

**Teacher Development Through Video in Virtual Learning Communities: A Qualitative
Case Study**

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Abstract

The daily work lives of teachers are constantly evolving from year to year. Time that was once allotted by the school district leadership for professional development and teacher learning has been reallocated to other state and federal regulations. The trickle effect has resulted in the traditional method of professional development delivery becoming obsolete. This descriptive qualitative case study addressed the problem that teacher needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs. The purpose of this descriptive qualitative case study was to investigate teachers' perceptions of virtual learning communities as a means of effective professional development. This descriptive case study examined one high school's English language arts department consisting of 16 teachers. The use of in-person interviews, teacher journals, and technical platform data were used to explore the impact on the perceptions of teachers who used the VLC as their main means of professional development. The two research questions guided this study: 1) how do high school teachers perceive and describe their learning through virtual learning communities as a means of professional development, and 2) how do high school teachers perceive and describe their learning from video in virtual learning communities as a means of professional development? Through the data analysis, six themes emerged: (a) solid platform for learning, (b) adequate coverage of topics within the virtual learning community, (c) effective means of learning, (d) deeper understanding of professional development specific curriculum development, and (f) commonality of learning among department members. The results revealed that teacher perception of the use of VLCs was positive regarding growth, efficiency, connectivity, and learning.

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Chapter 1: Introduction

Video-based learning for teachers has been a successful means of professional development and education (Borko et al., 2008; Kohen & Borko, 2022). Kohen and Borko (2022) explained that dynamic video-based learning is a mitigating factor for successful professional development programs. Due to the worldwide COVID-19 pandemic, teachers faced a paradigm shift in learning and the use of virtual learning communities (VLCs) (Kohen & Borko, 2022). The issue was heightened by the lack of teacher training and technology offerings of school districts. Babelyuk et al. (2021) explained that there was no time to properly train and educate teachers on the current demands for education during a worldwide pandemic. Additionally, many VLCs lacked educational structure and differentiated instruction, thus leading to inefficient learning for students (Moradoff et al., 2021). As a result, untested educational practices may have led to adverse outcomes for students during this worldwide pandemic.

The COVID-19 pandemic shifted traditional education from the classroom to the virtual learning environment. Teachers were at the forefront of these changes, quickly learning how to pivot and shift. Wang (2021) explained this time as a multifaceted problem for teachers, encompassing not only teaching themselves how to live in a virtual learning community but also how to support others in virtual learning. Professional development was lacking, and administrators struggled to find a method or platform for video learning in a virtual learning community. Molnar et al. (2019) explained that as of the 2017-2018 school year, in the United States, 11 states offered zero virtual learning K-12 schools. As the pandemic grew, all 50 states have now adopted a version of online K-12 learning, mostly found in public school settings (Baird, 2022). Conversely, the need for teacher training in virtual learning grew exponentially,

but schools had no data on virtual teacher learning outcomes, as most professional developments were held in person. Hall et al. (2021) researched the tools needed to adequately prepare teachers for the virtual learning community. Hall et al. (2021) concluded that the core of teacher preparation revolved around the use of video learning in a virtual learning environment. The teacher preparation programs added reflection and learning from others as a key component of using video as a learning tool to prepare teachers for online teaching. These researchers also concluded that the use of video as a means of teacher learning and training should be an integral part of local professional development for teachers.

Video, as the main learning tool for teachers in virtual learning community settings, can be part of efficient learning practice and professional development activity. Using video can provide many facets of efficient learning practice and professional development. Ng and Park (2021) studied how the use of video-based professional development lessons for elementary mathematics teachers could influence the creation of technology-based instruction. The 20 teachers in this study watched recorded STEM lessons and made notes on effective and ineffective techniques used in the video. Ng and Park concluded that teachers were able to make connections and have more meaningful pedagogical discussions with other STEM teachers. They also stated this study was limited in sample size, and video was what was preferred by STEM teachers. Therefore, more research needs to be completed on teacher perceptions of video learning.

Educational administrators continually look to provide the best opportunities for teachers to learn and continuously grow in their professional education. Dickey (2023) explained that learning channels for teachers must continue to improve and be researched to ensure the best methods for teacher learning are being provided. A study of teacher perceptions on video in a

virtual learning community would allow the school to gauge the effectiveness of professional development learning. Previous studies by Osborne et al. (2019) provided findings about the use of videos in a virtual learning environment to promote changes in teacher pedagogy and student outcomes. These authors measured the interactivity and the depth of online chat discussions in virtual learning communities among teachers who viewed different videos. The authors concluded that the lack of depth of the video library and the comments left after viewing each video meant that more research was needed (Osborne et al., 2019).

Historically, learning from a video was a cornerstone for teachers. Teacher education and professional development programs have been built on the use of video as a learning tool. Fogarty et al. (2021) studied how accepting teachers were of new methods of learning in a virtual learning community. The conclusion of this study was that teachers did not have trust in the learning platform before engagement, and the level of task completion thereafter was minimal. These results also indicated that teachers were more interested and highly engaged in learning platforms that showed a correlation to a specific result. For the past decade, the additional use of virtual learning communities as a platform for teacher learning has gained popularity. Because of the increased use and popularity of VLCs in training teachers, scholars looked to understand how VLCs impacted teacher education (Austin & Turner, 2020) as they rely mainly on audio and video to serve their purpose.

In the educational setting, the use of VLCs in the professional development of teachers is paramount. Given the online platform of a VLC, teachers have access to live videos, in addition to other facets, depending on the specific platform. Gawoei (2020) studied the impact that a VLC has on the self-efficacy of teachers and found a minimal gain in this area. Teachers did produce more classroom talk because they had this common training in the VLC. Utilizing data from

teachers' perceptions of video and learning in a VLC provides insight into educational impact for students. This insight can then be turned into monumental gains in teacher development. Dickey (2023) explained the use of a common platform, regardless of what it is, provides an opportunity for learning. Thus, online platforms can be used as a conduit for professional development.

Statement of the Problem

The problem addressed in this study was that teachers' needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs (Coppe et al., 2024; Pawan et al., 2021). Teachers are often faced with outdated professional development plans that do not provide modern opportunities and flexibility for professional learning (Rutherford-Quach et al., 2021). Education is an ever-changing learning modality, and the need for differentiated, individualized professional development programs is needed (Learly et al., 2020). According to Kesson (2020), traditional professional development for teachers lacks modern tools to allow teachers to access content from anywhere, at any time, and the ability to view it multiple times.

In school districts, test scores are used to measure the effectiveness of the school, and professional development is the method to enhance teachers' classroom practices (DuFour & Eaker, 2017). Traditional methods of professional development for teachers do not address the different teachers' levels of understanding or experiences (Rutherford-Quach et al., 2021). School districts addressing the learning of the teachers in professional development in a traditional model, lack individualization of the content and thus limit learning opportunities to enhance the teaching practices (Beilstein et al., 2017).

The current body of literature does not adequately address guidance to school institutions on the effectiveness and perceptions of new and innovative methods of professional

development, such as virtual learning communities and learning from video. According to Leary et al. (2020), guidance is needed regarding the modes of professional development programs, including virtual learning communities. With advancements in technology and the COVID-19 pandemic, more individualized instruction for teachers is available but not often utilized (Beilstein et al., 2017). School districts need to understand the effectiveness of the virtual learning community in a professional development setting for teachers to improve the overall classroom instruction for students (Pawan et al., 2021).

Purpose of the Study

The purpose of this descriptive qualitative case study was to investigate teachers' perceptions of virtual learning communities as a means of effective professional development. This study is a logical response to both the research community and the public education industry, as the purpose and research questions attempt to generate a clear response for additional modalities of effective professional development for schoolteachers. McLaughlin et al. (2021) cited that more research needs to be done to understand the learning perceptions of teachers learning from video in a virtual learning community to properly build professional development programs adequate for growth.

In this qualitative single case study, the perceived effectiveness of the use of VLCs for professional development was explored by collecting and analyzing three data sources from a sample of high school teachers in a suburban high school in the U.S. southwest. The current body of literature studied does not adequately address teachers' perceptions of learning virtual learning communities, video, or other online virtual formats (Beilstein et al., 2021). Larger sample sizes and different samples of teachers need to be studied. Furthermore, the gap in the literature indicates that additional research is needed using secondary teachers, as this is a sample

group that has not been extensively studied (Beilstein et al., 2021). According to the U.S. Department of Education (2020), the population of secondary teachers is predominantly comprised of female teachers holding advanced degrees, with many having extensive years of teaching experience, which have not been a part of previous studies. Kavitha and Lohani (2019) explained that the use of artificial intelligence and internet-driven communities shows a great need to be studied, as this learning world is still new to some markets. Research on the methods used in virtual learning communities must continue to be studied in conjunction with the perceptions of the teacher participants in these online communities to determine the effectiveness of virtual learning communities (Barmacki et al., 2015).

Introduction to Theoretical Framework

Putnam and Borko's (2000) situative theory was the theoretical framework that guided this study. Situative theory is defined as a community of learners based on the premise that learning occurs as people participate in a shared environment (Putnam & Borko, 2000). Putnam and Borko (2000) addressed the need to explain how teachers learn. Contrary to foundational theory, which is focused on student learning, situative theory was designed based on teacher learning. Putnam and Borko (2000) examined professional development models throughout different school settings and educational institutions. The purpose of situative theory was to examine teachers' learning under differing context to explain how and why teachers learned (Putnam and Borko, 2000). Situative theory can be used to explain different levels of teacher learning under social, physical, and personal contexts. Because of this explanation, models of professional development have focused on these types of learning contexts to ensure teacher engagement and success.

Borko et al. (2008) further explained that understanding these types of learning context can be specifically applied to video-based teacher learning and professional development. Situative theory is a foundational framework (Putnam & Borko, 2000) directly applying to the topic of this study because this theory can help explain why a teacher would prefer to learn from video in a virtual learning community or not. Shepherd and Hannafin (2008) and Stadler (2003) both based their studies on the foundational framework of situative theory. Both sets of researchers studied the use of video by teachers and how effective the video was in changing teaching practice. Of the two studies, Hannafin (2008) was the only author to compare teachers who used video as a reflection tool to teachers who did not. The findings of both studies provided generalized results that questioning the abilities of teachers who used video as a reflection tool to improve teaching performance did, in fact, improve, but whether or not those improvements were lasting or if teachers preferred learning from video was inconclusive. However, in both studies, all sets of authors used situative theory (Putnam & Borko, 2000) to explain the phenomena of teachers seeking out learning channels to improve their in-class performance.

Situative theory (Putnam & Borko, 2000) was the foundation for the inception of the problem, purpose, and research questions for this research study by providing a plausible explanation for possible research findings. Darling-Hammond (2010) explained that situative theory was a positive identifier in examining professional learning community (PLC) models and gauging their effective use in teacher learning. Situative theory helped in the formation of the research questions by giving a baseline theme and focusing on teacher learning through PLCs and, more specifically, virtual learning communities. Since the situative theory's sole concept

was focused on teacher learning, and the mode in which teacher learning occurs (PLC), this framework was a direct fit.

Introduction to Research Methodology and Design (Nature of the Study)

The study was a descriptive qualitative case study. A qualitative design is best suited, as I studied people with the use of theory to help explain the phenomena, as opposed to using a quantitative design, which would focus more on the analytical or numerical side of data. Pearse (2021) explained that the use of a qualitative case study design can be the best avenue for explaining human phenomena, in addition to adding more distinctive findings. A qualitative case study research methodology provided a framework that best supports this project by explaining the human element. Hammarberg et al. (2016) explained that the data often found in the study of human behavior cannot always be best studied through percentages and frequencies; thus, qualitative research studies can provide a better analysis using different data collection strategies.

