student teacher ratio is 23:1.

The first step in the interview process involved the collection of the participants' background information. I entered the participants' real names into an online random name generator, Miniwebtool.com (Random name picker, 2017). The generator assigned the pseudonyms Teacher A-F, to replace their actual names. All teachers reported that they had 10 or more years of teaching experience. Three out of the six teachers taught

previously in a university. Four teachers were full-time world language teachers, but the other two were part-time. Teachers A and B were the only participants to report having sufficient familiarity with the five example CMC applications: (a) blogging, (b) videoconferencing, (c) Wikispaces, (d) social networking, and (e) instant messaging. Teacher E reported having CMCA professional development experience through an online course. Teacher D was enrolled (at that time) in a course about teaching with the Web. The others responded that they had minimal training, not enough to include CMCA in their teaching methods with confidence.

Table 1

Teacher Demographics

Participants	Years of teaching world language	Years teaching high school	Taught a world language at a University	Part-time or full-time world language teacher	Highest degree earned	Familiarity with blogging, videoconferencing, Wikispaces, social networking, instant messaging	Amount of Professional Development with CMCA
Teacher A	30 years	24 years	Yes	Part-time	BS	Adequate	Minimal
Teacher B	10 + years	10+ years	No	Part-time	BS	Adequate	Minimal
Teacher C	18 years	18 years	No	Full-time	M.Ed. & M.A.	Minimal	Minimal
Teacher D	10+ years	5 years	Yes	Full-time	M.Ed.	Minimal	Average
Teacher E	33 years	26 years	No	Full-time	BS	Minimal	Minimal
Teacher F	30 years	19 years	Yes	Full-time	M.Ed. & M.A.	Minimal	Minimal

Data Collection

After the Institutional Review Board (IRB) of Walden University granted research approval, the data collection began. Walden University approval number for the study is # 01-12-17-0164738. The site (school system) received my application requesting permission to conduct the study in late January 2017 and approved it in February. The

high school principal granted permission for the study to take place. Then, the principal sent my invitation letter to the teachers by email.

Although eight teachers received an invitation, only seven of the respondents met the criteria for the study. One teacher was ineligible because she was a new hire out of college (not a veteran teacher). The gatekeeper informed me about the years of experience of the other teachers during the conversation. The gatekeeper taught at the site for more than 10 years and stated that the other teachers did too. It was verified in the interviews. Out of the remaining seven participants, one teacher did not respond to the three invitation requests. However, the other six replied and agreed to participate. Fortunately for the study, the six participants yielded enough similar and diverse teaching perspectives to provide rich and thick responses. Their answers were enough to be categorized by themes and patterns (Janesick, 2011; Maxwell, 2013a). When the same type of data was emerging, I realized that data saturation occurred.

It was possible to complete the data collection within three weeks due to timely responses from the participants. I used a data collection log (a schedule of data collecting and meeting times) for organization. (See Appendix J) The individual teachers' classrooms were the main settings for the data collection. The meeting times took place after school or during each teacher's work period. They lasted between 60 and 90 minutes. The other field and document observations took place in the media center and two computer labs, after school, and each was approximately 30 minutes. The classroom examinations only took place the one time because students were taking standardized exams and class activities could not be productively observed, but the computer labs and media center were visited twice.

The interview was a predesigned (researcher) protocol that the participants received (email) before the actual interview (see Appendix E.). As a result, the in-person interviews progressed efficiently through the first interview phase. I used observation sheets to collect the documentation and field observations' data, which were recorded with a digital voice recorder, Livescribe pen, and a password protected iPad (see Appendix H and I). The observations were of equipment, documents, textbooks, and software related to using computer-mediated communication applications (CMCA) or communicative language learning.

I worked with various technological devices to record the data. I used a digital recorder and a Livescribe pen (as backup) to record all the interviews (with me as the primary research instrument). I worked with the camera on my password protected iPad for pictures of the classroom, computer labs, media center, and textbooks. Also, I uploaded all my digital recordings (voice recorder and iPad) to NVivo Pro 11 for organizing the collected data. Afterward, I deleted the recordings from the voice recorder, Livescribe pen, and iPad. The pictures remained on NVivo Pro 11 for the analysis, then they were deleted. The voice recordings remained on NVivo Pro 11 until I completed the transcripts, then they were deleted.

NVivo Pro 11 has a transcribing feature, which enabled me to create written transcripts of the interviews. I moved the transcripts to Microsoft Word for formatting. I then sent the transcript draft as a part of a transcript review email to the interviewees for verification of accuracy. I fixed the transcripts that needed corrections and completed the 66 pages of interview responses. The next steps were to upload the final transcripts in NVivo Pro 11 for the analysis process and to store the transcripts on a flash drive for

security purposes. The printed transcripts and the flash drive are kept in a safe and will be destroyed after five years.

Due to the standardized testing, the daily school schedule was adjusted to allow for students to have enough time to take the test. Therefore, the second interview schedule was adjusted, making correspondence through emails. It consisted of questions to clarify my notes and any questions about the interviews, documentation, and field observations. The teachers were very accommodating. Furthermore, after the first round of transcriptions were prepared, each teacher checked them for accuracy during the transcript reviews.

I kept a researcher's journal throughout the data collection period to organize my thoughts for both preparation (before the meetings) and reflection. After each interview, I recorded several notes about the participants' responses, field observations, and document reviews. The journal contained impressions and areas that I wanted to explore or pay close attention to with the next participant. I often referred to these notes during the analysis time.

Data Analysis

The analysis followed a deductive strategy using the constructs of the TAM2 model as a part of the pre-coding process and the final categorization of the revealed themes. Therefore, the pre-codes began with the perceived usefulness constructs: perceived ease of use, social influences (subjective norm, voluntariness and compliance; internalization of social influence, and image); and cognitive processes (job relevance, output quality, and result demonstrability). Also, some pre-codes were derived from the research and sub-questions questions (Miles et al., 2014). They were the following:

benefits of using CMCA, obstacles of using CMCA, time constraints, and professional development. I considered having a precode for teachers who were not familiar with CMCA, but decided to reflect on that possibility as I analyzed to see if it had any bearing on their decisions. Then, during the data collection stage, I made preliminary jottings to reflect on these pre-codes in my researcher journal (Miles, et al., p. 93, 2014; Saldana, 2013). I also used the memo feature in the CASDAQ (computer assisted data analysis software) NVivo Pro 11 to create an additional journal which, I used throughout the analyzing process.

I used the transcription feature in NVivo Pro 11, by uploading the digital recordings from my interviews. Then I completed the transcripts in Microsoft Word, which was easy to attach to emails. I sent the teachers their transcript to review and asked them to make a note of any changes or suggestions that they believed needed to be made. When I received them, I made corrections where necessary and uploaded each transcript to NVivo 11 Pro as individual cases. I created files (called cases in NVivo Pro 11) that consisted of each teacher's interviews, photos of their classrooms, and uploaded documentation (Bazeley & Jackson, 2014). Then the coding process began.

Coding

For the coding process, I used both NVivo Pro 11 and handwritten codes. I followed the listed steps, frequently taking and reviewing notes throughout the analysis:

1. First, I ran the autocoding feature called quick coding with text and search queries in NVivo Pro 11 on all the participant responses from the uploaded transcripts. Then I printed the report (Bazeley & Jackson, 2014, p. 112-113).

2. Set up a separate node process (codes are nodes in Nvivo Pro 11), and entered the pre-codes as nodes. They would later to become categories for the emergent codes.
3. Added in vivo coding (direct quotes) from the first participant's interview responses to the pre-code list followed a replication strategy (Bazeley & Jackson, 2014; Saldana, 2014, p. 91, Yin, 2013). For example, one code from Teacher A stated: "The benefit is accessibility to the language outside of the classroom."
4. Reviewed each participant's interview responses and used an immersion strategy as a part of the *within case analysis* to identify important statements from each teacher (Ayres, Kavanaugh, & Knafi, 2003, p.874). I discovered additional codes and themes, such as: interested in using CMCA, appropriate for high school, and in an ideal world.
5. Added the additional codes to the code list of pre-codes and in vivo codes.
6. Ran two other types of auto-coding in NVivo Pro 11 word frequency query and a node frequency query to identify repetitions across all the cases (Bazeley & Jackson, 2014; Miles et al., 2014; Saldana, 2014).
7. Downloaded and printed a codebook (contained both the quick auto-codes and my separate codes), a word frequency report, and a node frequency report. I reviewed the codes again and removed repetitions. As a result, there were a total of 35 initial codes. (See Appendix N)
8. Reviewed the codebook, reports, node list, and teacher responses again to find and group similar codes.

9. Created a node tree in NVivo Pro 11 of all the codes and moved the nodes (codes) into categories and subcategories (Bazeley & Jackson, 2014, p.95-103). Example: One category was: student immaturity; with the subcategories: students play with phone, come to class unprepared, students off topic
10. Ran a few rounds of coding in NVivo Pro 11 of all the participant responses, making several changes to the categories and subcategories.
11. Created sub-question matrices in NVivo Pro 11 of all the interview responses divided up by the categories and subcategories.
12. Printed the matrices, and reviewed them several times, by merging and eliminating codes and sub-codes, and identifying themes and patterns.

Once I was confident that I found enough repetitions in the responses to obtain saturation, I discovered six themes, which matched the TAM2 categories. The themes from the findings were:

- perceived benefits of CMCA,
- perceived obstacles of CMCA,
- high school students' immaturity,
- limited access to computers and the Web,
- preference of direct instruction, and
- insufficient content-specific professional development (See Figure 4.1)

I organized the participant responses by themes, and TAM2 categories. Most codes were representative of cognitive processes and concentrating on job relevance, output quality, and result demonstrability. Then I matched them with the appropriate sub-question. (See Appendix O)

Evidence of Trustworthiness

To address the credibility of the study, triangulation of data consisted of multiple ways to measure the teachers' professional views about the suitability of CMCA for high school foreign language courses. Transferability was best addressed by the field and documentation observations because they most likely are similar to many other high schools. The field observations of the classrooms, computer labs, and media center provided a visual of what computer and digital equipment were available for the teachers and students to use. The documentation reviews included textbook lesson plans and online access for both CALL (computer-assisted language learning) and CMCA activities. Furthermore, the media center made various supplemental software applications and documentation accessible for the teachers and students.

The interviews of more than one participant contributed to the credibility, because almost all the participants provided similar accounts. Each teacher had the opportunity to review their interview transcripts and make changes if deemed necessary. The analysis of the various data consisted of multiple reviews for similarities and differences among the participants' perspectives.

The dependability of the study came from the audit trail that I maintained. It consisted of the triangulation of the collected data and an audit trail of the data collection process (See Appendix J). The researcher's journal contained questions, concerns, and personal opinions to lessen opportunity for bias. The entries were reviewed numerous times before I analyzed and reported the findings. The answers to the research and sub-questions revealed consistent practices and philosophies. Moreover, all steps are written for replication of the study.

To ensure confirmability of the study, as mentioned, the participants and I conveyed questions, concerns, and verification by email about the data collection. All suggestions and corrections were made to the satisfaction of the participants before the analysis began. The pre-coding process consisted of organizing the TAM2 model into categories for each research question (sub-question), to appropriately synthesize the findings. After numerous reviews of the transcripts and nodes on NVivo Pro 11, the codes became themes of the answers.

Interview Results

Most of the participants were unfamiliar with CMCA and how it could be a part of communicative language teaching. As a result, it was necessary to provide a brief clarification of the use and the chosen examples (Wikispaces, blogs, Skype, etc.) for this study. A few teachers knew about Edmodo and Schoology (social networking for K-12), Skype (web-conferencing), and blogs. Two participants were familiar with Wikispaces. However, none of the participants were familiar with the alternative assessment e-portfolios, but they logically assumed them to be like paper (hard copy) portfolios.

The participants shared a lot of information about their work lives as world language teachers. They described their class expectations and philosophies about grammatical and communicative language teaching at the high school level. The teachers discussed their experiences (or lack of) with computer-assisted language learning (CALL) and computer-mediated communication applications (CMCA). Also, the participants provided lengthy insight into what they considered necessary to be successful world language teachers.