This study involved the investigation of perceptions of a particular learning method from secondary school teachers. Because of the types of data to be collected and the types of analysis planned, the best type of research method, given these parameters, will be qualitative. The qualitative case study was an appropriate methodology for this study, as a case study meticulously examines a real-life issue or problem. The case study method is the most widely used method in academia for researchers interested in qualitative research (Baskarada, 2014). The case study, in general, has been widely discussed and analyzed for its potential throughout modern research. While the case study has some limiting factors, the case study supplies an opportunity for this study to examine the phenomena of teachers using virtual learning communities as a method of professional development. Creswell (2019) explained the qualitative

case study is the best method for a researcher to use when they are looking to add layers of research and explanation to a singular issue or multiple issues using a multi-case study approach.

In this study, a questionnaire, interviews, journals, and archival data were used as methods of gathering data, which are all qualitative. The data was gathered from secondary teachers to explain the perceptions that teachers have on learning from video in a virtual learning community. This research opportunity was available for between 15 to 20 high school teachers. The teachers who participated in the study also had participated in depth with the virtual online community setting used for professional development and had the most perspective to share in the effectiveness of this modality. Participants were recruited from a medium-sized school district in a suburb of a major metropolitan city in the southwest. The four types of data that were collected for this study were 1) questionnaires, 2) interviews with teachers regarding their perceptions of the effectiveness of learning from a virtual learning community for professional development, 3) journals including the total amounts of opportunities that teachers were given to learn in a virtual learning community, and 4) archival data from the time spent participating in the virtual learning community.

For years prior to the study's data collection, teachers at this particular high school took part in a virtual learning community using video as professional development. In-person professional development in the school district occurred once every six months. Teachers also attended professional development virtual learning communities using video, which has occurred once every 60 days. The online virtual learning community had been more specific and finite in the work that was done. I recruited 16 high school teachers who completed the educational consulting companies' professional development, consisting of virtual learning communities

throughout the duration of the 2023-24 school year. At the time, there were 245 teachers participating in this professional development.

A semi-structured interview process was used to seek two different types of data. The first data source was a questionnaire to gather background information about the participants. The second source of data was interviews with each of these teachers. The third data set was classroom journals gathering perceptions from teachers about the application of content learned. A fourth source of data was archival data sets. This data was provided by the school district where the study was conducted. An archival data set was compiled of basic information about teachers who participated, the time spent participating, the dates and times of the day training was offered, the specific topics, and the titles of the virtual learning community. The third data set was reflective journals. Journals were used for the purpose of writing down the teachers' reflections on the content learned in the virtual community and the effectiveness of the application of the content in the classroom. Once the data was collected, it was organized and explored for trends and similarities. The data collected from these three sources were analyzed through a previously developed coding tool. After the data were coded, recurring themes were explored to find the answers to my research questions.

Research Questions

There were two research questions guiding this study. They are as follows:

RQ1

How do high school teachers perceive and describe their learning through virtual learning communities as a means of professional development?

RQ2

How do high school teachers perceive and describe their learning from video in virtual learning communities as a means of professional development?

Significance of the Study

This study is significant as it may add to research for school districts in considering how they provide effective professional development and other learning opportunities to their faculty. If this study was not conducted, efficient, optimal learning amongst teachers in the school district could potentially be lost. Barack et al. (2015) explained learning channels for teachers must continue to be refined and researched to ensure the best methods for teacher learning are being provided. School leaders, teachers, support staff, and students can all be negatively affected by improper learning techniques used in training programs.

This study provides insights into the impact of virtual learning communities as a mode of professional development for both teachers and school districts. Capara et al. (2021) explained that further research into how the learning environment impacts adult learning is paramount to continue to shape 21st century education. Allowing teachers to voice their perceptions and opinions on how virtual learning communities affect their professional development has the potential to become a valuable asset for school administrators when it comes to making effective professional development decisions. When teachers have a voice in how they learn and grow as professionals, it has the potential to significantly raise both morale and effort from the teaching staff. Dickey (2010) suggested that professional development is always more impactful when the development modules are teacher focused and accessible from anywhere. Giving the autonomy to teachers to meet on their own schedule but still learn and grow is important.

Definitions of Key Terms

Professional Development

Saadati et al. (2023) described professional development as the gaining of new skills through education and training after you have entered the workforce.

Situative Theory

Putnam and Borko (2000) stated situative theory as a community of learners based on the premise that learning occurs as people participate in the shared environment.

Virtual Learning Community

Rheingold (2021) noted educational virtual learning communities are social aggregations emerging from the internet when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace.

Summary

Video-based learning for teachers has been a successful means of professional development and education (Borko et al., 2021). Due to the recent worldwide pandemic, teachers have faced an absolute paradigm shift in learning and the use of VLCs. The issue was compiled by the lack of teacher training and technology offerings of school districts. Babelyuk et al. (2021) explained that there was no time to properly train and educate teachers on the current demands for education during a worldwide pandemic. Additionally, many VLCs lacked educational structure and differentiated instruction, thus leading to inefficient learning for students (Moradoff et al., 2021).

Making video the main learning tool for teachers in a virtual learning community can provide many facets of efficient learning practice and professional development. The professional development environment is forever changing in public education. McLaughlin (2021) explained that teachers should be afforded options when it comes to their professional

development platforms. Beilstein et al. (2021) said a VLC is a specific learning pathway based on the congregation of educators that share common video and audio in hopes of furthering their professional skills. The problem was that traditional, in-person professional development is no longer meeting teacher needs for training and skill enhancement. Leary et al. (2020) explained that future research is needed to better address types of professional development platforms such as the VLC. Therefore, the problem addressed in this study was that teachers' needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs. The types of data to be collected in this study were archival data consisting of time spent in the VLC, interviews of the teachers, and journals of the content learned during the use of the VLC during professional learning community time. McLaughlin et al. (2021) cited that understanding the perceptions of teachers is fundamental to using VLCs as a professional development model. This phenomenon can be best described through Putnam and Borko's (2000) situative theory, which defines a community of learners who gather for the purpose of learning in a shared environment. This type of framework helps explain the phenomenon under study. The situative theory was used to explain other similar learning contexts that have been based on the use of video. The prescribed study is significant as it may add to the research of decision-makers on effective professional development platforms. Dickey (2010) suggested that time spent on professional development should be effective and meaningful. Chapter 2 includes the literature review about the use of virtual learning communities for professional development.

Chapter 2: Literature Review

This descriptive qualitative case study aimed to investigate teachers' perceptions of virtual learning communities as a means of effective professional development. The problem addressed in this study was that teachers' needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs (Coppe et al., 2024; Pawan et al., 2021). Kavitha (2019) stated that future research is needed to guide programs, instructors, and institutions, leading to satisfaction and success for more teachers. Research shows teachers need continual ongoing training and professional development to enhance academic achievement outcomes in the classroom (Shi, 2021).

Professional development for teachers is an essential aspect of the education system. It encompasses a wide range of activities and strategies aimed at enhancing teachers' knowledge, skills, and practices to improve student learning outcomes. In an ever-evolving educational landscape, teachers must continually update skills and adapt to new methodologies, technologies, and pedagogical approaches (Vivanco-Hidalgo et al., 2020). There are different professional development methods school districts employ to assist in the development of their teachers. Professional development (PD) for teachers is essential to foster continuous growth, enhance teaching effectiveness, and improve student learning outcomes.

One contemporary method of professional development that school districts employ to assist teachers in the ongoing development of their skills is the implementation of professional learning communities. Professional learning communities (PLCs) are groups of educators who collaborate, share experiences, and collectively work together to improve student and school outcomes (Stebick et al., 2023). These communities provide teachers with a platform to engage in collaborative planning, curriculum development, and the sharing of best practices (Babelyuk

et al., 2021). In PLCs, teachers work together to address challenges, analyze student data, and design instructional strategies that align with student needs (Hunuk et al., 2019). Professional Learning communities facilitate collaboration, data-driven decision-making, and continuous improvement of the school system. One typical characteristic of a PLC is to collaborate between similar content areas (Babalyuk et al., 2021). The content-specific department would engage in a PLC to discuss standards, mathematical practices, or compare data. School districts often allow time for PLCs to meet to promote the collaboration of a specific area of content, working towards a common goal (Wang & Yuying, 2019). Professional learning communities allow collaboration, communication, and learning to improve student outcomes.

Professional learning communities exist in in-person and virtual spaces. Professional learning communities in virtual spaces are sometimes known as virtual learning communities (VLCs). According to Padron et al. (2022), the rapid advancement of technology has revolutionized education, and one of the prominent developments in this domain is the emergence of VLCs. A VLC is an online platform hosting vital tools for educators, enabling them to enhance their teaching practices and professional development (Fargo & Linares, 2022).

This literature review begins with an overview of situative theory, the theoretical framework grounding this dissertation study. The literature review is further organized by subsections exploring the main themes in the literature surrounding teacher professional development (PD) with a particular emphasis on PD in the context of virtual learning communities, as the focus of this study. The literature review is organized by subsections beginning with historical perspectives on teacher professional development. This is then followed by professional development approaches and practices and video-based learning in

virtual learning communities. The end of the literature review is future trends in professional development practices.

In conducting this literature review, the National University libraries were used. The following databases were used in searches: EBSCO Databases, PROQuest Database, EBSCO Host Database Electronic Journals, Gale Academic ONEFile, Education Research Complete, and ProQuest Education Complete. Various keywords were used to conduct the search. The key word terms used were as follows: *Professional development for teachers, learning platforms for teachers, district led professional development, professional learning communities for teachers, virtual learning platforms, video based learning, common teacher professional development models, professional development practices, teacher led professional development, history of professional development in education, collaborative learning communities, in service training for teachers, technology in professional development, situative theory, and challenges of professional development*. The majority of sources included in this literature review are not more than five years old, except for seminal sources and those from peer-reviewed journals.

Situative Theory

Situative theory, grounded in sociocultural and situated cognition perspectives, offers a unique lens through which to understand the intricate interplay between individuals, social interactions, and the environment in the learning process. The core principles of situative learning, according to Wai (2020), are that the theory emphasizes social participation, cultural context, and authentic learning experiences. Wai (2020) further explained that situative theory focuses on how learning takes place in specific and environmental contexts. The situation theory, according to Nestulya (2022), emphasizes that learning takes place and is influenced by interactions between learners and the environment. The situative theory addresses social

participation and communities of practice to address professional development needs. There are also critiques and limitations that need to be addressed before implementing the situative theory. According to Hickey et al. (2022), the situative theory foundation of social and environmental interactions influences the professional development of teachers. The situative theory is grounded in the social aspects and communities' practices to improve teacher outcomes and student performance.

Social Participation

Situative theory places a central emphasis on social participation as a catalyst for cognitive development (Lave & Wenger, 1991). According to this perspective, learning is an inherently social activity that occurs through interaction with others. Individuals engage in joint activities, discussions, and collaborations with peers, mentors, and experts to construct knowledge and meaning (Sykes, 2022). Cultural context plays a pivotal role in shaping the learning process within situative theory (Vygotsky, 1978). According to Yeomen et al. (2019), cultural tools, such as language, symbols, and societal norms, mediate the relationship between individuals and their environment. These cultural tools facilitate communication, collaboration, and the transmission of knowledge across generations. (Nguyen, 2022) Situative theory advocates for authentic learning experiences, wherein learners engage in real-world tasks that are relevant and meaningful within their cultural and social context (Brown et al., 1989). Authentic tasks provide learners with opportunities to apply knowledge in practical situations, fostering deeper understanding and transferability of skills (Flint et al., 2021).