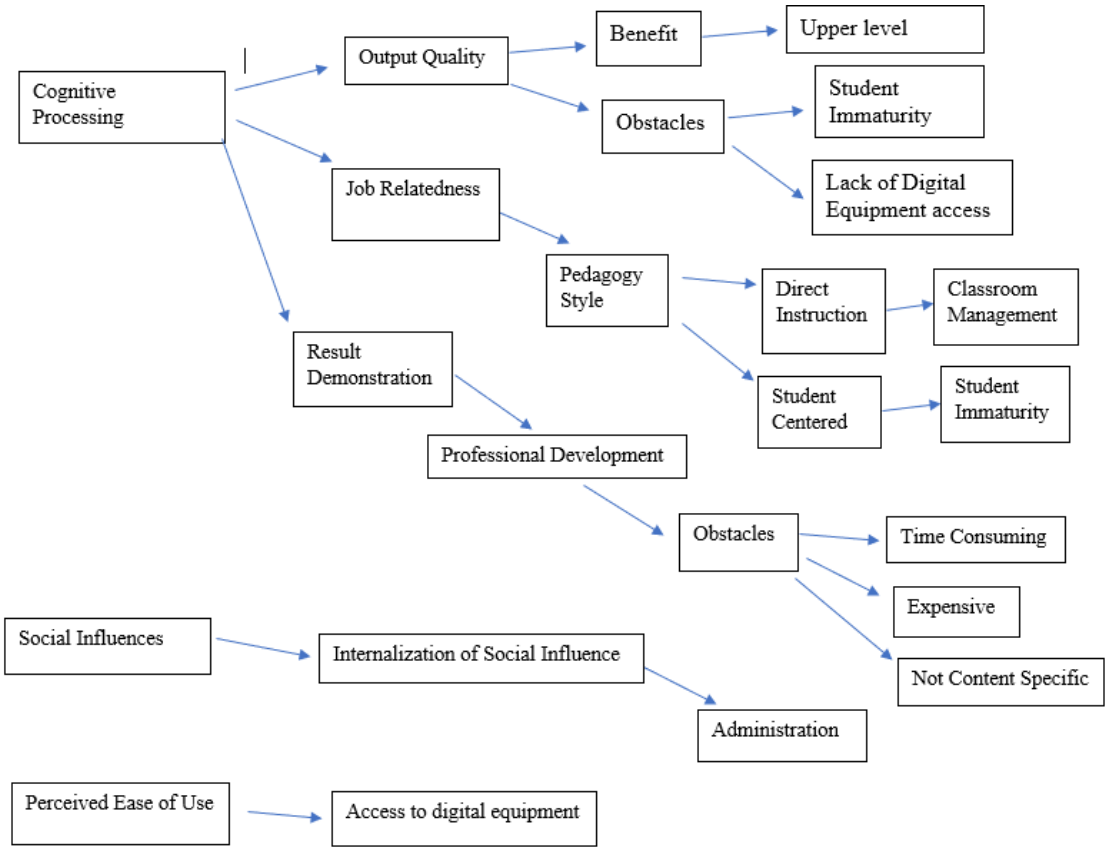

Figure 1. TAM2 Categories of interview response themes

The answers from the research question and subquestions came from the interviews, field observations, and document reviews findings. The interview responses are the first set of data presented because they were the primary source of information. The outcomes from the field observations and documentation reviews follow, with indication of how they either support or refute the interview findings.

The TAM2 model was the guide for the analysis of these results. The constructs of perceived usefulness were the categories for each theme. Those concepts are as follows: social influences, cognitive processing, and perceived ease of use. Social Influences include: subjective norm, voluntariness and compliance; internalization of social

influence, and image; and cognitive processes include: job relevance, output quality, and result demonstrability.

Research Question

The primary research question was designed to explore the perceptions of experienced high school world language teachers regarding the suitability of computer-mediated communication applications to support world language communicative language instruction. The teachers replied that CMCA had potential for enhancing communicative language teaching (CLT) by making it relevant and motivational. Some shared their interest in learning how to use the applications. Others recognized the advantages but preferred to continue with their traditional teaching practices without computer technology.

The teachers all believed that CMCA would be an exciting possibility to add to the high school curriculum. The participants perceived that CMCA offered many uses that would be beneficial to assisting language practice in higher level courses. They were not convinced that CMCA was currently suitable for lower level courses, but they were interested in learning more. The teachers suggested that college and university courses were more appropriate venues for CMCA. Because teaching with CMCA requires student-centered instruction, the teachers had concerns. They preferred to use direct instruction because they found that many high school students lack maturity and self-regulatory capabilities, especially in the novice courses. The participants contended that entry level courses needed to focus on building target language knowledge. However, the teachers proposed that CMCA assistance would be appropriate for higher course levels. They justified this by stating that levels III, IV and AP courses are where students know

enough of how to produce the target language to communicate. Also, they claimed that the students were older and more responsible. Therefore, student-centered methods could be implemented because the teacher could relinquish some control of the learning to the students.

A few of the teachers mentioned the new digital equipment that the school was acquiring that would offer creative possibilities, which their students would appreciate because many of them use tablets and the Web to communicate with their friends. However, the participants offered some recommendations that needed to be implemented for them to consider teaching with CMCA. The prime obstacles were access to digital equipment and content appropriate professional development opportunities. The teachers described examples of the digital divide in the classrooms and in the students' homes. They shared that their students did not have equal access to computers and the Web to at home, which would make it difficult to assign CMCA activities outside of class. Some teachers suggested that they would need to have complete control of the student computers and any other devices.

Professional development opportunities were a major concern because what is typically offered to them is not centered on world language instruction. They claimed that most training requires them to adapt activities and lessons to the foreign language curriculum. They also suggested that training was expensive and often difficult to schedule. The participants proposed content-based workshops that they could apply to their classes.

Sub-question 1: What are experienced high school world language teachers' viewpoints about the benefits and obstacles of including computer-mediated communication applications to teach world languages?

The following responses are examples of the cognitive process' category of job relevance, therefore characterizing the theme of insufficient content specific professional development. The teachers shared their experiences or lack thereof with CMCA. The teachers who used the applications received training. Those who did not teach with any CMCA did not receive any training. Most teachers had experience with Edmodo, but not for interaction. They used it primarily to post syllabi and other information. Teacher C stated: "I use Edmodo. Mainly I use it as a means of communicating to my students. Not so much as a way for them to communicate with each other." Teacher B also stated: "The only thing that I have used with my students as far as that's [CMCA] concerned is Edmodo. Not so much in a communicative manner, but as a sharing of information or documents, like the weekly agenda." Teacher D and Teacher F no longer use Edmodo with their high school classes. Teacher D stated: "Okay, I have used Edmodo at some point and…but I don't want using [sic] it anymore." Teacher F elaborated:

> The kids, they don't do it [Edmodo] very well. They either forget or [sic] unless it is like a routine. Like every Monday morning at 8 o'clock, you have to do this…then it's probably more effective, but I haven't found it very effective. So, I don't use it for high school.

Also, Teacher A, who used a different social networking application, agreed with the previous teachers' responses. Teacher A stated:

> I use Schoology, which is similar to Edmodo. It's the one that I did have some training, so that's why I chose that one. I've been using that for about 5 years. But I'm using it very much like a website. It's not really very interactive.

Perceived benefits of CMCA. The responses below signify the construct job relevance, which demonstrates the theme of perceived benefits of CMCA. The teachers gave their perspectives on the benefits of using CMCA in high school lessons. Teacher A stated: "Well yes, since you explained it [Wikispaces and communicative abilities in Schoology]. I can definitely see [sic] this being done. I would love to see that." Teacher B perceived CMCA as an invaluable application when she stated: "It's a huge motivational tool. It's real life. I think it would be awesome for learning real life communication, additional vocabulary. Just using language in a very practical and meaningful way… in an ideal world." A further agreement was found when Teacher D stated: "I mean, I think it is a good idea, okay, extra activities."

Perceived benefits of CMCA quality feedback. The responses below characterize the construct job relevance, which demonstrates the theme of perceived benefits of CMCA quality feedback. When the teachers realized that their students could submit both written and oral (MP3 recordings embedded) work on different CMCAs, some teachers discussed being able to give more detailed feedback to their students. Teacher B stated:

> If I had each of them record themselves where I could listen to it on my own time, I think it would end up with a fairer assessment. Right now, although I listen in class, my phone might ring, or somebody might come to the door or a student might have a question. When I grade one at the beginning of the class, after having heard all the others, I might realize the guy at the end, his was actually

> way better than anybody else. You have that ability to just look at it a little more closely in an ideal world.

Limited access to computers and the Web. The responses below characterize the construct job relevance, which represents the theme of limited access to computers and the Web. Teacher A's classroom had two computers and a video camera set up in the left-hand corner of the room, for recording student communicative activities. Teacher A stated:

> The biggest obstacle I have with my students is access to working computers. And this is not a lot [gestures to the two computers in the corner of the room], but it's enough not to be able to assign things on a regular basis.

Teacher F disclosed the frustration of unreliable computers. Teacher F stated: "I just don't like the computer thing very well. Because there's so much… The computer crashed… I have 30 kids, then two of them [computers] crashed… and that doesn't work, and this program doesn't open... It's just too much." (Teacher F was referencing that 30 students makes a class size large.)

Another concern was that not all their students had access to computers and the Web at home. Teacher B suggested a need for a "level playing field," where all students could have the same computer access. Teacher E clarified that having the computer labs can be helpful for students who do not have access at home. "The library opens the labs at the beginning and end of school, and at lunchtime." Teacher E stated: "Some of my students do not have computer access at home. It's hard to believe in this day and age [sic] that they would not."

Teacher E also reported that students without digital technology are not able to complete their work:

> It's the haves and the have-nots again. Those kids who have a computer at home, they do have that access and they can go home and work on a project or something at night. Those who don't, can't. It sometimes tends to widen a gap that's already there.

Teacher E further pointed out a concern that all the participants mentioned — the inconsistent availability of the computer labs. "We have computer labs, but they're not always available. Especially starting now in the spring time, they'll be used almost exclusively for testing where we will not have access." The participants indicated that these circumstances are obstacles to including CMCA. They also claimed that if their students were to use their phones, they would be off task and communicating with their friends.

Preference to direct instruction. The responses below signify the construct job relevance, which demonstrates the theme of preference to direct instruction. All the teachers maintained that direct instruction was the optimal approach to teaching high school students. They attributed this to their students' lack of maturity and self-regulation. They contended that collaborative activities or independent work to be done inside and outside of class would not likely be completed. All teachers expressed that not all students would take the assignments seriously in two prime ways: working collaboratively could make students feel intimidated by their classmates, and the students would not learn the language, but rather seek answers online.

Teacher A discussed how her students would not willingly participate in collaborative learning online or offline because of bullying and intimidation by other classmates. Teacher A stated: “If there is collaboration at the high school level, students tend to be intimidated to share their opinions. For fear of rejection or criticism. Bullying.” The statement continued to explain that students to not want to share their work with their classmates, when Teacher A added: “I would be setting my students up in the lower levels for failure because there are too many students who would not participate.”

When asked about Google Translate, most teachers had a story about the completely wrong translations that their students found. Their complaints were that they would not be able to control whether the students were doing their own work outside of the classroom. For example, Teacher D stated the following:

> Oh, I do have a problem with that [Google Translate] because that’s one of the reasons why I don’t want the students to have their phones, because I have had a lot of cases that they use the translator to do their work. So, they [the students] are not learning. That became a problem at some point so I’m very strict although they are doing activities. They don’t get their phones. You know the level (students’ working abilities), so you know that they have been using it, and yes, it is a problem.

Teacher F focused on the high school students’ lack of responsibility: “They really need some guidance, they really need to be trained, and need guidance or they have to reach a certain maturity level in order to do all these things like blackboard discussion and things like that.” Furthermore, Teacher D proposed a difference in the type of motivation that high school students have from college students:

> I would say, it's not like it's practical [teaching with CMCA], it's more like it is not applicable, that is what I think. It is not applicable because, the college students, like we were talking about, they are more mature. They are there because they have decided to [sic]. Also, they have paid for the class, so they have to take [sic] the best of it… But the students in high school, many of the students, first of all, they are immature… They are still thinking of other things outside [of] class, where they are going to see their girlfriends and things like that.

Additionally, each teacher suggested that teaching with CMCA would not work for their level 1 and level 2 (novice) classes. Teachers D and E stated that they rarely work with a lot of sentence building in their level 1 classes because of the amount of material and structure of the course curriculum. Contrarily, Teachers B and C reported teaching more sentence structure in level 1, but insisted that CMCA was not appropriate in the early levels. However, the participants recommended including CMCA in upper-level courses.

Perceived benefits to using CMCA. The responses below signify the construct job relevance, which demonstrates the theme of perceived benefits to using CMCA. All participants contended that higher-level courses call for more usage of the language through conversations and written work. The teachers reiterated that beginner (level) classes were the equivalent to elementary language learning. Teacher C expounded on the course level differences when she stated:

> I think maybe the impractical nature of it (teaching with CMCA assistance) is… Especially at the lower levels, you tend to get [a] wide range of not only abilities,

> but motivation and often large classes where it ends up being one or two students take on the majority of the work and then the other ones don't.

The teachers advised teaching with CMCA in higher course levels because the students tend to be more responsible, mature, and more likely to use higher order thinking. Teacher C stated:

> I think it's more doable at the upper levels where you got smaller classes, usually, and more motivation. I think, at least for me in the upper levels, like in my AP class, I'm trying to do so much with them.

Teacher F reflected for a few seconds, then replied:

> Edmodo, there are some benefits they can… Yeah, I could... Okay, there could be some activities I do for those high levels, like I can have subject [sic] for discussion. Everybody has to post like, three arguments that you are pro or con, things like that, that I just monitor.

Perceived benefits to using CMCA. The responses below examples the construct job relevance, which demonstrates the theme of perceived benefits to using CMCA. There was a pattern of responses where three teachers, A, C, and E, disclosed their perceived benefit of practicing the foreign language learning *outside* of class. Teacher A stated: "I find that the students who are motivated would probably do quite well with it. Especially those who are self-starters. The benefit is accessibility to the language *outside* of the classroom." Teacher C exclaimed: "I mean, I think it'd be great, yeah, absolutely. Getting them to communicate outside of classroom, use what they're learning in the classroom. It's more like they're directing it, even though you've got it set up. Yeah."

Also, Teacher E included the term *outside* to suggest the benefit of learning beyond the scheduled class time. Teacher E elaborated:

> Well, I mean any outside practice, any outside [sic] that they can do, outside the 50 minutes they're in my classroom, always benefits them. I don't care what kind of practice it is, whether it's online or whatever. I think any outside of the room… I have a lot of students, once they hit that door they don't think about [the target language] until they come back in again, but if they were to use it, I think it would be wonderful, because it gives them [counts fingers on left hand] …There's audio, there's video, there's all kinds of things out there that would be wonderful.

The teachers were not familiar with various features of CMCA; they postulated the appropriateness of using CMCA in CLT. The consensus was that under certain conditions, there was potential to teach with CMCA in high school world language classes. However, the teachers agreed that high school students need direct instruction and guidance from teachers to learn the language. Also, the participants did not provide direct responses to the categories of social influences and perceived ease of use. Some of what you say below does seem to address ease of use. However, they gave insight into the cognitive process constructs of job relatedness and output quality.

Sub-question 2. What are experienced high school world language teachers' viewpoints about incorporating computer-mediated communication applications to assist communicative language teaching?

Linguistic and communicative competence. The responses below characterize the construct job relevance, which represents the theme of linguistic and communicative competence. Teachers claimed that their concentration was on teaching the mechanics of

the target language. They proposed that teaching for linguistic competence was the foundation to teaching students how to interact using the target language. Teacher E stated: "I also feel like in levels one and two, you got to know how the language works." Teacher F presented a requirement for deciding to include CMCA:

> I think classroom instruction to me is more like [to] help them build a good foundation. I make sure the kids write properly, speak properly, [and] with correct grammar. And then if they want to learn more, they can go using apps [sic]. They can learn, expand their vocabulary using apps, [and] send instructions using apps.

Teachers C and E reinforced this perspective by describing their practices and beliefs. Teacher E stated: "And what I try to do is I tell them, 'I'm teaching you how to say it and then hopefully you'll… by learning how to say it or the proper way to say it, then you'll be able to say it.'" Teacher C stated:

> I also feel it's important to learn a language correctly from the beginning and along with that comes grammar, because there's nothing worse than somebody who has been studying a language for years and they [sic] still…make basic grammar errors.

In contrast, Teacher D maintained that the communicative competence approach (teaching both grammar and communication instruction together) was the best way to teach high school world languages. Teacher D stated:

> I think it has to be half and half, we have to because we want to talk, we want to say the sentence, we want to speak, but they need to know how to do it correctly. I think it has to be a balance. You give them the basics: how to conjugate a verb, how to put a sentence together, how to write a paragraph... We do both in class.

Interestingly, Teachers A and E, who both also deemed that grammar was the foundation to communicative language learning, said that sentence structure was not a big part of their instructional focus. Teacher A stated: “Not a whole lot (of sentence structure), but I mean, it’s obviously important. But, it’s well-intertwined with it.” Although Teacher E stated: “We just really don’t do very much writing. Not in level 1 and 2... We really don’t… just very elementary kind of things.”

Teacher B gave a different reply. Although agreeing that grammar was the foundation to communicative language learning, Teacher B explained why a direct instructional approach worked best. Teacher B stated:

> Grammatical, [is] easy to deliver, easy to assess, [and] not terribly time-consuming. Okay, grammatical is a lot easier to evaluate. Meaning you teach a concept, they practice it, and then they have a test and it’s easy to evaluate objectively. However, it does seem to be a reasonable response on the part of teachers to an environment where there is heavy emphasis on standardized testing and little emphasis on communicative competence or language acquisition as opposed to language learning. (Maybe this teacher’s response is indicative of the existence of social pressure of a sort.)

Preferred teaching style of direct instruction. The responses below signify the construct job relevance, which demonstrates the theme of preferred teaching style of direct instruction. Since the teachers did not have experience teaching with CMCA, most of their responses were from previously taught lessons that required collaboration or included computer-assisted language learning activities. All teachers claimed to prefer

teacher-centered methods. They justified this because they could control the learning and classroom behavior.

The participants shared definite views about teaching with collaborative activities in and outside of class. Teacher A said that there was "not a whole lot of collaborating, no," in her teaching practices. Teachers B and C did not include collaborative activities either. Some of the participants expressed a need to keep activities individualized and structured because some students were irresponsible. Teachers B and C gave negative experiences. Teacher B preferred assigning independent projects and rationalized this with the following statement:

> Again, the main reason that I would shy away from it (collaborative activity) becoming a group project [is due to] the hindrances that happen with the group. We do something as making a scrap book page together in groups. Day one everything's good. Day two, 'Oh, my partner is not here today.' Day three, 'Well, my partner was supposed to do that, but they weren't here the other…' You know? There's just so many of them and there are so many reasons and excuses. It's just easier if they're each responsible for their own part.

Those teachers who include collaborative lessons and follow the ideas of communicative competence expressed their views on using CMCA to assist this teaching method. Teachers D and F indicated that CMCA does not fit their traditional teaching styles. Teacher D stated:

> I guess it is a personal choice of whatever the teacher likes better… I would rather just see them doing it [collaborative work] right here, maybe I'm old fashioned

> but… This is my personal opinion. Either way, to me it would be okay because the most important thing is that they do it correctly.

Similarly, Teacher F's preference was traditional teaching without collaboration and computer technology. The reason was not only based on how she taught, but how she learned in school. Teacher F stated: "I have not done that using [the] computer. I have not tried those. I'm not very good at collaborative learning, [or] those tasks, because of my background."

Teacher B reiterated that CMCA was supplemental and that the lack of computer access was a deterrent to assigning collaborative activities with those applications:

> I think you don't need a computer, you don't need a lot of technology to do that kind of instruction [communicative language learning], but it's something that I would be really excited about being able to implement… I think it would be super important, but we have the hurdles of it just not being available to everyone.

Perceived obstacles of CMCA. The responses below signify the construct Output quality, which demonstrates the theme of Perceived obstacles of CMCA. Teacher C also offered a frustrating experience with collaborative activities and teaching with computer technology:

> Things just changed, and I stopped doing that type of project-based assessment as much I used to. I used to have them do little booklets, but I have found that over the years with technology… When I have them do projects, the quality is less than it used to be. The quality is less. They don't see it as… I don't think they take it as seriously because it isn't a test. I just kind of got to where I was frustrated, and I

> think I slowly but surely stopped doing those things because I felt like I just was getting junk. Yeah.

Access to digital equipment. The responses below signify the construct perceived ease of use, which demonstrates the theme of access to digital equipment. The participants provided some insight into the reality of the digital divide and the inconsistent availability of the computer lab, the two factors that they insisted would complicate the possibility of assigning CMCA activities. The teachers declared that, without enough available and working student computers, it would be impossible to assign activities that use CMCA. Teacher C stated:

> A lot of this has to do with having Web and computer access at home. Some kids still do not have this. They could do it at school, but if we have testing, like we have next week, then the library is closed. So yes, it can be done in a perfect world, but it won't be in the real world [at our school].

Teacher D justified this with the following statement, by further describing how teachers can only work with the equipment that they have:

> I don't have anything that would be supported here in the classroom. I can't do it because I don't have the equipment in the classroom. If I want to do something like that, I would have to go to the lab to do it. We go to the lab sometimes, but I couldn't do it on the regular basis.

The consensus was that accessibility to computers and the Web are their biggest reason not to include CMCA in their instruction.

Preference to direct instruction. The responses below characterize the construct job relevance, which represents the theme of preference to direct instruction. Each

participant described ways that the immature nature of their students makes them reluctant to incorporate CMCA, especially if it is not monitored by the teacher in class. Teacher D gave her theory on the lack of focus in class: “The students in high school, many of the students, first of all [sic], they are immature… Even their minds they are not in the classroom. They are still thinking of other things outside class.” Teacher F expounded this perspective by stating: “But high school students, it is hard to get them online…They're on the phone to talk to friends but it is hard to get them… I don’t know about other teachers, but I find it's very ineffective.”

All participants contended that there was another aspect of high school students’ immaturity that they were concerned about. The teachers worried that for CMCA projects outside of the classroom, most likely some students would turn to a native speaker or an online translator, such as Google Translator. Teacher D stated:

> If it wasn’t because I know that they would be using, maybe using, a translator, that’s my problem, the translators because especially for my topic. Because they can bring a masterpiece and how am I going to know if they or they could have gotten with somebody who speaks [the target language] which there are a lot of students here.

Also, the teachers indicated that Google Translate was a huge point of contention. For instance, Teacher E stated: “Google Translate, I hate it! Students use it all the time and I tell them all the time it comes out with these crazy translations.” The participants all insisted that unmonitored use of the CMCA would open up the opportunities for students to use online translators.

The teachers identified grammatical competence as the basis of communicative competence. They maintained that novice courses were not appropriate for CMCA because communicative competence was not a major instructional objective at that point. But maybe the instructional objectives should be revised. The teachers justified this by clarifying that teaching beginner courses is the equivalent to teaching at the elementary level. They insisted that it was their duty to instill a strong foundation in language knowledge before encouraging students to interact (using the language). Also, the participants suggested that this and the lack of maturity would hinder the students' abilities to communicate effectively using CMCA.

Following the TAM2 model, the responses suggested the categories of perceived ease of use and cognitive processes (job relevancy and output quality). The participants' replies did not directly indicate any social influences on their views. As a result, the themes found for this question were: linguistic and communicative competence; the preferred teaching style of direct instruction (for adolescents), student immaturity, and access to computers and the Web.

Sub-question 3. What are experienced high school world language teachers' viewpoints on whether teachers need technology expertise with computer-mediated communication applications to teach communicative language teaching?