Communities of Practice

Communities of practice, a concept introduced by Wenger (1998), are central to situative theory. These are groups of individuals who share a common interest, engage in joint activities,

and interact regularly to build their expertise (Greenwald, 2022) Within these communities, novices learn from experts through observation, participation, and collaboration. Vygotsky's concept of the zone of proximal development (ZPD) is integral to situative theory (Vygotsky, 1978). The ZPD represents the gap between what a learner can do independently and what they can achieve with the guidance and support of a more knowledgeable person. Social interactions within the ZPD facilitate cognitive growth as learners tackle challenges just beyond their current level of competence (Greenwald, 2022). Scaffolding is a pedagogical strategy rooted in situative theory, where educators provide temporary support to learners within their ZPD (Wood et al., 1976). Through scaffolding, learners can accomplish tasks that would be unattainable without assistance (Barnes, 2021). As learners become more proficient, scaffolding gradually decreases to promote independence. Communities of practice aid teachers in allowing the social practices to address the ZPD of each teacher and provide professional development opportunities to teachers (Barnes, 2021).

Situative theory has influenced the design of technology-enhanced learning environments. These learning environments facilitate social interaction and collaborative learning (Dillenbourg, 1999). Online discussion forums, virtual classrooms, and collaborative document editing platforms are examples of tools that support social participation and knowledge construction. These social development platforms allow the situative theory to take place and social interactions to take place (Barnes, 2021). Teachers can share resources through editing platforms and participate in social interactions to improve the resources and content. The situative theory is grounded in this type of social interaction, providing teachers with support and collaboration (Miller et al., 2021). Teachers participating in social development platforms use participation in virtual discussion forums on specific content. Teachers can access this type of

virtual discussion at any time and from any technological device (Fox, 2023). Technology-enhanced learning environments are a tool in aiding the situative theory and the social interactions taking place amongst teachers around the area of professional development and improvement of teaching and learning.

Situative theory is responsive to a multicultural faucet of pedagogy and resources. The interactive components of the situative theory allow for teachers to gain insight and conversations through virtual discussion with other teachers with the same diverse student population. This approach recognizes the importance of cultural context and leverages it as a resource for learning in a virtual setting (Dickson et al., 2024). Situative theory has implications for teacher professional development in responding to the multifaceted student populations due to teachers being able to be online with other teachers from other schools in the nation. Educators can engage in communities of practice revolving around diversity and culturally responsive standards to enhance their teaching strategies and share best practices (Lieberman & Mace, 2009). The situative theory and the social interactions within the different collaborative communities allow teachers to practice strategies from diverse teacher and student backgrounds.

While situative theory offers valuable insights into the social and contextual aspects of learning, it is not without its critiques and limitations. Critics argue the theory downplays individual cognitive processes and the role of internal mental representations (Sfard, 1998). Additionally, Bozic (2020) explained that the practical implementation of situative theory in educational settings for individuals is complex and may require significant shifts in traditional pedagogical approaches (Cheon, 2022). Situative theory provides valuable insights into the role of context and social interaction in learning, but it may not offer a detailed account of individual cognitive processes and individual differences in learning, including limited guidance for

instructional design (Larrabee et. al., 2019). Critics argue that situative theory may not provide clear and practical guidance for each instructional designer and educator. The situative theory highlights the importance of authentic tasks and social interaction but may not offer specific strategies for how to design effective learning experiences, placing an overemphasis on social context (Larrabee et. Al., 2019). While social interaction and collaboration are important for learning, some argue that situative theory may overemphasize the social aspect at the expense of individual cognitive processes (Sfard, 1998). The situative theory may not fully account for the role of individual reflection and internal mental processes in learning, including limited scalability (Sfard, 1998). The situative theory is limited to a social group and can lead to the individual lacking the specific concepts needed to improve teaching practices. Smith (2019) notes that there are some key limitations and challenges associated with situative theory, including a lack of a comprehensive theoretical framework. Situative theory is often criticized for lacking a well-defined and comprehensive theoretical framework.

Situative learning approaches, which often rely on authentic, context-specific learning environments, can be challenging to scale in larger educational settings. Creating and maintaining authentic contexts for every learner can be resource-intensive and may not be feasible in all situations. Barnes (2021) and Smith (2019) suggested there are some key limitations and challenges associated with situative theory, including a lack of a comprehensive theoretical framework in a larger school setting. Comprehensive frameworks, including traditional assessment methods, such as standardized tests, may not align well with the principles of situative theory, which emphasizes authentic tasks and situated assessment (Smith, 2019). This can make it challenging to evaluate and compare the learning outcomes of learners taught using situative approaches on a larger scale. According to Smith (2019), the situative theory's

emphasis on the role of cultural and social context in learning may not fully account for cultural differences and variations in how learning takes place in different contexts and communities (Sfard, 1998). There is a need for more empirical research to support the claims and principles of situative theory on a large scale. While the theory is conceptually appealing, there may be limited empirical evidence to validate its effectiveness in different educational contexts (Smith, 2019). Situative theory can be in unison with traditional educational systems that prioritize content coverage and standardized testing (Sfard, 1998). Integrating situative approaches into such systems may face resistance and logistical challenges (Sfard, 1998). The situative theory limits the comprehensive framework schools implement on a larger scale and focuses more on social interactions on a broader scale.

While situative theory offers valuable insights into the social and contextual aspects of learning, it also has its limitations and criticisms, including addressing the individual and comprehensive framework in schools. Despite these limitations and criticisms, situative theory has made important contributions to the field of education and has influenced the development of more contextually based and socially oriented learning approaches (Smith, 2019). Situative theory provides the communities of practice and social participation that teachers need to advance professionally. Teachers connect with educators and utilize professional development resources, including expertise and innovations in the field of education. (Useche et al. 2022) Educators and instructional designers can draw on the insights of this theory while also considering its limitations and adapting its principles to suit specific learning contexts and goals. (Little, 2019)

Historical Perspective on Teacher Professional Development

PD for teachers has transformed significantly over time, reflecting changes in educational philosophies, technological advancements, and a growing understanding of effective teaching practices (Boudett, 2017). In the late 19th and early 20th centuries, PD for high school teachers was often informal and localized, with apprenticeship models being predominant (Smith, 2018). According to Useche et al. (2022), an apprenticeship model is when a novice teacher is connected to an experienced teacher to provide guidance and support. The primary focus was on classroom management and content knowledge rather than pedagogical strategies. In-service workshops and conferences emerged as early forms of PD but lacked coherence and often failed to translate theory into practice (Duncan & Reiser, 2019).

The latter half of the 20th century saw a shift towards recognizing teachers as lifelong learners. Teacher centers emerged in the 1980s and 1990s, promoting collaborative planning and reflective practice (Little, 2019). This marked the beginning of a focus on peer learning and student outcomes. The concept of mentoring and coaching gained prominence during this period, emphasizing the importance of experienced educators guiding novices (Feiman-Nemser, 2020). The 21st century brought about technological advancements that revolutionized PD. Online platforms, webinars, and virtual communities democratized access to PD opportunities (Guskey & Yoon, 2019). Micro-credentialing and online courses allowed teachers to acquire targeted skills and competencies (Darling-Hammond et al., 2017). This personalized approach catered to the diverse needs of teachers, shifted towards evidence-based strategies backed by educational research (Ingersoll & Strong, 2016). These more personalized approaches marked a departure from the “one-size-fits-all” approach. Teachers began to engage with research to inform their

practice and enhance student learning outcomes (Timperley et al., 2017). The focus shifted from passive learning in PD sessions to active implementation in the classroom.

The evolution of PD has presented schools with various changes and challenges in the professional development landscape. One current challenge for schools is balancing standardized PD requirements with individualized teacher needs (Desimone, 2019). The history of PD for high school teachers reflects a dynamic journey from informal apprenticeships to research-informed, technology-driven professional learning experiences. Evolution underscores the importance of recognizing teachers as lifelong learners and the need for continuous improvement in educational practice (Danielson, 2016). Teachers are asking for more opportunities to obtain skills and learning specific to the continual needs of the classroom. For example, professional development sessions need to be moldable to the changing landscape in the community and cultural contexts (Caparara & Caparara, 2020). Danielson (2016) further explained that professional development becomes a necessity for life-long reflective practices and learning as opposed to past approaches of lecture and learn. Professional development opportunities have evolved to be more teacher-centered, using the latest technology to respond to contemporary needs.

Professional Development Approaches and Practices

There are various approaches used by school districts for teacher professional development. These approaches include but are not limited to teacher-led professional development, professional and collaborative learning communities, in-service professional development, as well as conferences and professional associations. These approaches are not mutually exclusive, with school districts often employing a varied approach to PD (Kavitha & Lolani, 2021). Professional development provides tools to allow teachers to take on new

educational challenges and foster innovative growth. Borko et al. (2020) explained that teachers' overall satisfaction with the profession relates to professional development implementation. Borko et al. further cited that education is a changing profession, and the cycle of professional development should change with this shift. Wilson et al. (2019) explained that effective professional development can help improve school performance through teaching and learning to excel in their roles and responsibilities.

Teacher-led Professional Development

Teacher-led PD has emerged as a transformative approach to enhancing teaching practices, fostering collaboration, and promoting continuous learning among educators. Teacher-led PD refers to the practice of educators taking the initiative to design, facilitate, and participate in professional development activities within their own school or district (Coppe et al., 2024). Using this method of teacher-led professional development transforms learning and enhances teaching practices because teachers have already built a level of rapport with the teachers presenting the content (Stebick et al., 2023). By removing barriers, teachers are allowed to learn directly from teachers who are experiencing the same educational community due to the similarity in roles. As educators take the lead in their professional development, schools and districts become dynamic hubs of learning where teachers drive positive change (Darling-Hammond et al., 2017). Darling-Hammond et al. (2017) revealed that teachers' skills and practices are enhanced from learning in teacher-led PD through relevant and real-world application with concrete examples and strategies that can be applied in day-to-day teaching. Teacher-led professional development can change professional development and impact teachers with a continual learning and collaborative learning environment.

Teacher-led PD encourages collaboration and collegiality among educators using their own expertise to learn from and collaborate with each other. Borko and Putnam (2016) stated that a teacher-led PD approach utilizes the resources and educational practices of the current educators in the school. Teachers create a platform to share best practices, exchange insights, and engage in reflective discussions that lead to improved teaching strategies. Teacher-led PD ensures that the content and strategies discussed align with the unique challenges and contexts of the school or district. By leveraging expertise, fostering collaboration, and promoting contextualized learning, teacher-led PD contributes to the growth of both individual teachers and the educational ecosystem (Ni & Marsh, 2018). This allows the school community to reflect and grow as a community of professionals working towards a common goal. Desimore (2019) stated that when educators lead PD, peers are more likely to engage actively in learning activities. The support and collaboration continue past the professional development session as teachers can access each other with more ease and convenience due to their proximity on the campus. The peer-to-peer approach fosters a supportive learning environment and encourages open dialogue about instructional practices. Teacher-led PD promotes the community in collaborating toward a common goal of teacher learning and student outcomes.

Teacher-led PD promotes continuous learning through questioning and monitoring of the strategies presented. Saadati et al. (2023) revealed that this is a constant factor using discussions among teachers, department chairs, curriculum leaders, and administrators. Teacher-led PD utilizes the resources within the current educational community, recognizing them as valuable resources for fostering continual growth and learning (Saadati et al., 2023). When educators lead PD they tap into their local expertise, addressing specific needs, and offering practical and continuous solutions that resonate with their peers (Boudett et al., 2017). The continual learning

in teacher-led PD allows constant reflection and learning due to the relevance and proximity of the teachers already in the school community (Saadat et al., 2023). Planning teacher-led PD utilizes the current practices, education, and experiences of teachers in the school community and shares this knowledge with other teachers.