Recognized importance of technological knowledge. The responses below characterize the construct job relevance, which represents the theme of the recognized importance of technological knowledge. The teachers responded with varied views of including technology knowledge with content and pedagogical knowledge per the TPACK theory. Teacher A stated:

> I think it is important to use technology, there is no doubt about it. It's pretty much mandatory for me. Even the video cameras that I am using. Even right now the video camera is plugged into the computer, you see it's charging with its little tiny tri-pod. I couldn't do [teach] this class. It makes it much more effective and efficient…. I'd love to have more.

Also, despite some of Teacher D's previously reported preference to teaching without computers, Teacher D stated: "I think, as teachers, we should keep up with what's happening in the world, that is for sure. The kids know much more about technology though, that upsets me… So, I do believe we need to catch up." Teacher E also reported to be in favor of technology knowledge. She gave her response after reflecting on the question, then stated: "Oh, I definitely think it's something I should work on personally, because I'm not a technological person… I should probably use the computer and access to the computer more, so that my students have that ability."

In contrast, Teacher C claimed that foreign language teacher knowledge does not need to focus on technology inclusion and suggested that it overpowers the purpose of the lesson. Teacher C stated:

> I think I kind of disagree, because I feel like, at least from the standpoint of a foreign language teacher, most of these kids… This is their first experience learning a language and that's pretty all-encompassing without adding in technological savviness.

Teacher F added a perspective that none of the other teachers disclosed. Teacher F suggested that educators have always displayed technology knowledge: "To me, a pencil can be technology too. Beside humans, anything that assists instruction could be

considered technology. It all depends on how you define it. Technology is not only electronic devices." In other words, teachers who know how to use those examples of technology have technology knowledge.

Insufficient content specific professional development. The responses below demonstrate the social influence construct compliance, which represents the theme of insufficient content specific professional development. When further discussing the TPACK theory, participants spoke of their textbook, independent, and school district training. Although they agreed with the necessity of learning how to include digital technology, they conveyed concerns about training. The teachers said that they were not trained on most features in the textbook series. They claimed the same to be true for a lot of school-provided equipment, which they suggested was a misuse of time and money.

Many of the participants reported that they were given incomplete training for textbooks and new district-assigned equipment. The participants declared that the textbook sales representatives tended to be more concerned with selling their products than training instructors how to use them effectively. Teacher E stated:

> Sometimes the textbook companies offer it [technology training that supports the textbook]. When they sell us the textbook, they will give us technology training. It didn't work out for us this last time.

Teacher C gave a similar account about how training tends to be too short and not enough to make them confident in using the technology features. For instance, the textbook that was recently adopted provided training on all materials, including how to use the computer-mediated communication component. Teacher C shared that the textbook

preparation was not long enough: "[We were coached] very minimally. The company provided a three-hour training."

Insufficient content specific professional development. The responses below signify the internalization of social influence, which demonstrates the theme of insufficient content specific professional development. The teachers expounded that innovative features in textbook series were useless without training, and they were equally concerned about receiving new district-issued equipment without proper coaching. Teacher E defended these concerns by stating: "We need a training time… It might be helpful if they taught us how to do it, showed us how to do it [use specific technology features]." Teacher E described a colleague's experiences with school-provided large screen televisions and tablets:

> With the TV comes a tablet, but the teachers who already have the TVs and the tablets were given them, but no training… I was talking to another teacher who said his tablet doesn't even work and he doesn't even have anybody to call to help him with his tablet.

Teacher B expounded on this claim by recounting a short time frame for the training: "I would say like an hour, an hour to understand… I'm going to go to the training again, because I don't know how to do everything… I need to go back to the basics of it."

Identified professional development issues. The following responses are examples of the perceived ease of use category therefore characterizing the theme of identified professional development issues. The participants disclosed the realities of professional development for world language teachers. They claimed that training sessions for technology inclusion could be problematic because of the costs and

difficulties in finding time to attend workshops. Teacher A stated: “Money for training is not like it was before. It is too expensive to pay for on your own. What I do is specifically what I have learned on my own.” Likewise, Teacher F expressed: “Mostly I learn by playing around [with] it, and the kids taught me.”

Contrarily, Teacher E insisted that learning to incorporate technology without guidance was not a possibility. Teacher E stated:

> They’ll always say, ‘Oh, just play with it.’ But, I just truthfully don’t have the time and don’t have the wherewithal to do it. I’ve got 200 papers sitting on my desk right now that I need to grade. I can’t.

When considering what time during the year would be appropriate for professional development, Teacher E stated: “But not, I think, during the school year. It’s too difficult. It needs to be either pre-planning or at summer, which nobody wants to take a class over the summer, but…”

Teacher B added another issue found with training sessions:

> I think it [computer technology training] would be important, but I certainly wouldn’t want to sit at a professional development about it if I weren’t going to have the tools to be able to carry it out. That would feel like a frustrating waste of time.

Teacher D supported this by stating: “Right now, I’m taking a class; it’s not just for foreign languages, it’s just in general. They [are] just giving some tips on how to use technology. And yes, I would be interested, because I could implement something some time.”

Content area professional development. The responses below characterize the construct job relatedness, which represents the theme of professional development. Most participants reported that they had not experienced technology training focused on foreign language instruction. Teacher D stated that it was "Not exactly for 'FL' [foreign language classes], [I] will have to adapt [to match world language pedagogy]." Teacher D further expounded on how technology professional development has not been applicable to world language teaching practices:

> It's not usually our area. Their concentration is Reading, and English, and Math. Now science has become a big thing too, so a lot of it is directed more there. Now, I'm sure that there is technology training that we could use to apply to our area, but not really anything that has, [sic] like foreign language.

Teacher C's statement corroborated:

> Nothing is ever specifically for foreign language teachers, ever. We are always blocked in with either Language Arts, or Social Studies, or sometimes Fine Arts. It's nowhere near… Yeah, I want it to be something that I can apply to my subject, my discipline.

Ideal professional development. The following responses are examples of the cognitive process' category of result demonstrability, therefore characterizing the theme of ideal professional development. The participants were asked to provide suggestions for what they would deem as *ideal training*. Their responses included training that would be applicable to foreign language pedagogy to ensure the successful learning of their students. Teacher A stated: "It would be with other like-minded teachers. It would be with other language teachers because I am able to take information and make it my own."

Teacher B expressed interest in receiving "training by a teacher that is currently teaching, showing me what she actually does, or he actually does." Moreover, Teacher F stressed that the trainer has to focus on practice and limit the training to theory: "It's not just theoretical. Your professor talking about middle school, high school foreign language teachers should teach in the classroom. [Especially] if you don't even know the practical issues in the classroom."

Teacher B suggested an ideal example of how the equipment should be made available to students and teachers: "There are lots of schools where they call themselves 'one-to-one', where each student has as a common piece of technology with all the other kids in class. It'd be very important for that teacher." Teacher C also described ideal professional training:

> I mean, it would be directly suited to foreign language instruction, and that's what we don't have. Nothing is ever specifically for foreign language teachers, ever. We are always blocked in with either Language Arts, or Social Studies, or sometimes Fine Arts. It's nowhere near, yeah. I want it to be something that I can apply to my subject, my discipline.

The teachers responded with mixed views about the necessity of technology knowledge for high school foreign language teachers. The group agreed that being able to teach with technology was significant to their instructional objectives. Your second sentence appears to contradict the first sentence. They also concurred that it use any computer-assistance language learning (CALL) at all approved. On the other hand, they suggested that if world language teachers become too involved with computer technology, they lose quality teaching experiences. They contended that the goal is to

teach students to be proficient in the target language, not in technology. Nevertheless, the teachers acknowledged the importance of quality technology-focused professional development and learning techniques from colleagues.

Following the TAM2 model, under the category of social influence, the participants' answers divulged examples of voluntariness and compliance. For instance, three participants reported that they voluntarily had training and experience with webpages and applications, such as Schoology and Edmodo, which was not a requirement at their school. Other teachers reported examples of compliance when they described their participation in the district and textbook company training organized by the administration. Also, some participants received equipment with minimal training. They justified the requirement to know how to use the tools because the administration would not have otherwise issued the digital technology, which is an example of internalization of social influences.

Sub-question 4. What are experienced high school world language teachers' viewpoints about the role that the teacher plays when incorporating computer-mediated communication applications to assist communicative language teaching?

Teacher as a direct instructor. The responses below signify the construct job relatedness, which demonstrates the theme of teacher as a direct instructor. Most participants insisted that it is the high school world language teacher's responsibility, as a direct instructor, to establish a strong base of language knowledge, particularly at the novice level. At the teachers insisted that teaching should focus on vocabulary building and linguistic competence.

Teacher F elucidated:

> They don't have the basic skills yet, especially a foreign language at the basic level, level 1, 2, they don't even have the material to construct things yet, how are you going to talk about constructivism? That they need to take control. I think it's like building a house, the foundation is very important. The architecture, no matter how talented you are, you can design a beautiful house. The foundation, there is not much creativity in the foundation, it's just a solid foundation. You need that concrete on the floor before you become creative.

Teacher B relayed her preference of style: "with the students that we have, it would have to be direct instruction." Teacher E also stated: "I think as a level 1 and level 2 teacher, I need to be more of the direct instructor." Teacher C elucidated student self-regulatory capabilities for this decision: "I think again, it depends on the maturity of the student. I think when they're [in] lower levels, probably more direct instruction, and as they gain confidence in a language and maturity, then move more into like communication-based." Teacher D proposed why the direct instructor role was preferable if the CMCA includes work outside of the classroom: "Yes, I prefer that [they work in front of me], because I don't know how they actually do their work." This response also included that teachers do not know whether the student is doing the work, or having someone else do it, or even using Google Translation.

Some teachers proposed that a high school world language teacher would be both a direct instructor and a facilitator during CMCA activities. They used their current teaching styles to support their views. Teacher A stated: "Even now, I feel like I am a facilitator. I should be. There's that component of direct instruction, but more so I prefer to keep the communication going on." Teachers C, D, and E's responses supported

Teacher A. Teacher C suggested: "I think again, it depends on the maturity of the student. I think when they're [in] lower levels probably more direct instruction, and as they gain confidence in a language and maturity, then move more into like communication-based." Teachers D and E further proposed:

> Well, I believe my role is in some way a facilitator. Yes, but your main obligation or purpose is to give the material to give the information they need to do it their selves. I would be a facilitator once I gave them the basics they need. But I'm facilitator even if it's with technology or no technology. (Teacher D)
>
> Well, I think you have to start as the direct instructor and then move to the facilitator, because I think the kids need the direct instruction first. Just sticking them in front of a computer and saying, 'Do the work' I don't think that helps them… Do the direct instruction and then say, 'Okay, now we're going to use the computer or blog or whatever to expand on what you've learned.' I think the direct instruction has to come first. (Teacher E)

When Teachers A, B, and C discussed CMCA in the higher-level courses, they proposed that in these classes, teachers could play a larger role as a facilitator than as a direct instructor. For instance, Teacher B declared: "In level 3 and AP, different story. We could be more a facilitator, but in level 1 and 2, we don't have the maturity and the motivation [of the students]. That's my opinion." Teacher B's response coincided: "In an ideal world, probably better, because you could have more time to process their work and be more thoughtful about your response, in an ideal world where you have time." Also, Teacher A explained how using the Flipped Classroom teaching method allows for teaching as a facilitator, which would work with CMCA. Teacher A stated:

> It's when the kid goes home and learns something, and then [brings what they have learned] back to class. The Flipped Classroom. So, it's the same type of philosophy. We go to the computer lab, and I will give them something that will challenge them. Then we will come back and discuss it.

Feedback. The responses below signify the construct job relatedness, which demonstrates the theme of feedback. The participants communicated their views about giving students feedback when assessing an activity through computer-assisted language learning (CALL) and potentially CMCA. Teacher E spoke about the instant feedback, and disclosed their practices and thoughts on giving feedback:

> I hear some other teachers talking about when they do activities using the computer; that the kids get instant feedback as far as whether they have a correct answer or incorrect answer. That's good, because a lot of times when I've got 30 kids in here, I can't tell everybody whether they're doing it right or it wrong until I've graded their papers. That's not always immediate. Like I said, I've got a couple hundred over there I need to grade that would get a couple of days before they get them back.