Professional and Collaborative Learning Communities

Professional learning communities are groups of educators in a specific content area who collaborate, share experiences, and collectively work together to improve student and school outcomes (DuFour & Eaker, 2017). Collaborative learning communities utilized through Professional Learning Communities (PLCs) allow teachers to collaborate and interact with each other and the content of the specific subject. According to Dufour and Eaker (2017), professional learning communities are often connected to content-specific groups of teachers. Teachers can collaborate to plan curriculum alignment and help consistency through each classroom. Janzen et al., (2021) explained that PLCs allow teachers of this same content area to analyze student performance and to make informed decisions about instructional strategies and interventions. Professional learning communities with groups of teachers who are in the same content area work to support and hold each other accountable for student success and outcomes.

Collaborative learning communities, often facilitated through PLCs, have gained prominence as a powerful tool to promote continuous learning and collaboration between all educators in a school system (DuFour & Eaker, 2017). Collaborative learning according to DuFour and Eaker (2017) communities build a sense of community among teachers and can reduce the feelings of isolation and burnout. Teachers can also support new teachers and help them acclimatize to the profession and the school culture. According to Venketsamy and Smart (2019), collaborative learning communities utilize ideas, innovation, and experiences from all

teachers, administration, and support staff in the education community allowing instructional approaches and techniques leading to innovative teaching practices. Beilstein et al. (2021) explained that educators utilizing collaborative learning communities from each content area utilize reflective practices and shared resources for improved student outcomes for the school system.

Professional learning communities and collaborative learning communities offer reflective practices and support beyond the school district, as teachers can collaborate with each other using technology, social media, or online platforms. Radojvic et al. (2020) explained that teachers can meet on a virtual platform and create a professional learning community with other teachers in another state or country, and that teachers joining online communities allow a connection to peers sharing experiences, advice, and resources. Social media platforms offer teachers collaboration and peer support through group pages or educational influencers. Accessing educational blogs and podcasts allows teachers a wealth of information, best practices, and expert insights, aiding in their professional development (Austin & Turner, 2019). Furthermore, Austin and Turner (2021) explained that teachers using professional learning communities and technology can access professional development that suits a specific need. Professional development using social media and other technology platforms allows teachers to access a wide array of resources and connect with a community of educators.

Peer coaching and mentoring programs have gained popularity as they promote a personalized approach to professional development. In these programs, experienced teachers provide guidance and support to their peers, offering constructive feedback and sharing best practices (Ingersoll & Strong, 2021). The approach to professional development utilizes resources and expertise available in schools. This model, according to Rientes et al. (2019),

consists of professional development that allows educational connections to be made among peers and leads to improved student outcomes. With this model in place in a school, the school in turn becomes a community of peers working together towards a common goal. Furthermore, Reientes et al. explained that this approach further allows each teacher to focus on specific needs and gaps in the current teaching in the classroom. Peer coaching fosters a culture of continuous improvement within schools.

In-service Teacher Professional Development

In-service teacher professional development refers to the process of providing training, workshops, and educational opportunities taught by current practicing teachers. Desimore et al. (2019) stated teacher in-services are a professional development method aimed at improving teaching skills, content knowledge, and overall instructional effectiveness provided by teachers who are already employed in the school system. In-service workshops are planned and organized by schools, school districts, or educational institutions. They provide teachers with opportunities to gain experience and knowledge with new instructional methods, curriculum changes, and educational trends from current practicing teachers (Desimore et al., 2019). In-service teacher professional development is a cornerstone of continuous improvement within the education system because of the peer-to-peer learning. Desimore et al. (2019) revealed this method plays a pivotal role in enhancing the competence, knowledge, and pedagogical skills of educators working in the same school. The method of in-service professional development provides significance by addressing crucial aspects of the educational landscape of teachers in similar roles to improve overall student outcomes.

High-quality in-service professional development planning focuses on evidence-based practices and research in effective teaching strategies. Integersoll and Strong (2021) stated that

the in-service method allows teachers to receive training and interact with colleagues using data-driven and evidence-based methods. In-service professional development ensures all teachers stay up to date with the current research, equipping them to meet the ever-evolving needs of students (Ingersoll & Strong, 2021). In-service topics and planning revolve around the evidence-based practices of teaching strategies, resulting in improved student learning outcomes across the district (Darling-Hammond et al., 2017). These evidence-based practices link to a data-driven goal for the district. Darling-Hammond et al., (2017) stated learning through an in-service allows the entire teaching staff to match current practices with the evidence-based research, as well as district and school goals. Evidence-based approaches prioritize practices that have been proven to yield positive outcomes for both teachers and students (Guskey, 2022). Evidence-based strategies planned in in-service allow teachers to enhance teaching strategies, improve student outcomes, and meet job role responsibilities asked from the district or school.

In-service training and workshops often target specific teaching practices such as differentiated instruction or classroom management. When teachers acquire and implement these skills, it results in more effective teaching methods and improved efficacy of the classroom environment (Desimone et al., 2020). In-services focusing on improvements in teaching practices lead to higher levels of effective classroom management and are especially important to new teachers (Guskey, 2022). Utilizing in-services to target these specific classroom teaching practices enhances the roadblocks to teaching and student learning. Guskey (2022) revealed many secondary programs lack the teaching practices and instruction, and in-services provided at schools from colleagues helps ensure relevancy to the current challenges and needs in the specific demographics in the school and classrooms. Teachers with effective teaching practices and instruction are more satisfied, more likely to remain in the profession, and continue to invest

in this professional development (Guskey, 2022). Using in-service workshops allows teachers to enhance their knowledge and skills in teaching practices.

Conferences and Professional Organizations

Conferences and seminars are professional development events that provide teachers with opportunities to engage in more extensive professional development experiences. These events often feature keynote speakers, breakout sessions, and networking opportunities that expose teachers to innovative research, innovative teaching strategies, and the latest educational technologies (Guskey, 2022). Wilson et al. (2019) explained that attending conferences can broaden teachers' horizons and inspire them to implement new approaches in their classrooms. Conferences and seminars allow teachers to gather with educators from diverse backgrounds, institutions, and communities (Moradoff et al., 2018). Conferences allow expert presenters like renowned authors and leaders in the field of education. Conferences offer the opportunity for teachers to attend professional development strategies that encompass a wider range of topics and research (Guskey, 2022). Linairs (2020) explained that conferences allow teachers to engage beyond the school system and partake in a variety of curriculum development, pedagogy, and classroom management. The topics at conferences can be a variety of learning, or, depending on the name or nature of the conference sponsor, more specific (Moradoff et al., 2018). Conferences and seminars allow teachers to learn extensive knowledge outside of the school system's resources.

While conferences have many advantages for teachers, they tend to be a more challenging form of professional development. Conferences require teachers to spend time away from the classrooms, possibly causing logistical complexities. Another challenge is the cost of conferences due to travel and accommodation, and thus it might not be an affordable option for

all teachers and the school district. According to Rossella et al. (2019), learning conferences also do not allow accessibility to all, and equal access can cause a disparity in professional development opportunities for all teachers. While conferences offer networking opportunities, teachers may feel intimidated or uncomfortable with peer interactions in the large groups. Furthermore, according to Rossella et al. (2019), conferences offer little follow-up or support after the conference takes place, making it challenging for teachers to implement new strategies learned effectively. Conferences, while having advantages, also provide challenges for school districts and teachers must consider when planning professional development.

Technology Integration into Professional Development

The digital age has brought about a significant shift in the landscape of professional development for teachers. According to Chen and Gaowei (2020), online courses have transcended into webinars which have become increasingly popular due to their accessibility and flexibility. Teachers can participate in webinars from the comfort of their homes and engage with a diverse range of content (Fletcher et al., 2018). Many platforms offer free or low-cost webinars, making professional development more affordable and accessible (Chen & Gaowei, 2020). These platforms range from National Associations of State Education Resources to Privately owned companies such as Educational Epiphany: A Learning Resource (Austin & Turner, 2022). Microlearning is a form of professional development that delivers content in small, easily digestible units. Teachers can access short videos, quizzes, and articles on specific topics related to education and teaching (Chen et al., 2019). Popular platforms for microlearning include Coursea, Udemy, EdApp, eDevLearn, and Green Educators Course. These platforms are accompanied by immediate practice of the skills learned. Furthermore, Chen et al. (2019) suggested another benefit of microlearning is the format of the content that allows short and

small modules that can be easily retained. according to Almenara et al. (2021), Microlearning allows educators to learn on-the-go, fitting professional development into their busy schedules.

Online communities and social media platforms have become valuable resources for teachers that are specific to teacher needs and accessible for teachers seeking professional development opportunities. Educators can join online groups, participate in discussions, and follow educational influencers on platforms such as X (formerly Twitter), Facebook, and LinkedIn on an individual needs' basis (Trust, 2022). Using online communities, teachers are connected to a global group of educators who are sharing resources and educational innovations. Online communities using digital spaces facilitate knowledge sharing and networking. According to Zaver et al. (2020), when accessing online communities, teachers typically seek out a specific professional development specific to their own content, level of education, and experiences. Social media groups offer teachers the opportunity to meet and learn on a global scale and improve student outcomes. Online communities are a valuable resource offering free and easily accessibly professional development for teachers.

Learning management systems (LMS) like Moodle, Canvas, and Blackboard have become essential tools for delivering professional development content to teachers. These platforms offer features such as course materials, assessments, discussion boards, and analytics, making it easier to track progress and engagement (Miron et al., 2020). Learning management systems are particularly useful for schools and districts that want to centralize and streamline their professional development efforts. They utilize microlearning which involves delivering professional development content in small, easily digestible units. Teachers can engage with short modules, videos, or quizzes on specific topics (Molenda, 2014). This approach accommodates busy schedules and allows educators to access targeted training when it is most

convenient for them. According to Wlodkowski (2016), competency based professional development focuses on mastering specific skills or competencies rather than completing a fixed curriculum. Teachers progress at their own pace, demonstrating their proficiency before moving on to the next skill (Wlodkowski, 2016). Competency-based models emphasize mastery and skill acquisition, aligning with the needs of individual teachers. Learning management systems provide teachers the opportunity to participate in professional development coursework in small units of learning and provide organization of the content and resources.

Artificial intelligence (AI) refers to the use of artificial intelligence technology to improve and enhance teaching and learning practices (Varga et al. 2023). It is a new platform for learning and professional development practices for teachers. AI-powered tools offered by edtech platforms personalize learning for teachers. These AI tools offer tailored resources and opportunities based on teachers' needs and goals (Patel et al., 2018). The integration of AI and machine learning into professional development platforms holds immense potential. AI-powered tools can assess teachers' strengths and weaknesses, tailor professional development content to individual needs, and provide real-time feedback (Koedinger et al., 2012). MagicSchool.AI, for example according to Wang (2021) offers a wider range of tasks for teachers but also offers opportunities for teachers to engage in professional development (Wang, 2021). Another AI tool Eduaid.AI offers tools for the classroom but also offers teachers advancement in areas of professional development such as how to write accommodations, behavioral intervention plans, and inclusive strategies (Wang, 2021). AI-driven chatbots and virtual mentors can offer personalized support and guidance to educators, enhancing the effectiveness of online professional development. Artificial intelligence tools also involve adaptive learning platforms using data-driven algorithms to customize professional development content for individual

teachers (Caparara, 2022). These systems assess educators' prior knowledge, learning preferences, and performance to deliver tailored resources and assessments (Brusilovsky & Peylo, 2003). Adaptive learning promotes self-directed learning and ensures that teachers receive the support and resources they need most.

Virtual reality (VR) and augmented reality (AR) technologies are revolutionizing professional development for teachers. According to Chigbu et al. (2023), virtual reality is technology immersing users in a computer-generated interactive involvement in a simulated world or environment. Augmented reality is technology that overlays digital information, such as images and videos, into the real world. Virtual reality immerses users in a completely simulated environment, and AR enhances the real world by adding computer-generated elements (Krzystolf, 2023). These immersive technologies allow educators to simulate classroom scenarios, experiment with new teaching methods, and engage in realistic professional development experiences (Kearney & Schuck, 2018). Virtual reality and AR can enhance teachers' classroom management skills, as they can practice in a safe and controlled virtual environment (Kavitha, 2019). Virtual reality and augmented reality technologies are poised to revolutionize teacher training and professional development. They can immerse educators in realistic classroom scenarios, allowing them to practice teaching in a risk-free environment (Tao et al., 2018). Augmented reality, on the other hand, can overlay instructional content onto the physical world, providing contextually relevant information during teaching (Klopfer & Squire, 2008). These technologies offer experiential learning opportunities that bridge the gap between theory and practice.

The collection and analysis of data from online learning environments can inform personalized professional development plans. Learning analytics tools can track teachers'

progress, identify areas for improvement, and recommend relevant resources or courses (Siemens & Long, 2021). Learning analytics tools collect, analyze and present data about teachers' learning experiences and outcomes. By leveraging big data and predictive analytics, online platforms can provide data-driven insights into the effectiveness of different professional development strategies. Social media platforms have utilized algorithms to provide data and insights to tailor advertisements and content towards everyone. Collecting data from online learning environments according to Zaver et al. (2022), such as Knewton and Smart Sparrow, use analytics to tailor learning materials and experiences to everyone. These data analytics are a new and modern educational tool for professional development offering data-informed decisions to enhance teaching and learning outcomes.

Virtual Learning Communities for Professional Development

The rapid advancement of technology has revolutionized education, and one of the prominent developments in this domain is the emergence of virtual learning communities (VLCs). According to Evans et al. (2023), virtual learning communities are online platforms with vital tools for educators, enabling them to enhance their teaching practices and professional development. According to Graham (2023), VLCs have emerged as a powerful tool in contemporary education. These online spaces provide educators with a unique platform for collaboration, professional development, and resource sharing.

Virtual learning communities extend beyond the classroom and school district reach as teachers connect with other teachers from multicultural and diverse backgrounds, serving students and gaining positive outcomes. Graham (2023) further explained that the continuation of teachers learning from each other virtually reshapes the educational landscape, and it is essential to explore how teachers use VLCs as a learning tool to improve their teaching practices

and enhance their professional growth on a global platform. According to Evans et al. (2022), one of the primary benefits of VLCs for teachers is the abundance of professional development opportunities they offer from people all around the world. As educators seek to stay current with best practices and pedagogical trends, VLCs provide a platform for engaging in ongoing learning. Johnson (2016) highlights that VLCs can serve as virtual "professional learning communities" (p. 23) for teachers to exchange ideas, strategies, and resources with colleagues worldwide. Virtual learning communities enable educators to connect and collaborate with peers across geographical boundaries. This global reach promotes diversity in thought and perspective, which can lead to innovative teaching approaches (Roberts & Rees, 2017). Teachers can participate in discussions, share teaching materials, and even co-create educational resources, fostering a sense of global community among educators (Rocha, 2023). The digital landscape has allowed teachers to reach beyond the school system and connect on a broader scale with teachers having success with a multicultural student body.

Through VLCs, teachers gain access to a vast repository of educational resources. These resources may include lesson plans, instructional materials, research articles, and professional development webinars (Kim & Park, 2020). This extensive pool of resources empowers educators to enhance their teaching methods and customize their instructional materials to suit their students' needs. Teachers actively engage in VLCs to pursue their professional development and growth and obtain resources to aid in the success of students (Ayashi, 2021). Resources can also include online courses, webinars, and discussion forums focused on current educational topics and pedagogical trends (Hsu & Lin, 2019). Teachers gaining access to the correct tools, such as graphic organizers, vocabulary, and even classroom management strategies, gain the necessities to run an effective classroom and improve student success. Virtual learning

communities provide the resources and support for teachers who do not have a content peer available on-site at their school (Ayashi, 2021). Accessing resources through VLC aids teachers with time constraints. Teachers utilize the resources and do not need to spend time creating new innovative strategies. Accessing resources through a VLC empowers educators to stay informed about innovative teaching strategies and incorporate them into the classroom.

Teachers utilize VLCs to support each other through collaboration and reflection, building a network of support. Teachers share teaching materials and resources with other educators, and this practice is particularly valuable for novice teachers who can benefit from the experience and expertise of their more seasoned colleagues (Kose, 2021). Virtual learning communities facilitate communication between educators, enabling them to seek advice, provide feedback, and engage in reflective discussions (Lee & Im, 2020). This constant exchange of ideas contributes to the refinement of teaching practices and the development of a supportive network of peers (Barnes, 2021). Collaborative resource sharing promotes a culture of generosity and mutual support among educators. Collaboration among peers is a cornerstone of VLCs. Teachers often form study groups or professional learning communities within these virtual spaces (Rocca, 2017). These communities allow educators to work together on common goals, such as improving student outcomes or implementing new teaching methodologies. Virtual learning communities encourage teachers to engage in reflective practice (Fox, 2023). By sharing their experiences and challenges in online discussions or blogs, educators can receive feedback and insights from their peers (Wang & Lin, 2018). The reflective process helps teachers refine their teaching strategies and adapt to the evolving needs of their students (Rocca, 2017). Virtual learning communities provide an advantage to teachers seeking support from each other as they

navigate the professional development landscape to improve pedagogical practices and student outcomes (Kim & Park, 2020).

Despite their benefits, VLCs can pose challenges to teachers primarily related to time constraints, the quality of resources, and the digital literacy of teachers. Educators have demanding schedules, and finding time to participate in online communities can be difficult (Kim & Park, 2020). Balancing professional development through VLCs and teaching responsibilities can be a significant challenge to balance both together successfully. Teachers participating in VLCs need to set time aside to become active participants to harness the benefits (Fox, 2023). This is added to the schedule of teaching, grading, IEP meetings, and possibly coaching responsibilities. Classroom prep time is often dedicated to teaching an extra class or section as schools add new students without adding more teachers (Nikkiforos, 2022). Teachers investing in VLCs have time constraints of using the time given after school or possibly off-the-clock hours at home or on the weekends to attend the session and read the professional development content (Nikiforos 2022). This will possibly take teachers away from the benefits of a VLC due to the time spent on other duties and responsibilities. Virtual learning communities require dedication to continual improvement of teaching practices, but time constraints and other teaching responsibilities can hinder the progress and learning provided through the VLC (Fox, 2023).

The quality of resources and information shared in VLCs can vary widely. Teachers may encounter inaccuracies, outdated information, or poorly designed teaching materials (Rogers & Lea, 2018). Navigating the vast amount of content available in VLCs can be overwhelming and time-consuming. Teachers using VLCs need to go through the resources to find the information needed and this can be a challenge to novice teachers trying to find the correct content and

experienced teachers to find the time (Tantu, 2022). Novice teachers are tasked with all the new content and classroom management planning and searching through the content provided in a VLC is time-consuming and overwhelming with the number of resources. According to Tantu (2022), experienced teachers are often given more responsibilities, such as teaching in the prep time or department chair responsibilities and finding the correct quality of resources in a VLC can be difficult with the amount of content. Teachers use the time given during the day for these responsibilities and then do not have much time left over to use a VLC to search through a seemingly endless array of resources and collaborations (Tantu, 2022). There is also a possibility of the information in a VLC being outdated and not designed well (Tantu, 2022). Anyone at any time and from anywhere can add content to a VLC, but there is no standard for the content. Hew and Cheung (2018) explained that resources could be poorly planned and advice not concurrent with current standards of practice or considering the multicultural landscape (Barnes, 2021). Using VLCs effectively requires an amount of time and commitment to finding the correct resources, collaborative communication, and best practices to further improve teacher and student outcomes.

Digital literacy is the ability to access online or technological components with ease and skill. Not all educators possess the same level of digital literacy as some teachers may struggle with navigating online platforms, participating in discussions, or using multimedia resources effectively (Hew & Cheung, 2019). Addressing the digital divide among educators is crucial to ensure equitable access to VLCs. Teachers using VLCs will possibly need training and development on using the resources (Hew & Cheung, 2019). Teachers also come from diverse backgrounds with different training and knowledge especially in technology or online digital literacy. Several teachers in content areas such as career and technical education come from

backgrounds of industry and do not always possess the same amount of teaching digital literacy (Pollari, 2023). Using a VLC with teachers requires schools to provide support and training on how to access resources and use technology. According to Wang (2016), sustaining active participation and engagement in VLCs can be challenging over time for teachers who are not digitally literate. Teachers may lose interest or become overwhelmed by the volume of information and interactions (Wang, 2016). Schools using VLCs will find it essential to implement strategies to maintain and rekindle educators' enthusiasm for these virtual communities (Wang, 2016). Teachers and schools using VLC need to assess the level of digital literacy and reflect on the training needed to begin to implement the benefits a VLC can provide to teachers.

Virtual learning communities have become indispensable tools for teachers seeking to enhance their professional development and teaching practices. These online spaces offer a wide range of benefits, including opportunities for professional growth, collaboration, resource sharing, and communication (Irby et al., 2023). Teachers utilize VLCs in various ways to advance their careers, such as participating in online courses, sharing teaching materials, collaborating with peers, and engaging in reflective practice (Irby et al., 2023). The drawbacks of VLCs include time constraints, the quality of resources, and digital literacy of teachers. Despite these challenges, the advantages of VLCs in fostering continuous learning and community-building among educators are undeniable (Allen et al., 2022). As technology continues to shape the landscape of education, teachers need to embrace virtual learning communities as valuable tools for their professional development. By addressing the challenges and harnessing the benefits of VLCs, educators can enrich their teaching practices and contribute to the improvement of education on a global scale.

Video as a Tool in Teacher Learning

The use of video in teacher learning has various purposes, including resource sharing. Resource sharing is teachers posting resources for other teachers to access at any time (Baralt et al., 2022). Video-based resources occur through demonstrations. These resources can be shared through platforms such as YouTube Learning and Ted Talks. Two platforms, according to Katzman (2023), have allowed the video to serve as a tool for learning not only for students but for teachers' needs and the development of new or refinement of skills. These videos are free and accessible anytime and anywhere to teachers (Rezecki et al., 2022). Teachers using YouTube Learning can watch lessons being taught or listen to other teachers explain the most current educational trends. YouTube Learning includes videos from pre-service teachers completing projects for post-secondary institutions (Gao, 2020). These videos offer new insights and professional development opportunities for experienced teachers to learn from new practices in the field of education (Barnes, 2021). Furthermore, Katzman (2023) explained that administrators utilize these platforms for best practices demonstrations and discussions on the best pedagogical methods. Administrators can show a video of a teacher using the methods in a classroom setting. The use of video can show the teachers how instead of telling teachers how to use the new learning (Bush et al., 2023). Using video provides a model for administrators to help teachers visualize the method presented. (Martinez-Gil et al., 2023) Video in teacher learning benefits teachers in the ability to share and view resources to improve instructional practices.

Video in teacher learning occurs in reflective practices utilizing recorded lessons and peer observations. According to Martinez-Gil et al. (2023), teachers use video to record a lesson and then analyze the footage to self-reflect on their teaching methods, classroom management and student engagement. This self-assessment helps teachers identify areas of improvement and the

need for more professional development in those areas (Ayers & Lauerson, 2022). Teachers use video as a tool in teacher learning in using the same videos to observe colleagues' lessons. According to Jocius et al. (2022), this helps teachers foster a culture of peer support and constructive feedback. Using video to review lessons of colleagues promotes collaboration and sharing effective teaching practices (Sharimova, 2022). Furthermore, Ayers and Lauerson (2022) explained that video is a tool in teacher learning; by recording lessons, teachers can reflect and give constructive feedback.