Teacher B revealed that using CMCA could be a beneficial way to provide students with feedback: "In an ideal world, probably better, because you could have more time to process their work and be more thoughtful about your response."

Teacher F conveyed a unique experience that enabled the teacher to give immediate feedback although the students were working on the computers:

> If you have a switchboard on the front where you can monitor every student, you can Skype, you can talk to each student. I taught in a lab like this before, the

> student can press the button and I'll see the button, I see the number, so I can converse with the students who struggle and it's not going to destroy other students because they have earphones on, they don't know.

Once again, most of the participants had not taught with CMCA, and therefore, they were only able to make assumptions of what kind of feedback they could give to students. Teachers C, D, and E all acknowledged the instant feedback from CALL, but they insisted that a computer cannot give the *human* element that is necessary in providing feedback to high school students. Teacher C stated: "I guess, because I know them (the students). I know who they are. I know where their weaknesses are, and the computer obviously doesn't." Also, Teacher D stated: "I can give them feedback whenever I see it. If it is in the video or if it is in person. I can still do the feedback." Teacher E expounded this perspective in more detail:

> I can also give them that physical pat on the back, or yeah. Yes, they get a little bit of positive reinforcement from a machine, but I think that getting it from a human being… Which some of these kids, don't get any positive reinforcement from anybody, and sometimes that pat on the back that I give them is probably the only pat on the back they get that day.

The teachers gave their philosophies of what a teacher's role and responsibilities are when teaching with technology in a high school second language course. They maintained that direct instruction works best because of the needed classroom control. Some teachers said that it was important to monitor their students' work to make sure they stayed on task and avoided any distractions from the Web or their classmates. Also,

they insisted that their prime objective was to make sure that they were teaching the basics of the language.

Each participant also proposed their abilities to provide quality feedback to their students when using CMCA. They recognized that with CALL, students would get immediate feedback. They said that this was helpful, especially when they had large classes. The teachers suggested that because CMCA allowed them to be facilitators, they could give detailed comments and suggestions, which they viewed as essential to student learning and development. They insisted that providing feedback online could not take the place of non-verbal assurances, such as a pat on the back or a smile.

Following the TAM2 model, the participants did not provide responses to the categories of social influences and perceived ease of use. They gave insight into the cognitive process construct job relevance. The themes revealed were: teacher as a direct instructor, teacher as a direct instructor and facilitator, and feedback.

The primary research question was designed to explore the perceptions of experienced high school world language teachers regarding the suitability of computer-mediated communication applications to support world language communicative language instruction. The teachers replied that CMCA had potential for enhancing communicative language teaching (CLT) by making it relevant and motivational. Some shared their interest in learning how to use the applications. Others recognized the advantages but preferred to continue with their traditional teaching practices without computer technology. Also, the teachers agreed that CMCA would better assist CLT in the upper level more than the novice classes because of the higher level of grammatical competence.

The participants suggested that college and university courses were more appropriate venues for CMCA. Since teaching with CMCA requires student-centered instruction, the teachers had concerns about classroom management issues. They insisted that students would be off topic when using digital equipment and CMCA. The participants gave examples such as: texting or emailing their friends, going to sites that are not academic (that were not blocked by the school district), and talking with their friends. They preferred to use direct instruction because they found that many high school students lack maturity and self-regulatory capabilities, especially in the novice courses. The participants contended that entry level courses needed to focus on building target language knowledge. However, the teachers proposed that CMCA assistance would be appropriate for higher course levels. They justified this by stating that levels III, IV and AP courses are where students know enough of how to produce the target language to communicate. They also contended that students in these courses were serious about learning the language. The participants maintained that these students would not need constant direction from the teacher. Therefore, student-centered methods could be implemented because the teacher could relinquish some control of the learning to the students, and then guide them although they worked.

The teachers all believed that CMCA would be an exciting possibility to add to the high school curriculum. A few mentioned the new digital equipment that the school was acquiring that would offer creative possibilities, which their students would appreciate because many of them use tablets and the Web to communicate with their friends. However, the participants offered some recommendations that needed to be implemented for them to consider teaching with CMCA. For instance, they suggested that

students and teachers should have equal access to digital technology (in school and at home), and content specific professional development opportunities by teachers currently teaching with CMCA

The prime obstacles were access to digital equipment and content appropriate professional development opportunities. The teachers described examples of the digital divide in the classrooms and in the students' homes. They shared that their students did not have equal access to computers and the Web to at home, which would make it difficult to assign CMCA activities outside of class.

Professional development opportunities were a major concern because what is typically offered to them is not centered on world language instruction. They claimed that most training requires them to adapt activities and lessons to the foreign language curriculum. They also suggested that training was expensive and often difficult to schedule. The participants proposed content-based workshops that they could apply to their classes.

Field and documentation observations

The purpose of field and document reviews for case studies is to find out how the observations corroborate and enhance the findings from the collected data (Yin, 2013). As the interview responses were the main source of data for this study, the observations supported and refuted the participants' accounts of their teaching materials, claims of the difficulty to access student computers, and concerns of having equipment that they are not able to fully utilize. The field observations were descriptions of areas where students primarily worked on their lessons. The document reviews were versions of required texts, student permissions, and class expectations.

Field observations

After the most of the first interviews, there was time for the observations, which were approximately 30 minutes. Most were conducted after the first interview. Upon completion of the reviews of the equipment and the classroom layouts, I took detailed notes in my researcher's journal. Afterwards, I referred to the participants' interviews to examine how the observations supported or refuted their responses.

The classroom observations provided data to answer Sub-question 1 which was was designed to explore the viewpoints of experienced high school world language teachers' about the benefits and obstacles of including computer-mediated communication applications to teach world languages. Classroom observations were also used to answer Sub-question 3 to determine the viewpoints of experienced high school world language teachers' viewpoints on whether teachers need technology expertise with computer-mediated communication applications to teach communicative language teaching.

Each room was decorated to reflect the appropriate target language. Authentic decorations, such as posters and maps, hung on the walls. Every classroom had one to two tables covered with culturally represented tablecloths and artifacts. A set of 30 student desks were in the center of the classrooms, which occupied much of the room. No extra space was available to add student computers. In fact, in all the rooms, the teacher desks had a limited area. Consequently, the lack of student computers verified the teachers' claims that they did not have the equipment to assign computer-based activities. Teachers could not assign lessons that required students to work on the Web during class

time. For that reason, it also clarified why the teachers preferred to teach without technology.

The teachers' desks were in the front of the classroom, on the left or right side. The instructor's PC had connections to the VCRs and DVD/CD players, which sat on a nearby shelf. Also, the teachers' computers were connected (wired) to a large projector attached to the ceiling in the center of the room. The projector pointed directly to a screen connected to the chalk or white board. Only one classroom had a flat screen television for projection. Teachers B and E both mentioned this in their interview responses when they gave reasons for their dissatisfaction of having technological equipment that was not supported by adequate training.

In the back of the classrooms were one or two small bookshelves that held the class set of textbooks for each course. Behind the shelves were two sets of closets attached to the walls. Both sets had double doors with locks. They contained DVDs and VHS video tapes, books, and supplementary references (dictionaries and culture-related books). Three teachers also used these closets to store their video and digital cameras and mp3 players.

In their interview answers, the teachers asserted that they did not have enough technology training to use digital technology for second language teaching. For instance, the participants claimed to not know how to use e-portfolios. Additional training on using this equipment (the digital camera and mp3 players) to archive student work is an example of how the participants have district-issued tools but do not know how to fully use them, which supports the teachers' assertions.

The media center observations partially answered the Sub-question 1 and Sub-question 3, which looked at the viewpoints of experienced high school world language teachers' on whether teachers need technology expertise with computer-mediated communication applications to teach communicative language teaching.

The media center was in the center of the school building, surrounded by hallways that led to various wings of classrooms. The foreign language wing was very close by and to the west. Therefore, the location was convenient for the world language teachers to take their students when needed. The media center itself had 30 computers, with accompanying student desks and chairs along the perimeter of the room. Three tables with four computers were in the middle of the room. All computers were available for the students to use before and after school or during lunch, except during testing or special programs. The librarian's desk was in the back, with a computer lab on one side and a large office on the other. The computer lab was one that most used by the foreign language teachers. It was used to store computers, a laptop cart with 25 laptops, monitors, DVD players, and projectors. Some outdated equipment was also kept in the office, such as televisions, VCRs, and overhead projectors. Although the classrooms did not have student computers, the media center was well-equipped with enough to rectify this.

In the back of the media center on the left side of the main desk, there was a small computer lab which world language classes primarily use. It contained 28 student computers, desks, and chairs. Ten computers sat on tables with chairs that faced the wall on two of the four sides of the room. The third wall had eight computers sitting on as many student desks with chairs. They faced each other to make a table. Also, there was a large printer against this wall and a screen at the top for projection. The fourth wall had a

large window, with closed blinds, that looked out into the media center. One desk faced this wall, with a computer and chair for the teacher. Plus, open space was in the middle of the room. The available computers matched the foreign language class sizes.

Another computer lab was in front of the media center, separated by double doors. It was a large room that had 50 computers, almost enough for two large classes. In the right side back corner, there was an office with two walls made of windows (the left and front). The other two were solid (the right and the back). Inside of the computer lab office, the solid black wall connected with the media center. The right-side solid wall faced the hallway. There was a teacher's desk, three chairs, a table, two printers, one phone, and one computer. A white board, screen, and bulletin board were on the solid black wall.

Outside the office on the right side sat a large table with five computers and chairs against the office wall. In front of this table were two additional rows of tables with four computers and chairs. The next large table contained five computers and chairs. Along the perimeter of this side of the computer sat several tables together. Another 28 student computers and chairs were on these tables. One computer was for the teacher.

The left side of the lab was set up similarly to the right side, but without the corner office. Three rows of tables faced each other with four computers and chairs on either side. Two large tables with five computers and chairs were in the front of the room against the wall and to the left of the double doors leading to the hallway. Only one computer was for the teacher, and it was at the end of the first row of tables. Finally, in the middle of the lab were two tables with four chairs.

The findings of the equipment in the media center and computer labs supported and refuted the teachers' responses in their interviews. They stated that their classrooms did not have student computers, but the students could go to the library and computer labs. These locations provided both computers and the Web. The participants also shared concerns about classroom management issues. Teacher F contended that the computers could break down and disrupt the lesson. The other concern by the participants was that they could not control what the students did on the computers, such as monitoring for off-task use of the Web. However, one of the computer labs had software installed for the teachers to have this control that they suggested.

Documentation Observation Results

The documentation review supported the teachers' answers to the central research question about the suitability of computer-mediated-communication applications (CMCA) for high school world language students. The participants' answers centered on high school students' lack of maturity, possibilities of working with CMCA, and the lack of proper technology training. The documentation primarily came from the media center's website, textbook companies' websites, and the teachers' Word or PowerPoint files. The information that I was not able to review on the site was studied online via email or a link.

As high school students are minors and lack the maturity of college students, accessing the Web is not simple. For instance, students were required to submit a Web agreement and parent permission forms. The forms were on the school's media center's website. Teachers, students, and parents could both review and retrieve various forms and

information that the administration deemed necessary to protect the students' online privacy rights and safety.

The teachers provided links, book sections, and handouts that they thought could contribute to the study. Their textbook series contained an accompanying set of DVDs, CDs, and a teacher's edition. The textbooks were available as paper and on the (textbook) website. Also, all textbook companies included a website for teacher reference (i.e. assessments, sample syllabus, and activities), student e-textbooks, and e-workbooks, which included communicative language practice via the Web. The companies provided online training and discussion groups for the teachers to share lesson ideas. However, the teachers stated in their responses that they did not receive adequate training and were not aware of most of these inclusions.

This review was unique because many of the teachers' lesson plans were paperless or directly from the textbook websites. A few of lesson plans were on PowerPoint and displayed daily on the projector. One teacher posted syllabi on a social network. The teacher-created assessments were on paper and online. For confidentiality, I reviewed versions that were not completed by students.