Video as a tool in teacher learning uses coaching and mentoring support that is available with no time constraints, proximity constraints, or cultural constraints. Teachers seeking additional support utilize video to find resources and experts specifically linked to the knowledge and expertise needed (Miller et al., 2023). Teachers receive targeted coaching and mentoring using video as a tool in professional development specific to each teacher. According to Young (2021), one-on-one support helps educators develop skills and address individual needs through a reflective discussion or analysis. Educators using peer observation or administrative observation to develop areas needing improvement and then using video can have one-on-one support to meet this goal. According to Zhang (2022), the specific coach or mentor does not have to be linked to the teacher by proximity, as video can occur using online platforms and social media. Video as a tool in teacher learning supports professional development by allowing teachers to access content from mentors and coaches (Silva et al., 2022). The support provided is not limited to time, proximity, or culture, according to Jameson (2020). Teachers use video and connect to a mentor who could be in another place, time, or from a different culturally diverse area and background.

Summary

Professional development aims at teachers retaining information and knowledge to implement strategies to improve student outcomes. According to Linares and Valles (2019), traditional professional development methods consist of in-person meetings with administrators or content specialists teaching on a specific topic. This type of one-size-fits-all professional development does not always apply to every teacher's specific needs and the needs of the students in the classroom. The professional development model needs to be examined and using PLCs (professional learning communities) as a method of improving these practices. Instead of a one-size-fits-all, PLCs utilize a specific goal strategy for teachers to retain information and knowledge that is pertinent to the needs to improve student outcomes (Padron et al., 2022). The traditional model of professional development does not address these specific needs of teachers. Using PLC's teachers can collaborate and communicate to improve student outcomes for their specific content area and classroom. According to Wang and Yuying (2019) one method to aid teachers in retaining information and knowledge in a PLC, is a VLC (virtual learning community) by using video as learning tool in the VLC. The VLC allows teachers to learn the content by using technology to enhance learning and knowledge and improve student outcomes. (Hunuk et al., 2019). The traditional model of professional development does not allow the specific learning and implementation to help each student (Babalyuck et al., 2021). The VLC model allows the PLC to enhance the professional development method to help all teachers retain information and knowledge, and in turn affect student outcomes in the classrooms.

Situative theory is using social participation to allow the interaction of people to enhance an outcome. According to Wai (2020), the influence of the situative theory allows collaboration and sharing from anyone. Vygotsky introduced the ZPD (zone of proximal development) which

states that everyone has an area of learning and that learning is specific to each person. The traditional professional development model addresses concerns as a whole and not in a ZPD. This study from Vygotsky (1978) showed that individuals learn best when the content is specific to the needs and that professional development models need to move to a more specific type of need for each teacher and each student. According to Hickey et al. (2022), using the situative theory allows teachers to socially participate and collaborate with others based on needs. The situative theory allows resource sharing with teachers around the ZPD of the content needs to improve teaching practices and student outcomes (Sykes, 2022). The situative theory can break the barriers between sharing and interacting with others with no physical boundaries. The situative theory does have complications and challenges in a large setting according to Lave and Wenger (1991). This theory however can address specific needs of teachers through interactions including conversations, resource sharing, and collaboration on a concern or need in professional development for teachers.

Professional development for teachers historically recognizes the need for lifelong learning and improvement of teaching practices and student outcomes. According to Boudett (2017), teachers are in constant change and reflection of practices to improve student outcomes based on each group and society's challenges. The professional development model needs to take into consideration the society norms and challenges of each student population (Smith, 2018) An apprenticeship model helps teachers with the same challenges or success to collaborate and reflect with each other to improve lifelong learning and the constant changes in education (Useche et al.,2022). Teachers are also asked to address the balancing of professional development requirements offered by a school district or state system. According to Duncan and Reiser (2019), historically, the state, county, or school district recognizes this type of lifelong

learning as a requirement for each teacher to improve practices and student outcomes. Teachers and administrators are required to attend this type of professional development. The historical implications are that teachers are in a constant professional development model to improve teaching practices and student outcomes (Little, 2019).

Addressing professional development for teachers occurs in different approaches, including teacher-led professional development, professional and collaborative learning communities, in-services, conferences, and professional associations (Kavitha & Lolani, 2021). Teacher-led PD refers to teachers teaching teachers content that is specific to the knowledge and experience of the presenting teachers. According to Borko et al. (2020), teachers are learning from each other and typically have a relationship established previously, allowing this barrier to be taken down. Teacher-led PD allows the reflection and implementation to be reflective and continuous since the proximity of the presenter is typically closer than other methods of professional development (Harrison & Killion, 2017). Professional and collaborative learning communities or PLCs can be formed for teachers to continue learning and reflecting with each other in a constant review, implement, and reflect type of rotation. Professional learning communities (PLCs) revolve around collaboration and assisting on specific concerns or topics related to teaching practices and student outcomes (Darlin-Hammond et al., 2017). In-services allow teachers from multiple school sites to collaborate on topics of interest that apply to a group. According to Borko and Putnam (2016), the in-service method aims to bring a larger group of teachers together to reflect and collaborate on teacher and student growth and are typically held in person and when students are not present. Attending a conference also allows teachers of a larger group setting to learn from content experts. These larger settings address large groups and cannot be as specific to teacher's needs. Conferences allow content experts

from around the area to come together to introduce concepts of professional development in a large setting and reach more teachers. Professional associations in teacher groups also allow professional development to take place on a global or local scale (Ni & Marsh, 2018). These associations allow teachers to collaborate and learn on a larger scale. The different types of professional development for teachers all aim at teacher retention, growth, and student outcomes to improve although different in the approach, the same goal is determined (Desimore, 2019).

Virtual learning communities offer collaboration, professional development, resources, and the use of video as a tool for teacher learning. According to Chen and Gaowei (2020), VLCs allow teachers to collaborate with each other using different types of social media or interact with technology tools to interact and learn from each other. This connection reaches out across the nation and globally to beyond what a school or district could offer to teachers (Fletcher et al., 2018). The specific learning allows teachers to seek out their specific needs and student challenges. The VLC also allows teachers who are successful to share and collaborate with others (Trust, 2021). Using video as a tool in this learning allocates the ability for teachers to access content at any time and from any place (Chen et al., 2019). The video as a tool also grants teachers the chance to share and collaborate on resources specific to the teacher, the classroom, the school, and the student. According to Almenara et al. (2021), video as a tool for learning in a VLC model acknowledges the differences in each teacher's needs and helps to address this as a more effective professional development approach.

Chapter 3: Research Method

The problem addressed in this study was that teachers' needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs (Coppe et al., 2024; Pawan et al., 2021). The purpose of this descriptive qualitative case study was to investigate teachers' perceptions of virtual learning communities as a means of effective professional development. This study is a logical response to both the research community and the public education sector, as the purpose and research questions attempt to generate a clear response for additional modalities of effective professional development for schoolteachers.

This chapter includes the methodology to be used and the precise approaches and procedures to determine, select, collect, process, and analyze data regarding the research questions. In this qualitative single case study, the perceived effectiveness of the use of virtual learning communities for professional development will be explored by collecting and analyzing three data sources from a sample of high school teachers. The sections in Chapter 3 include research design, population and sample, materials and instrumentation, study procedures, data analysis, assumptions, limitations, delimitations, and ethical assurances. The last section is the summary that highlights the key points presented in the chapter.

Research Methodology and Design (Nature of the Study)

Kavitha (2019) stated that additional research is needed to guide programs, instructors, and institutions, leading to satisfaction and success for more teachers. Research has shown that teachers need continual ongoing training and professional development to enhance academic achievement outcomes in the classroom (Shi, 2021). Professional development (PD) aims to assist teachers with retaining information and knowledge to implement strategies to improve

student outcomes. According to Linares and Valles (2019), traditional professional development methods consisted of in-person meetings with administrators or content specialists teaching a specific topic. This type of one-size-fits-all professional development does not always apply to every teacher's specific needs and the needs of the students in the classroom. Virtual learning communities (VLCs) are online platforms with tools that are vital for educators and can enable them to enhance their teaching practices and professional development (Evans et al., 2023).

Virtual learning communities are emerging as another format to deliver professional development. They can utilize a specific and individualized goal strategy for teachers to retain information and knowledge that is pertinent to the needs to improve student outcomes (Padron et al., 2022). Using VLCs and video, teachers can collaborate and communicate to improve student outcomes for their specific content area and classroom. With limited existing research, virtual learning communities and the use of video need to be examined.

According to Wang and Yuying (2019), teachers retain information and knowledge using a VLC by using video as a learning tool in the VLC. Virtual learning communities allow teachers to access the content at any time and multiple times, and thus to enhance learning and knowledge to improve student outcomes (Hunuk et al., 2019). The traditional model of professional development does not allow individualized learning and implementation to help each student (Babalyuck et al., 2021). The VLC model allows the professional development method to help all teachers retain information and knowledge, and in turn affect student outcomes in the classrooms.

The research methodology selected for this study was a descriptive case study. According to Allen (2020), descriptive qualitative research provides an allowance for gathering the human perspective outside any numerical data. Bussetto et al. (2020) explained that qualitative research

can effectively explain how people experience the world. Using a qualitative approach will allow the investigation of the perceptions of VLCs as a means of effective professional development. Additionally, Johnson et al. (2020) added that the qualitative collections of human research can generate new insights. The information for this study was a collection of detailed understanding and exploration of real-life situations in a natural setting. A qualitative methodology is the best avenue for studying human phenomena and adding more distinctive findings (Pearse, 2021). Additionally, Ebrahimi (2021) discussed that the method of qualitative research uses a more naturalistic exploration and seeks an in-depth understanding of the social context in the natural environment. Qualitative research allows the reflection of descriptions and explanations (Urcia, 2021). The current problem and purpose data justify why the qualitative research methodology was selected.

By contrast, a quantitative method according to the problem statement of studying the teachers' perceptions would not provide in-depth data and proved to be unsuitable. Quantitative methods offer analytical, statistical, mathematical, or numerical data (Fryer et al., 2018). This study aimed to find in-depth conversations and investigate teachers' perceptions and experiences learning from video in a virtual learning community as a means of professional development. A quantitative approach does not allow for the human element to be explored. Data found in the study of human behavior cannot always be studied through percentages and frequencies (Hammarberg et al., 2018). This type of numerical data relies on structured measurements to draw conclusions and the ability to examine possible associations between variables (Urcia, 2021). Qualitative research is the opposite of quantitative research due to the numerical data collection and analysis methods of qualitative research (Henson et al., 2020). The research of the study aimed to explore complex phenomena, context, perceptions, and social dynamics of using

video-based learning in a VLC. The data for this study were gathered through interviews and open-ended questions. The problem addressed required an understanding of the perceptions or lived experiences of teachers regarding the use of video-based learning in a professional development setting, utilizing the qualitative research design.

The specific design for this study was a descriptive case study. Case studies are the most widely used method in academia for researchers interested in qualitative research (Baskarada, 2018). A case study is an empirical inquiry that investigates a phenomenon or event in a real-life context (Yin, 2009). The researcher conducted interviews and gathered data from teachers to explain the perceptions that teachers have on learning from a video in a virtual learning community. According to Yin (2014) a case study is descriptive, and the purpose is to describe a phenomenon in detail in the real-world context. The information collected in this study is the perceptions of teachers in the real-world context using real experiences in classrooms. The primary focus of such a case study is to explain ‘why’ and ‘how’ certain conditions come into being, that is, why certain sequence of events occur or do not occur (Yin, 2014). Case studies are used in qualitative methods because the researcher explores an in-depth program, event, activity, or process of one or more individuals (Creswell, 2018). The current study was suitable for the case study design because it is studying the perceptions of teachers’ use of video in professional learning communities. Case studies explore an event or program (Azorin et al., 2020). The context of this study is to study teachers’ perceptions of the VLC with the use of video from teachers who have participated in the VLC in a school district. The descriptive case study approach is particularly useful to employ when there is a need to obtain an in-depth appreciation of an issue, event, or phenomenon of interest, in its natural real-life context (Crow et al., 2018).