The reviews both corroborated and refuted the participants' claims in the interview responses about their access to digital technology. The observations of the classrooms, media center, and computer labs revealed that there were areas available for the teachers and their students to work on web-based assignments outside of the classroom. However, the computer labs must be available for the teachers to be able to assign CMCA activities. Other teachers in the building use these labs, and the library was not always available due to testing, as stated in the media center's website. The

documentation revealed that the teachers primarily used technology for lessons plans, lessons, activities, and assessments. Many teachers reported using the textbook lesson plans as guides to their instruction, which they accessed both by the book and online. The computer lab observation revealed that there are many types of software available to assist the teachers with their teaching and classroom management, which refutes the teachers' claims that teaching in the computer labs would bring many discipline issues.

Discrepant Cases and Nonconforming Data

The field observations revealed that the school district provided digital technology to assist teaching and learning. The interviews uncovered that the teachers may not have realized that this equipment and software existed. For instance, Teacher F suggested an ideal way to monitor students in the computer lab. She described a switchboard that would enable teachers to assist students and monitor their work. As the students worked on their assignments, they could connect with the teacher individually by pushing a button on a small apparatus. The teacher would respond directly to the student. The rest of the class would not be disturbed because they would be wearing headphones.

After Teacher F shared this information, I asked her if she was familiar with the software entitled LanSchool that the media center had made available for teachers to use in the computer labs. Teacher F responded with: "Oh really? Well, I didn't know." As this conversation only happened with one teacher, it is not known whether the other participants were aware of LanSchool. One indication of this possibility is that some of the participants suggested that the inability to control students' work and behavior although working on computers as a deterrent for taking students to the computer lab. As

the focus of the study was not about the teachers' knowledge of (or how to use) the software and equipment that the media center provides, this discovery was not pursued.

Summary

Chapter 4 consists of the process of conducting the study from the point of seeking permission to conduct the study, to presenting the results of the collected data. The study took place at the proposed site after the approval from the university, school system, and building administrator. Although the primary results came from the interview protocol, the field observations and documentation reviews supported and refuted those findings. The TAM2 model's constructs were the categories for the responses. Also, in this chapter was a complete explanation of the data analysis and the tools used to perform the analysis.

Six out of the eight anticipated participants contributed in the study. They participated in the interviews in person and provided access to their classrooms and materials. Before the meetings, they received a copy of the questions for review. Following the interviews, the participants received a copy of a transcript to review as a part of the transcript review. After the interviews, I next conducted the field observations and documentation reviews. Then I entered all data in NVivo Pro 11 for the analysis. Themes, codes, and patterns revealed could be transferred and generalized to other high school foreign language teachers' views (Miles et al., 2014).

The participants' responses to the central research question and sub-questions about their perceptions on the suitability of computer-mediated communication applications to assist communicative language learning in high school world language classes presented possibilities and realities. The teachers were not familiar with the

communicative features of some of the social media applications. Once it was explained, they could envision incorporating this technology into their teaching practices. The findings were that teachers believed that in current circumstances, computer-mediated communication applications are not suitable for all levels of high school foreign language classes. They could see how CMCA could be a part of communicative language learning in the higher-level courses, because those students tended to be more mature and have advanced language knowledge. However, for the novice courses, they were not convinced about the appropriateness of teaching with CMCA. Nonetheless, they saw possibilities and proposed some recommendations. They suggested: CMCA professional development that would be content-specific, and led by teachers who have implemented CMCA in their practices; and equal access to the Web and digital equipment for teachers, classrooms, and students. Overall, they proposed that, due to the current realities of the digital divide, expensive professional development opportunities, time constraints, and the mixture of student maturity levels, CMCA was not appropriate for all their courses.

Chapter 5 includes a detailed discussion of the study findings. A summarization of the responses to the central research question and sub-questions leads to the interpretation of the results. It begins with a comparison of the present study outcomes to those of past literature. The chapter includes new revelations, which extend the current body of knowledge and contributes to positive social change with recommendations.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Past researchers have not studied high school world language teachers' perceptions of including CMCA to assist with CLT. The purpose of this qualitative case study was to explore and document the professional perspectives of experienced high school world language teachers on incorporating computer-mediated communication applications to assist communicative language teaching. The TAM2 constructs categorized the findings during the analysis process. The findings revealed that the teachers did not find CMCA to be suitable for their current use unless certain conditions were improved. Those circumstances included improved technology professional development, accessible digital equipment, and the Web. If those improvements were attainable, then they saw the possibilities.

Interpretation of the Findings

After compiling the findings, the next step was to compare them with the results from the reviewed literature. Consequently, this led to insight into how and why the participants have developed their pedagogical styles and philosophies of including Computer-assisted language learning (CALL) and computer-mediated communication applications (CMCA). Some outcomes from the study were consistent with those from the reviewed past literature. Nevertheless, several discoveries opposed research results. Moreover, the conclusions of the study included new information to add to the body of knowledge of educational technology.

Confirming Past Literature Findings

Several outcomes of the study confirmed the previous literature discoveries. Zohrabi et al. (2012) and Erguvan (2014) discovered that teachers who taught with direct instruction methods had a difficult time changing their roles because they had to allow their students to be more active learners. The idea of not having control was an issue for some of the teachers in the Erguvan research and the participants in this inquiry. The teachers consistently maintained that high school students were too immature to learn in collaborative settings. They claimed that the best way to avoid any misbehavior was for them to use teacher-centered instruction, which enables them to teach the grammatical foundations of the language. Also, the students in the Erguvan study viewed their teachers as authority figures who were primarily concerned with instructing grammatical knowledge and assessing for correct answers. Likewise, in this investigation, most participants were insistent upon the need to assign lessons and activities to monitor the students' work and limit disruptive behavior. The teachers declared that students must learn the basics of the target language before they could learn to communicate. Those who included CALL were satisfied because the students received immediate feedback indicating that their answers were correct or incorrect.

In the Woo et al. (2013) investigation, their discovery was that their students benefited from using CMCA for their target language activities. They also highlighted that the students still needed the direction of their teachers. The student participants worked on collaborative activities, but they always sought the teacher for assistance. This point indicates the reliance upon the teacher playing the center role in learning.

Traditional teaching methods were the preference of some world language teachers in previous studies. Dogoriti and Pange (2012) found that professors used conventional teaching approaches and textbooks. The participants in my study also used direct instruction that included textbooks. The participants in this study claimed that many high school students were immature and needed structure. They suggested that textbooks were reliable sources for establishing routines.

In both the previous literature and this study, the participants addressed the idea of digital technology replacing teachers. Mohammadi and Talebinejad (2015) investigated students working on language development through essay writing in class and Wikispaces. They found that the students improved their writing using CMCA. However, they suggested that this success should not be a reason to replace teachers with the technology. Teacher D shared this perception and explained that some teachers were trying to replace themselves with technology. She described an account of observing a colleague planning to use headphones for an entire unit. Teacher D suggested that this was unnecessary because the teacher could have read the material aloud to her students, or they could have read to each other. Teacher E also proposed that students need to have positive affirmations from teachers like a touch on the shoulder or a pat on the back, which cannot happen online.

The findings from this inquiry confirmed the views on professional development in previous research. Chiksanda et al. (2013) and Florez et al. (2012) suggested that both quality and quantity of technology professional development determines the teachers' willingness to include the application or equipment in their teaching practices. The participants agreed with the need for subject-specific training, with a full explanation of

how using technology that would support their course objectives. They also suggested that consistent training would encourage them to use the technology.

Disconfirming Past Literature Findings

Many outcomes of the study opposed past literature results. Pellet (2012) and Yu and Zeng (2011) submitted that college-level world language students could work independently (from the teacher) on projects through social networks. However, the participants in this study asserted that high school students did not have the background, maturity, or self-regulatory skills to execute such assignments. The participants contended that high school students needed to learn the foundation of the language, i.e., grammar and vocabulary building, before performing in the target language could take place. The consensus was that low-level courses (level 1 and 2) were the equivalent to elementary learning. They did, however, see the possibilities of higher-level courses learning to communicate with CMCA, but they (students) would still need some guidance.

Some of the previous researchers discovered that teachers who held higher degrees were more interested in using CMCA than those with lower degrees. Previous research from Erguvan (2014) and Dogoriti and Pange (2012) revealed that participants who held Masters' and Ph.D. degrees, tended to use computer technology applications such as CMCA more than those with undergraduate degrees. Contrarily, this study found the opposite to be true. Half of the teachers who hold master's degrees or higher were against including computer technology in their teaching methods. The half of the participants who held bachelors' degrees were very interested in learning more about CMCA and how they could incorporate them into their lessons.

Past research proposed that the digital alternative assessment, e-portfolios, were an appropriate way to assess communicative language learning. Gill and Lucas (2013) found using e-portfolios to be an effective way to assess reading, writing, speaking, and listening skills. E-portfolios reportedly kept archives of digital recording entries and writing samples assessed over a period. Computer-based achievement tests covered the target language knowledge after the unit was complete. The participants of this study did not use any portfolios to assess their students work. Some suggested that although the alternative was acceptable, they still needed to assess for achievement.

Some past studies claimed that learners were more motivated to practice using the target language when they learn through collaborative activities. Flórez et al. (2012) proposed that college students were enthused to participate in communicative activities that were collaborative online without direct teacher instruction. They found that students reported reduced feelings of anxiety when they interacted in the target language. However, one participant in this study suggested the opposite. The students did not want to interact with other classmates because of bullying and intimidation. Other participants noted similar situations due to the high number of immature students in high school who were more likely to taunt their classmates when they made mistakes. All the teachers contended that they needed to have students work under their direct supervision to eliminate disruptive behavior.

Woo et al. (2013) found that their elementary school participants in China could access the CMC applications Wikispaces and PBworks at home and work on their assignments. The participants of this study claimed that this could not work for all their students because of the digital divide that exists in the school. The participants contended

that some of their students did not have access to computers and the Web at home, which made it difficult to assign activities that included CMCA.

TAM2 and the Findings

The findings of this study primarily revealed cognitive processing and perceived ease of use considerations that teachers face when deciding to adopt technology to assist their instruction. When introducing the topic of this study, only a few teachers were familiar with web-based activities such as blogging, instant messaging, and Skype. Therefore, the idea of using digital technology was not a concept that they had seriously considered. Most of the participants shared that they did not regularly use computer technology other than the textbook CALL assignments. However, even with the CALL activities, they shared concerns about the digital divide in the schools and at home. Without everyone having access to the necessary equipment, it would be difficult to assign collaborative work, which some CMCA support.

The teachers reported being most concerned about the output quality of their students' work. They explained that grammatical competence was the learning objective in the lower level courses (levels I & II). All of the participants felt that instilling a foundation of the language was their primary objective in these levels. Moreover, due to the immaturity of a lot of the students, direct instruction was necessary for classroom management. However, they could see the benefits of adding CMCA to assist the higher level courses (levels III, IV, AP) because there are more

communicative language teaching opportunities. They also stated that students in these courses tended to have higher self-regulatory abilities.

Although the teachers did not find the inclusion of CMCA to be suitable for all levels of high school courses, they did express that they were open to attending professional development for digital technology. The consensus was that if they were to learn from another high school world language teacher, who could demonstrate how they use CMCA and even back it up with proof of student outcomes, they would be willing to try the lessons with their students. Therefore, if the demonstration proved to be relatable to their teaching objectives and did not require too much effort, the teachers indicated that they most likely would add CMCA in their lessons (Davis et al., 1989, p. 985).

Extending the Body of Knowledge

The participants claimed that they were reluctant to include CMCA and other computer technology because class sizes in the low-level courses tend to be too large and require constant monitoring. They contended that this makes it difficult to control behavior and give quality comments and advice to individual students. However, they were very interested in the ability to personalize feedback through CMCA.

The participants gave insight into the challenges of assigning collaborative assignments grounded in socioculturalism at the high school level. They highlighted the realities of the high school schedule, which consists of class interruptions, absences, and schedule changes. The teachers informed that assigning group projects was difficult because some students did the work, others were absent, and several just did not complete their portion of the activity.

The professional development courses or workshops have not been foreign-language specific, according to most of the participants. They explained that they had to adapt activities to fit their teaching objectives. Consequently, the teachers suggested that training should include lessons and strategies that they can use, with a teacher who taught the same high school courses because they would be able to relate. Also, they contended that several follow-up training opportunities would reaffirm their confidence to use the technology.