Several other designs were considered but not chosen for this study. Ethnographic studies are a cultural group in a natural setting over a prolonged period of time (Bannen, 2018). Ethnography is a qualitative research method in which a researcher studies a particular social/cultural group with the aim of better understanding it (Adams & Kramer, 2019). This design requires the researcher to become a participant in the study to gain an insider perspective of the social/cultural group. Ethnographic studies include researchers as a part of the community to observe and document the social behaviors, customs, and everyday life (Berta et al 2015). Ethnography was not applicable in the current study because the researcher was not an active participant in the virtual learning community. Using ethnographic study was not an option in the current study because teachers' perceptions were used to gain information on the virtual learning community but not the perceptions of the researcher.

Grounded theory derives a general abstract theory of a process, action, or interaction grounded in the views of participants (Bonafani, 2017). In grounded theory, researchers collect and analyze data systemically, allowing theories to emerge from the ground up, rather than testing pre-existing hypotheses. The current study aims at collecting information from the use of video in virtual learning communities in a professional learning community. Grounded theory allows researchers to develop a theory that explains a specific phenomenon and is not seen as a descriptive method (Brix, 2019). The specific phenomenon or incident is the unit of analysis and not individual behaviors. Grounded theory was not applicable in the current study because the lack of behaviors or perceptions from the teachers was not studied. Grounded theory allows researchers to develop a theory that explains specific phenomena and allows the theory to emerge from the ground up (Capper, 2019). The identified research problem in the study is the perceptions of using video in the VLC. Grounded theory does not allow the information the

researcher was seeking into the behaviors and opinions of the use of the video in professional development.

A historical research design involves the examination of past events, behaviors, or phenomena to understand patterns, causes, and effects (Carpenter & Munshower, 2020). The design aims to provide insights into the evolution of events and their impact on the present. In a historical research design, evidence from the past is synthesized to establish facts that defend or refute a hypothesis (Chia, 2017). The historical research design uses secondary sources and a variety of primary documentary evidence (Creswell & Guetterman, 2019). The sources could be diaries, official records, archives, maps, pictures, audio, or visual recordings. This was not applicable in the current study because the research is taking place simultaneously with the study. Teachers' perceptions of using video in a VLC were the topic of study and are continuous and current. The current research study used interviews of teachers to gather information on the perceptions of the use of video in the professional learning community in professional development. The current study and research problem used the current method of professional development occurring before, during, and after the current study timeframe.

Population and Sample

The population of a study is a complete set of people with a specialized set of characteristics (Ghaljaie et al., 2018). The population of this proposed study was high school teachers across the United States who participated in professional development using virtual learning communities (VLCs). This research was conducted with high school teachers because VLCs are utilized more often for professional development in this setting. The use of VLCs is more prominent in high school settings due to the nature of the number of high school teachers in

content areas. In elementary schools, teachers work closely with the other grade level teachers at the same schools. Virtual learning communities are used by high school teachers because they are working with teachers in other schools.

The sample of a study was a finite part of a subset of participants drawn from the target population (Edberg, 2021). In the case of this case study, a sample of high school teachers was recruited from a medium-sized school district in a suburb of a major metropolitan city in the southwest United States. The school district used for this study has three high schools. Licensed high school teachers, teaching grades 9-12 who taught at two of the three high schools were eligible to participate. The reason for one school being excluded from the study was the researcher serves as principal of the third school and wanted to avoid any conflicts of interest or ethical issues by recruiting teachers at this school. The teachers eligible to participate at the two high schools would need to have participated in a VLC and have perspective on this type of professional development. This school district had been participating using a VLC as part of professional development training. This has included in-person training that occurred once per six-month time frame for the last three years. Teachers also attended online professional development virtual learning communities using video that have occurred once every 60 days.

The participants were selected using purposeful sampling methods. The purposeful sample is to choose individuals who have interest, experiences, or encounters who have encountered the phenomenon (Dhilia, 2018). The method of purposeful sampling fits the research design as the goal is to select participants with characteristics that enable the resource to answer the questions (Ghaljaie et al., 2018). Purposeful sampling does not provide a random selection of participants from the targeted population, but a more specific group with experience.

For this study, the high school teachers were already involved in professional learning communities utilizing video in a VLC.

In the case of this study, there were 250 teachers in the selected school district, with 36 available from the two schools included in the study. The range of participants for the initial recruitment was 15 to 20 teachers. Eventually, 16 were selected from those who volunteered from this group on a first-come, first-served basis of teachers meeting the inclusion criteria. A recruitment letter was sent to the 36 teachers (Appendix B). Additional criteria for selection include teaching for five or more years and participating in one or more years of the VLC. Giuri et al. (2019) stated that a population of this size allows for inquiry and in-depth insights into the research study. The research study does not need a representation of everyone who has encountered the research questions. A small sample was appropriate for the study and the purpose.

Materials or Instrumentation

In this study, there were four types of data collected. The first was a questionnaire administered to teachers in the study. The purpose of the questionnaire was to gather background information to show participation. The second source of data was interviews. The third source of data was journals. The fourth source was the analysis of archival data from teacher participation in the VLCs.

The first data source was a questionnaire to gather background information about participants regarding their experience teaching and participation in the virtual learning community. This information was used to confirm participants meet the criteria for participation in the study. The goal was to gather information about the experiences of the teachers with the

virtual learning community in the classroom. The questionnaire was developed using an online form on Microsoft Forms and can be found in Appendix C.

The second data source was semi-structured interviews. According to Kaden (2020), questions are foundational and identified by the researcher as relevant to the research problem. Interviews are also semi-structured, including both formulated questions and responses in a semi-structured format. The semi-structured interview integrated a predetermined set of open-ended questions and then the chance for the researcher to gain more insight into the information using follow-up questions (Kaden, 2020). The participants were asked open-ended questions and asked to answer with a short description of their best abilities using their own unique understanding. The questions were formulated to ensure the understanding of the research questions and will be coded according to each question (Appendix D). The semi-structured interviews allowed the respondents to express views openly and help the researcher gather information (Kaden, 2020).

The researcher used an interview guide to regulate the interview process. The interview guide is an outline of the topics that are covered, and the high-level questions answered under the topics (Edberg, 2021). This allows the structure of the interview to know what to ask and ensures the questions covered are the same for each participant (Kallio et al., 2018). The interview guide helps to keep the researcher on track with the goal of the research. An interview guide begins with the larger research question and then the development of each of the major areas (Lindgreen et al., 2021). After developing the key areas, the next step is to develop questions in the key areas. Researchers begin the interview guide with a warm-up question that ensures the participant can answer the question easily and at length. Researchers should develop more how questions as to why questions to help participants provide more of a narrative response

(Döringer, 2021). The interview guide should leave the harder questions to the end. This allows the rapport to be developed between the participant and the researcher. The last question on the interview guide should be the closure of the process and research and allow the participant to feel like they have had an impact, and they have been heard (Döringer, 2021).

The proposed interview questions were reviewed by an expert panel. An expert panel in a research study allows validation that the study stays on topic (Kallio et al., 2018). The expert panel will consist of three high school teachers from outside the school district to ensure the questions are appropriate for the study and aid in establishing trustworthiness (Kallio et al., 2018). The expert panel will have a different content background. The first teacher was a teacher with five years of experience in senior English content, specifically British literature. The second teacher has three years of teaching experience in junior Math content, specifically Algebra II. The third teacher has five years of experience in the area freshman-senior Career and Technical Education content, specifically early childhood education. The three teachers were familiar with professional development, the virtual learning community, and how it is used in high school settings. According to Edberg (2021), the review by a panel of experts and any subsequent modification of the questions helped to establish the trustworthiness of the data collected for this study. Questions are open-ended and ensure that participants remain as descriptive as possible. The questions gain insights from the participant without the reply being controlled by the researcher (Edberg, 2021). The participants were asked to share their perceptions and experiences with learning from video in a virtual learning community as a part of professional development. The full list of questions can be found in Appendix D.

The interviews were conducted in person. The in-person method of interviewing also allows the researcher to gain a more detailed understanding of the participants answers to the

questions (Döringer, 2021). The tone in which the questions were answered, including body language, are utilized in the in-person interview. The researcher took notes during the interview and then compared the details of the participants' descriptions. Information was analyzed in whether the details provided would sufficient information based on the participants' experiences and opinions (Stenfors et al., 2020). The participants were scheduled for interviews following screening and consent procedures. When the interview time was scheduled, the participants were notified with a summary of what the interview would focus on, the procedure for the interview, and the length of the interview. All interviews were conducted through one-on-one meetings before, during, and after school. The researcher used a journal and a voice recorder to record notes and the conversations during each interview that contained the interview questions and follow-up questions. The interviews were 18 to 62 minutes in length. There were no monetary incentives offered to participants. A \$20.00 gift card to a local coffee shop was offered to participants. This allowed the participant to have a buy-in to spend extra time outside of their day to participate in the interview. To obtain more credibility, member checking was performed after each interview. As soon as each interview was completed, interviewees were instructed that a copy of the transcript from the interview would be emailed to them for review. Instructions were included in the email for interviewees to highlight any omissions they would like. Interviewees were given three days from the interview to return any omissions or feedback. Of the 16 participants, there were zero omissions or feedback returned. The third data source was classroom journals. The journals allowed the teachers to reflect on the classroom lessons using the content that was provided in the virtual learning community. Journals of classroom activities and interactions can provide valuable qualitative data about teaching practices, student engagement, and the learning environment (Allan, 2020). These journals helped to identify the

use of the virtual learning communities and the understanding of the teacher. The research question is how high school teachers perceive and describe the video as an effective means of professional development. Using the journal questions, the researcher gathered if the objectives and language of the teacher and students match the objectives and language of the VLC (Appendix E). Journals allowed understanding and engagement of learning about a topic of focus (Annink, 2017). This showed understanding or mastery of learning from the video in the VLC.

The fourth source of data was archival data of time spent participating in the learning community and total amounts of opportunities teachers were given learning in a virtual learning community. Descriptive data sets include those that describe the who, what, and where of events or experiences from a subjective perspective (Kim & Park, 2020). Archival data is any data that is collected prior to the beginning of the research study (Henson et al., 2020). The school provided a list of the different types and amounts of learning teachers have participated in using a video in a virtual learning community. This information was obtained from the district associate superintendent of curriculum and instruction, from district attendance data. The district associate superintendent of curriculum and instruction joined each virtual learning community session to record attendance. Data included the dates of professional development, the topic of each professional development, and the attendance check-in data of the VLC. The data collected gave insight into the types of professional development the teachers have taken and help qualify or disqualify a teacher from the research study based on the amounts of times they have taken the professional development through a video in a VLC. This data source allowed the information of knowing the amount, types, and opinions of teachers for each of the professional development opportunities they have taken using a video in VLCs.

Study Procedures

The first study procedure was to secure permission from the school district. This was completed by writing a letter to the district explaining the details of the study and is included in Appendix A. This letter was drafted explaining the research study, and the resources that would be needed from the school district. The superintendent of the school district was the recipient of this letter. This letter was reviewed by the superintendent and the school board members and approved. Then, the next study procedure was to recruit the study participants using a recruitment letter found in Appendix B. The letter was sent to the 150 teachers in the two schools within the school district participating in this study to explain the study and the participant requirements. The recruitment letter included all the requirements of the study and the confidentiality agreement (Appendix F). The recruitment letter also explained the time commitment and requirements to participate, and that the study is voluntary, and advised them of their ability to withdraw from the study at any moment without negative feedback or consequence.