The participants advised that the American Council on the Teaching of Foreign Languages' suggestion for high school foreign language learning objectives to follow the Language Arts Common Core State Standards was impractical because world language learning in high school was the equivalent of elementary levels in the target language areas. For instance, the novice courses comprised the alphabet, numbers, subject pronouns and verbs and basic sentence building. They recognized that practicing target language writing on blogs or in discussion areas could support students learning although using CMCA, but they did not believe they were appropriate for most high school second language courses.

Limitations

Eight participants from the same high school world language department were invited to participate in this research. However, only six accepted and met the criteria of having more than ten years teaching experience. Consequently, their responses may not be representative of all high school world language teachers. Nonetheless, the participants were purposefully selected because they taught in the same building, which meant that they all had the same Web access, planning time, and classroom equipment.

Due to the homogeneous sample, the study findings may not be representative of all high school world language teachers or departments because of the digital divide in suburban, urban, and rural districts.

Other limitations of this study were the teachers' lack of knowledge and experience with teaching CMCA. Although some participants were familiar with a few applications, the uses of CMCA had to be described to them so that they could respond to the interview questions adequately. Also, the teachers primarily taught the novice courses, and they advised that CMCA was not applicable. Therefore, most of the participants did not have enough insight into higher level courses to do more than the advice of the possibilities of CMCA.

Recommendations for Further Study

After analyzing the findings of the study, I discovered relevant and informative answers to the research and sub-questions. A slight drawback was that none of the participants had ever taught with CMCA in their classes (for student communication). Their assumptions indicated that the idea of including CMCA was idealistic and daunting. Teachers need to know how various Web applications can complement their teaching practices. In other words, communicating directly with the teachers is what will resolve reluctance to teach with digital technology. The teachers need to know what they are supposed to do, why they should do it, how it will benefit their students' learning, and how it will meet their teaching objectives. Recommended approaches of this research could take place in the following ways:

1. A study is still needed to explore the teacher perceptions of those who actually use/have used digital technology in high school foreign language courses to assist communicative language teaching.
2. Repeating this study but having a greater focus on the social influence construct of TAM2. Which would require a change in the interview questions.
3. Instead of focusing on only veteran teachers, a mixture of veteran and novice teachers could provide a broader range of perspectives about the suitability of CMCA in high school world language classes.
4. The participants could be teachers who instruct the same target language, but different course levels (i.e., French teachers of levels 1, 2, 3, 4, and Advanced Placement). This inquiry would have the potential to confirm or refute the findings of this study, which suggested that CMCA might be suitable for higher level courses.
5. The addition of a librarian and technology specialist as participants with high school world language teachers could provide information about the equipment and software that is or is not available for the teachers to use. This information could provide different perspectives about CMCA usage in the world language department.
6. The researcher as a participant observer could train the teachers on a CMC application. The teachers could teach the same CLT assignment with a control group (face-to-face) and an experiment group (CMCA). Then analyze the results by searching for patterns and themes. A result demonstration like this would provide evidence of whether CMCA is suitable for high school world

language classes. This possibility would require adequate hardware availability and Web access for all students.

7. Investigating various high school settings, such as private schools, public schools that are suburban, urban, rural, or inner-ring (suburban and urban mixed districts). These settings have the potential to highlight the realities of the digital divide in the communities.

Implications

Social change to the high school world language teaching community can occur based on the findings of this study because teachers have been given a voice to share their perspectives relative to their teaching experiences, practices, and beliefs of using computer-assisted language learning to assist their teaching practices. The view that teachers would willingly include digital technology to their methodologies, if certain conditions improved, confirms the need for the inclusion of teacher perspectives on changes and additions to world language pedagogy. Social change can also occur as a result of these study findings in that there is an interest in making world language education more relevant to students who are preparing for college after graduation. Nevertheless, including digital technology to assist with instruction was noted as essential in encouraging students to practice using the target language in a meaningful and realistic way, especially in the higher-level courses offered in high school. Recommendations for practice could include:

- World language specific professional development opportunities with focus on meeting the state world language standards for objectives and assessments.

- Increased training from textbook companies that provide web-based and computer-mediated communication lessons.
- Improved and expanded training of district-provided digital technology.
- Increased and equitable provision of digital equipment for classrooms and students.

The study findings also were enlightening because the participants revealed concerns that would be informative to administrators, parents, and other stakeholders. Professional development coordinators, as they are creating training sessions for the teachers, could consider content-specific objectives. The teachers also mentioned that they would like to have more coaching on the newly acquired equipment. An increase in professional development interest and participation would be helpful for the administrators to see that they have teachers who are willing to use the digital technology.

Conclusion

This chapter included summarized answers of the research question and sub-questions. The study findings confirmed previous research results, such as the preference of traditional teaching styles and using textbooks. The disconfirmed findings suggested that CMCA was more appropriate for college students because some high school students lacked immaturity, self-regulatory capabilities, and Web access inside and outside of class. The extended results revealed the teachers' preferences to having world language (even language specific) technology training.

The participants expounded at great length on the circumstances that lead to their professional opinions. Restrictions of this study primarily came from their inexperience with CMCA in their teaching and the digital divide (inequitable student access to the Web

at home and in the classroom). These obstacles give some indication of teacher reluctance to include the Web and student-centered activities. Also, the teachers enlightened this study with what they viewed as necessities for professional development. Although these findings were informative, there are still areas that need research. As a result, the participants validated the need for this study to add to the previous knowledge. Non sequitur.

Reflecting upon the study and its conclusions, the one theme that was very clear was the importance for the school administration to communicate with the teachers when providing equipment and professional development. Since they work directly with the students, it is essential to remind teachers of their professional skill sets and that their perspectives hold value when considering which technology to add to their teaching practices. Two such examples are the following:

Teachers' Professional Skill Sets

It was enlightening to listen to the teachers passionately describe their philosophies and methods in their responses to the interview questions. Interestingly, I noticed they were adamant against communicative language teaching practices in novice courses. Nonetheless, they use them quite a bit. For instance, most participants insisted that the students must have grammatical competence before they teach them how to communicate. As each teacher described their daily instructional practices, they disclosed communicative language activities that they use to have the students practice grammar and vocabulary. One example would be when a teacher was explaining how to teach telling time in the target language. The teacher focused on the "elementary" aspect by defining it as a part of teaching the basics in the target language. I would offer that when

they are teaching this topic, and they have their students work with partners asking and responding to time; or reading questions and writing their responses using the time, that they are, in fact, using communicative language teaching (CLT). One could argue that such activities involve communication for display purposes and not genuine communication. I deduce that, due to the need to make sure that students are meeting language knowledge benchmarks on time, that the teachers have forgotten that they are using CLT. Therefore, the idea of adding digital technology is overwhelming. If digital technology made CLT easier, probably using it would not be overwhelming, but it seems that technology introduces complications with no clear pedagogical benefit.

Professional Development

Attending CMCA training that is world language specific would give participants a better idea of how they could use digital technology. For example, the participants claimed that they receive equipment from the district such as flat-screen televisions and tablets without knowing how to use them. They experienced frustration because they perceived these tools as more work for them to do. If the teachers could share the tools that they learned in world language specific coaching with the administration, then together they could discuss which technology could help them teach the language successfully although preparing students for the global digital future.

In conclusion, with the increased stress of teachers and students needing to have technology knowledge, it would be beneficial for veteran high school world language teachers to be reassured that educational technology is about enhancing their teaching and not replacing them. Students need the personal side of teachers for more than academic learning. Teacher feedback and comments affect their students' lives. In other words, to

quote Teacher E, "Students still need that little pat on the back from the teacher." Technology does not replace; it can only enhance the learning. Seeking world language teacher perspectives on how digital technology could play a role in assisting their students to effectively practice the target language is significant in understanding how students will be able to be prepared for the global and digital future.

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Appendix A: 2011 Florida Next Generation World Languages Standards

2011 FLORIDA NEXT GENERATION WORLD LANGUAGES STANDARDS

Standard 9: *Communities: The student will be able to use the target language both within and beyond the school setting to investigate and improve his/her world beyond his/her immediate surroundings for personal growth and enrichment.*								
Benchmarks:								
WL.K12.NM.9.1: Use key words and phrases in the target language to participate in different activities in the school and community settings.	WL.K12.NH.9.1: Use key target language vocabulary to communicate with others within and beyond the school setting.	WL.K12.IL.9.1: Use the target language to participate in different activities for personal enjoyment and enrichment.	WL.K12.IM.9.1: Use expanded vocabulary and structures in the target language to access different media and community resources.	WL.K12.IH.9.1: Use knowledge acquired in the target language to reach out to the community to discuss a variety of topics and present point of view.	WL.K12.AL.9.1: Apply knowledge gained in the target language to make presentations as part of extra-curricular activities beyond the school setting.	WL.K12.AM.9.1: Use knowledge acquired in the target language to access information on careers and employment opportunities.	WL.K12.AH.9.1: Use language skills and cultural understanding beyond immediate environment for personal growth.	WL.K12.SU.9.1: Use the skills acquired in the target language to interact with native speakers of the language on a variety of topics.

2011 FLORIDA NEXT GENERATION WORLD LANGUAGES STANDARDS

Novice Low/ Mid	Novice High	Intermediate Low	Intermediate Mid	Intermediate High	Advanced Low	Advanced Mid	Advanced High	Superior
WL.K12.NM.9.2: Participate in simple presentations, activities, and cultural events in local, global, and/or online communities.	WL.K12.NH.9.2: Use communication tools to establish a connection with a peer from a country where the target language is spoken.	**WL.K12.IL.9.2:** Communicate with people locally and/or around the world, through e-mail, video, online communities and/or face-to face encounters.	**WL.K12.IM.9.2:** Use a variety of media venues in the target language to access information about community events and organizations where the target language is spoken.	WL.K12.IH.9.2: Participate in activities where communication in the target language is expected (i.e., writing a letter to the editor, or engaging in an online discussion on a community issue).	**WL.K12.AL.9.2:** Create and present activities in the target language (i.e., drama, poetry, art, music) through a variety of media where communication is extended outside the classroom.	WL.K12.AM.9.2: Engage in opportunities to increase awareness of careers for which skills in another language and cross-cultural understandings are needed by accessing information through different media.	WL.K12.AH.9.2: Access organizations or individuals through different types of communication to request information about professional activities (such as job opportunities) available in the target language.	**WL.K12.SU.9.2:** Interact with people of other cultures in the target language about familiar and unfamiliar topics that have a significant impact in our daily lives.

Note. Adapted from *Florida Department of Education,* 2016, Public Domain (pp. 20-21).

Appendix B: Interview Protocol

Thank you very much for agreeing to this interview for my study. As you recall, this study is about high school foreign language teacher perspectives on using web-based applications in language proficiency instruction. Your input has the capability to promote awareness of teaching with web-based applications in foreign language high school classes. Your viewpoint will potentially enlighten other second language educators about the realities of using web-based environments in high school second language programs as opposed to college and university level courses. Your input may encourage practices that help improve student proficiency at the high school level.

I have requested to speak with you today because you are a teacher who has a great deal to share about teaching for target language proficiency. My research project as a whole focuses on the effectiveness of web-based applications for communication instruction. This study has a particular interest in exploring the perspectives of high school foreign language teachers, who know whether applications and methods work for their courses and students. My study is not about evaluating your techniques or experiences. Instead, I am trying to learn more about teaching and learning at a time when advanced technology is an encouraged part of second language pedagogy.

Do you have any questions about the topic?

Participant privacy:

For note taking and accuracy, I would like to audio record our conversation today. I will use a Livescribe pen recorder or a digital recorder. Please know that I will be the sole person who has access to the recordings, which will be destroyed **immediately** after they are transcribed as required by Walden University. In order to proceed, please note that there is a place indicated for you to sign to meet our human subject requirements. Essentially, this document states that: (1) all information will be held confidential; (2) your participation is voluntary, and you may stop at any time if you feel uncomfortable; and (3) I do not intend to inflict any harm to you personally or professionally.

Your responses will not be divulged with the other participants, and I will not share other participant responses with you, out of respect of you the participant and the study's purpose. In no way, will your name, employer or personal information be shared with others nor in the publication of this study. The state of Florida will be indicated as the state where the research has taken place. However, the city and school district will not be named for confidentiality purposes. If you understand and would like to proceed, please sign the consent form.

I have planned the first interview to last 60-90 minutes. During this time, we have several questions to cover to make sure that we get the best information to contribute to the study. The second interview will be for both the completion of any unanswered questions

from the first interview and a review of everything for clarification. I have covered a lot of information; do you have any questions before we begin?

Thank you for your agreeing to participate. We can now begin.

I. Demographic and background interview questions:

The first set of questions are for background information about you and your teaching style.

1. How many years have you been teaching world language(s)?

   0-5 years, 5-10 years, 10 +

2. How many years have you been teaching at the high school level?

0-5 years, 5-10 years, 10 +

3. Have you ever taught a world language at a University, if yes, for how long?

Yes No

4. Are you a part-time or full-time world language teacher?

part-time full-time

5. What is the highest degree that you have earned?

BS/BA M.Ed. Ed.S Ph.D.

6. How would you rate your familiarity with the following computer-mediated communication applications, such as blogging, videoconferencing, Wikispaces, social networking, instant messaging?

Very good Adequate Minimum

7. How would you rate your professional development experience with computer-mediated communication applications?

Very good Adequate Minimum

II. Interview Questions:

This next set of questions is about your professional views on the perceived usability (ability to meet course learning objectives) of computer-mediated communication (CMCA) in world language courses.

1. Please share any experiences that you may have with using and computer-mediated communication applications (CMCA).

   Examples: Edmodo, blogs, Skype, Wikispaces, and e-portfolios

   (Hint: in your classes, courses, professional development)

2. Please share and discuss examples of CMCA that you have used or decided not to use.

3. Many of the previous studies about teaching with CMCA were about college level students working in collaboration and using critical thinking skills, both in class and outside of class. Please explain how this may or may not be practical for high school students.

4. In your opinion, what are the benefits or obstacles in using CMCA in high school world language classes?

5. In what ways are the following CMCA beneficial or problematic to communicative language teaching? Edmodo, blogs, Skype, Wikispaces

   Please explain:

6. Please share your perspective on the web-based application Google Translate and its use with CMCA at the high school level.

7. In your opinion, what are the benefits or obstacles in using e-portfolios (a collection of student work using online applications) as an alternative assessment?

8. Based on your teaching experience, please share your thoughts on grammatical language teaching and communicative language teaching at the high school level?

9. Please explain your views about students working collaboratively, on problem-solving and task-based language learning activities, using computer-mediated communication applications such as: Edmodo, blogs, Skype, and Wikispaces.

10. The American Council on the Teaching of World Languages (ACTFL) suggests that high school world language teachers follow the high school CCSS (Common Core State Standards) for Language Arts. The following are a few of the objectives. After you review them, please answer this question:

    Please explain whether you agree or disagree with these objectives being appropriate for high school world language classes.

- "Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically,
- Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach participate in collaborative discussions (one on one or group),
- Use of digital media (textual, graphical, audio, visual, and interactive elements),
- Demonstrate a command of language: types of phrases (grammar), punctuation, clauses (independent, dependent),
- Convey specific meanings & add variety & interest to writing or presentations,
- Identify important events or ideas" ("Florida Department of Education & Career," 2016a p.5-9).

11. In what ways do you believe that using computer-mediated communication applications (CMCA) could or could not assist you to attain your communicative language teaching objectives? Please explain:

12. A theory entitled Technological, Pedagogical, and Content Knowledge (TPACK) claims that effective teachers know what to teach and how to teach and how to incorporate technology (Mishra & Khoeler, 2006). In other words, today's teachers must possess these skills in combination to be successful. Please share your thoughts on this theory for teaching high school world languages courses.

13. Have you participated in any world language teacher training for computer-mediated communication applications (CMCA)? If yes, please share, if not, would you be interested? Why or why not? Please explain:

14. Please share your experience or lack of experience with knowing how to use CMCA for communicative language teaching.

15. In your opinion, what would be the ideal training for computer-mediated communication applications for World Language teachers? Please explain:

16. When using computer-mediated communication applications (CMCA) in class, please describe what a teacher's role should be in the process (Hint: facilitator or direct instructor).

17. In your opinion, how would assigning CMCA affect your ability to communicate (give directions, answer questions or give feedback) with your students?

18. Using CMCA to assist communicative language teaching means that students are more in control of their learning, with the teacher being the facilitator or the guide

of the lessons. Please share your thoughts on this role for a high school world language teacher.

Thank you so much for sharing your thoughts and time! I am sure that your expertise will be a valuable contribution to the study of educational technology and world languages.

If you have any additional questions or concerns, please contact me at the following address: Regina.wright@waldenu.edu.

Appendix C: Additional Interview Questions

Hello and thank you for your time again. I would just like to follow up on our previous conversation, to see if you can explain or share additional information about teaching communication skills using student-centered and web-based applications. This interview should last about 30 minutes.

1. Please describe an activity that is typical of teaching speaking and listening skills.
2. Please share your thoughts on using computer-mediated communication applications with this activity.
3. Please describe an activity that is typical of teaching reading and writing skills.
4. Please share your thoughts on using computer-mediated communication applications with these activities.
5. Please describe how you assess students' communication skills in the target language.

   Prompts: tests, projects, portfolios
6. Please share your thoughts on using computer-mediated communication applications to assess reading, writing, speaking, and listening skills.

Appendix D: Field Observation Sheets

Teacher: _____

Date: _____

Field Observation Sheet: Classroom

	Classroom Layout Notes
• Physical Arrangement	
• Secure Wireless Networks or web-based tools as learning spaces- (Wikispaces, blogs, Edmodo, video conferencing) • Mobile device (iPods, iPads, tablet PC's, etc.). • Web content filtering and application /search engine	
• Multimedia Sound and Video Interactive Smart Boards (PC, Smart Board, Document Camera, etc.)	
• Document Camera (Scanner)	
• Technology workspace for the teacher	
• Assisted technology for students with disabilities: Keyboard with easy access or accessibility options, Alternate keyboards (e.g. Discover Board, Tash)	
• Other physical items that are pertinent to this study.	

Comments:

Date: _____

Field Observation Sheet:

	Media Center	Computer Lab A	Computer Lab B
• Physical Arrangement?			
• Secure Wireless Networks or web-based tools as learning spaces- (Wikispaces, blogs, Edmodo, video conferencing) • Mobile device (iPods, iPads, tablet PC's, etc.). • Web content filtering and application /search engine			
• Multimedia Sound and Video Interactive Smart Boards (PC, Smart Board, Document Camera, etc.)			
• Document Camera (Scanner)			
• Technology workspace for the teacher			
• Assisted technology for students with disabilities: Keyboard with easy access or accessibility options, Alternate keyboards (e.g. Discover Board, Tash)			
• Other physical items that are pertinent to this study.			

Comments:

Appendix E: Documentation Observation

DATE: _____

Participant: _____

Document Observation

Date(s) on the Document: _____

Author (or creator) of the Document:

_____
___

TYPE OF DOCUMENT (Check all that apply):

___ ∗CLT lesson plans
___ ∗CMCA lesson plans
___ School District publication
___ Textbook
___ Class expectations
___ Assessment
___ CLT worksheet
___ workbook
___ Other

1. How does the document encourage or discourage teaching CLT with CMCA?

_____

2. Is the document mandated or teacher authored? Does it focus on incorporating CMCA?

_____

3. Does the document have details about task-based language learning, problem-solving, and collaborative learning and CMCA?

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4. Does the document give instructions for the teacher or explain how to use CMCA in CLT?

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5. Does the document indicate or describe what a teacher's role should be when teaching CLT with CMCA?

∗Communicative language teaching (CLT), Computer-mediated communication applications (CMCA)

Appendix F: Initial Code List

Benefits of using CMCA, obstacles of using CMCA, time constraints, professional development, "hurdles", class disruptions, lack of training, "computers replacing learning", self-regulation, immature students, access to computers & internet, cost effective, overwhelmed, pedagogical preferences, professional development with CMCA, teacher's role, realistically, teaching style, direct instruction, does not use computers, foundation, functional approach, teaches with grammar and communication, student centered, uses computers, "I have taken the students to the lab at some point to do some activities but not in a regular basis no.", "but I’m facilitator even if it’s with technology or no technology., can still do the feedback", "I don’t have anything that would be supported here in the classroom.", "I think as teachers we should keep up with what’s happening in the world that is for sure", "yes it’s good that we have technology and we can use it but personally I can do the same thing without the technology for my objective"

Appendix G: Research Questions and Interview Questions

Research Question: What are the perceptions of experienced high school world language teachers on the suitability of computer-mediated communication applications to support world language communicative language instruction?

Research Sub-questions	Interview questions
Sub-question 1.	
What are experienced high school world language teachers' viewpoints about the benefits and obstacles of including computer-mediated communication applications to teach world languages?	• **Please share any experiences that you may have with using computer-mediated communication applications (CMCA).** • **Examples: Edmodo, blogs, Skype, Wikispaces, and e-portfolios (Hint: in your classes, courses, professional development)** • **Please share and discuss examples of CMCA that you have used or decided not to use.** • **Many of the previous studies about teaching with CMCA were about college level students working in collaboration, both in class and outside of class. Please explain how this may or may not be practical for high school students.** • **In your opinion, what are the benefits or obstacles in using CMCA in high school world language classes?**
Sub-question 2. **What are experienced high school world language teachers' viewpoints about incorporating computer-mediated communication applications to assist communicative language teaching?**	• **Based on your teaching experience, please share your thoughts on grammatical language teaching and communicative language teaching at the high school level?** **Prompt: primary focus, benefits/drawbacks, suggestions for the future** • **Please explain your views about students working collaboratively, on problem/task-based language learning activities, using computer-mediated communication applications such as: Edmodo, blogs, Skype, Wikispaces, Google Translate, and e-portfolios** • **ACTFL suggests that high school world language teachers follow the high school CCSS (Common Core State Standards) for Language Arts;** **Prompt: The following are a few of the objectives included currently in the 9th & 10, 11th & 12th objectives:** • **"Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically,** • **Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach participate in collaborative discussions (one on one or group),** • **Use of digital media (textual, graphical, audio, visual, and interactive elements),** • **Demonstrate a command of language: types of phrases (grammar), punctuation, clauses (independent, dependent),** • **Convey specific meanings & add variety & interest to writing or presentations,**

	• **Identify important events or ideas" (Florida Department of Education, 2016a p.5-9).** **• Please explain whether you agree or disagree that these objectives are appropriate for high school world language classes.** **• In what ways do you believe that you can or cannot attain your teaching objectives when using computer-mediated communication applications?**
Sub-question 3. **What are experienced high school world language teachers' viewpoints on whether teachers need technology expertise with computer-mediated communication applications to teach communicative language teaching?**	**• A theory entitled Technology, Pedagogy, Content, Knowledge (TPACK) claims that teachers need to know what to teach, how to teach it, and how to use current and future technology although teaching. In other words, today's teachers must possess these skills in combination to be successful. Please share your thoughts on this theory for teaching high school world languages courses.** **• Have you participated in any world language teacher training for computer-mediated communication applications? If yes, please share, if not, would you be interested? Why or why not? Please explain: Probe: professional development, colleagues, personal** **• Please share your experience or lack of experience with knowing how to use computer-mediated communication applications for communicative language teaching.** **• In your opinion, what would be the ideal training for computer-mediated communication applications for World Language teachers? Please explain:**
Sub-question 4. **What are experienced high school world language teachers' viewpoints about the role that the teacher plays when incorporating computer-mediated communication applications to assist communicative language?**	**• When using computer-mediated communication applications in class, please describe what a teacher's role should be in the process. Prompt: facilitator or direct instructor** **• In your opinion, how would assigning CMCA affect your ability to communicate (give directions, answer questions or give feedback) with your students?** **• Using CMCA to assist CLT means that students are more in control of their learning, with the teacher being the facilitator or the guide of the lessons. Please share your thoughts on this role for a high school world language teacher.**