Next the 36 teachers were sent a link to complete the digital questionnaire to gather background information of the teachers to determine their eligibility to participate in the study. This included teachers' content area, the total years teaching, and the years spent using video in a virtual learning community. This questionnaire is in Appendix C. The researcher then utilized purposeful sampling to recruit the teachers. Using the purposeful sampling focuses on the subjects' characteristics ability to answer the research questions (Ghaljaie et al., 2018). The researcher selected 16 high school teachers to participate. Each selectee was sent a digital participant selection letter that outlined the next steps in the research study. Following the questionnaire, teachers were selected on a first-come, first-serve basis. Interviews were

scheduled for a two-week time frame after selection notification. Teachers participated in scheduled interviews using Outlook email digital calendar invites. The researcher first used an interview guide to ensure the quality of questions related back to the research problem (Levitt et al., 2021). Each question was mapped to the two research questions in this study (Appendix D). Teachers selected the time for the interview that coincides with a prep period or a before or after school time. The participants were asked about the effectiveness of professional development, including the VLC and learning from video versus other types of professional development included in Appendix D. After the interviews, a transcript of the interview was sent to each participant to read to ensure the accuracy of the information from the interview.

Following the interviews, the same participants were asked to complete journals as described in Appendix E. The teachers were given journal questions to complete within the next week and given five days to answer and submit. The researcher gathered information on the implementation of the VLC and answered the question to perceive and describe VLCs as an effective means of professional development. The journal questions were looking for the implementation of the VLC and, therefore, show the teachers' understanding of using a video in a VLC as a means of professional development. In guided notes, there is a type of outline of the material to be covered (Ebrahimi, 2021).

After the journal responses were complete, the next week, the researcher took guided notes using the journal responses to keep the content of the research problem and questions in focus. The guided notes included the two research problem questions: how high school teachers perceive and describe virtual learning communities as an effective means of professional development, and how high school teachers perceive and describe the video as an effective professional development. Including the two research questions kept the study focused. Guided

notes have been shown to substantially increase understanding and awareness of the topic focus (Haydon et al, 2011).

Finally, the researcher gained access to archival data about teacher participation in the school district's VLCs. The researcher analyzed the data to determine the amount of time each teacher spent participating in the learning community, as well as the total number of opportunities the teachers were given to learn in a VLC. By analyzing this data, the researcher had additional descriptive data points about teacher behavior within the VLC to determine who had involvement in the community. This information can help contextualize the responses provided by the teachers in the interviews.

Data Analysis

The researcher used thematic analysis to code and identify emergent themes in interviews and journal responses. Cyclic analysis via inquiry, listening, and authentication are significant aspects of qualitative studies (Mihas & Odum Institute, 2019). Kostere and Kostere (2021) also stated that using a qualitative research design, the conclusions depend on the transparent and plausible interpretation of respondents' narratives. The collected information in the research must be coded, connected, fashioned, and controlled to generate valuable and correct conclusions (Maher et al., 2018). Interview questions and teachers' journal responses were gathered, and then the information was recorded and transcribed in the researchers' journal and then analyzed. The journal record was coded for patterns, subjects, and themes. Elliott (2018) advised that content or asserted theme evaluations give answers to who, whom, why, what, and how questions. The patterns identified and themes identified will be analyzed for likeliness. The researcher returned the interview transcripts and question responses to validate each response and confirm accuracy (Hemphill, 2018).

The study data was analyzed according to the six stages of thematic analysis outlined by Braun and Clark (2006). The steps were: familiarization with the data, generating initial codes, searching for themes, reviewing themes, and defining, naming themes and producing the report. Braun and Clark (2006) stated that thematic analysis is a technique within a qualitative study that categorizes patterns and themes within a specific set of information. The first stage entailed the development of reading the transcripts three times and then taking notes. This helped gain familiarity with the data and information. The second phase generated codes with common vocabulary themes. The fourth and fifth stages reviewed themes and define themes. The sixth and final step was to produce the report.

In the first phase, the researcher read the transcripts three times and made notes about the interviews. The notes helped to generate the next step as the transcripts were viewed and coded for initial themes. The researcher found coding themes using a word or short phrase that associates the data segments with the research objectives. This step was aimed at the development of the codes that aid the second phase. Distinctive phrases and responses within the transcripts and from the researchers' notes were identified (Kaden, 2020). Then the third step identified the patterns and themes. After the completion of the third phase, the researcher identified relationships and clustered themes in the fourth phase. Analyses of themes with no connection were not disregarded as the new findings might be significant to the overall study. The identification and cluster of themes allowed the write-up of the results analysis to be developed (Kostere & Kostere, 2019). Examples from the participant narratives based on each theme were developed to present an account of the interest in the phenomenon. Descriptive statistics from the archival data and questionnaire were analyzed to gain the perspective of the

types of teachers studied and their involvement in the virtual learning community. The results write-up is presented and discussed in Chapter 4.

Assumptions

Research assumptions are the aspects of the study that are acknowledged as correct or sensible by the investigator or individuals who read the research (Wolgenmuth et al., 2018). The current study contained various assumptions. The first assumption was that the participants would be honest with the researcher. This includes the detailed experiences of using video in a virtual learning community for professional development. The second assumption was that participants are assumed to be utilizing the material presented in the virtual learning community. This includes using the content provided in the virtual learning community professional development sessions to improve classroom instruction.

Limitations

Limitations in research refer to the conditions, influences, and shortcomings which the researcher cannot control but place constraints on the study methodology and conclusion (Theofanidis & Fountouki, 2018). The first limitation of the study was the collection of data and time constraints on the participants' schedules, hindering full participation. To mitigate this limitation, the researcher will invite all high school teachers to participate in the study. This increased the chances of gathering information because only a small sample of 15-20 participants was needed. Another limitation is the trust between the researcher and participant. The participants were not convinced to share their experiences with a district-mandated virtual learning professional development topic. The researcher provided the nature of the study, notice of confidentiality, and assurance that the data collected will be protected to respond to this limitation. The participants' trust and relationship increased with this step, allowing the

participants to provide true experiences regarding the phenomenon in the study. The limitation of deductive disclosure was a limitation in the study. Deductive disclosure occurs when the traits of individuals or groups make them identifiable in research reports (Tolich, 2024). The researcher included teachers from multiple disciplines and, therefore, included non-identifiable traits in the research study.

Delimitations

In research, delimitations describe boundaries that a researcher has set for a particular study (Theofanidis & Fountouki, 2018). The key delimitation in this study was focusing on high school teachers as opposed to all levels of teachers. Theofanidis and Fountouki (2018) stated that scholars set delimitations to ensure their objectives are not too big to accomplish. The delimitation relates to the problem statement and existing literature. The identified research problem, which was the use of video in a virtual learning community, was appropriate to focus on high school teachers rather than the entire population of teachers. All teachers in the specific school district studied participated in learning from a video in a virtual learning community. The high school teachers were the first to begin professional development using video in a virtual learning community. The district professional development was used with the 250 teachers in the district, but only two schools were utilized for the data sets.

Ethical Assurances

Permission from the superintendent of the school district to approve the study was also sought and gained (see Appendix A). Before beginning any study procedure, the researcher sought permission and approval to conduct this study from the National University IRB. Siddiqui and Sharpe (2021) stated that acquiring approval from the university IRB guarantees that the study followed legal and moral standards established in the Belmont Report. The Belmont report

includes the protection of participants, respect for persons, beneficence, and justice. The first protection is respect for individuals who are entering the research voluntarily and they are provided with information about the study and not under duress (Kimmelman, 2020). This was addressed by providing the respondents in the study with a minimal risk and mainly related to the disclosure of the respondents' personal information. The willing individuals signed a consent form and notice of confidentiality. This was signed before participation in the data collection process. The researcher assured all participants that their data would be kept confidential and that their identities would not be revealed in any of the study results. The researcher used pseudonyms for each participant, naming them Participant One, Participant Two, and so forth. The second protection is the protection of benefit, which is that the participants did not have any harm, and their well-being is assured (Kimmelman, 2020). To address this protection, the researcher ensured ethical and security measures were taken to ensure that the risk to participants is negligible to zero, and thus no risk equals no benefits. Participants were notified of their ability to withdraw from the study at any time without negative consequences. The third protection is justice, and this is that participants were selected fairly, and the researcher selected participants based on addressing the research problem and not because of the participants ease of availability (Kimmelman, 2020). The study was voluntary and only given to willing and available participants.

The interviews were recorded for transcription, and the researcher ensured that the data was kept safe. The data, study materials, interview transcriptions, researcher notes, confidentiality forms, and consent forms were locked in a safe. The researcher was the only person with access to these study materials. The data stored on the computer was stored in a password-safeguard and secured on the hard drive, which was locked in the safe. All data from

the study will remain locked for three years in compliance with the National University IRB guidelines. After this time, the researcher will permanently delete the unused data and destroy the documents.

Summary

The problem addressed in this study was that the teachers' needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs (Pawan et al., 2021). The purpose of this descriptive qualitative case study was to investigate teachers' perceptions of virtual learning communities as a means of effective professional development. The research design for this study is a case study using qualitative methods, including a questionnaire, interviews, journals, and archival data for data collection. The qualitative research method case study was appropriate for the study because it is an empirical inquiry that investigates a phenomenon or event in a real-life context (Yin, 2009). This study aimed to find the in-depth conversations and perceptions of teachers using video as a virtual learning community (VLC). As Hammarberg et al. (2018) stated that quantitative case study does not allow for the human element to be explored. Data found in the study of human behavior cannot always be studied through percentages and frequencies. The two research questions the study addressed are: how do high school teachers perceive and describe their learning through virtual learning communities as a means of professional development, and how do high school teachers perceive and describe their learning from video in virtual learning communities as a means of professional development?

There were 250 teachers in the school district where this study will be conducted. An introductory email that contained the details of the research project, what specifically would be asked of participants, and the time commitment asked of participants. Of the 245 teachers, 16

teachers were selected on a voluntary basis from two of the schools in the district. The sample teachers had taught for five or more years and participated in two or more years of the VLC. Purposeful sampling fits the qualitative methodology and case study design. The purposeful sampling was used to recruit high school teachers involved in learning from video in a VLC. The research was conducted with high school teachers who were involved in VLCs. These teachers participated in a VLC through professional development. The data were coded and analyzed using thematic analysis.

The research assumptions include that the participants were to be honest with the researcher, including detailed experiences of using video in a VLC. The second assumption was that participants are using a VLC and professional development from the school. Limitations of the study included the time constraints of the participant and the trust between the researcher and the participant. The researcher provided the nature of the study and confidentiality assurances to respond to these limitations. Delimitations in the current study focused on high school teachers because of the connection to the research problem, which was the use video in a VLC. This problem refers more to high school teachers since the use of VLCs occurs more often due to the number of teachers in a high school setting. Chapter 4 contains a presentation of the results and data analysis.

Chapter 4: Findings

The problem addressed in this study was that traditional, in-person professional development programs no longer meet teacher needs for continuing training and skill enhancement (Coppe et al., 2024; Pawan et al., 2021). The traditional method of professional development has caused many issues within school districts. Baird (2021) explained that there is not enough time in the 180-day school calendar for district leadership to provide annual mandatory state and federal training in addition to professional development to grow their respective teachers, and therefore, the professional development suffers.

The purpose of this study was to investigate teachers' perceptions of virtual learning communities (VLCs) as a means of effective professional development. McLaughlin et al. (2021) cited that more research needs to be done to understand the learning perceptions of teachers learning from video in a virtual learning community to build professional development programs adequate for growth. Teachers who receive timely professional development delivered in a manner suitable to their learning style are more likely to implement the tools covered in professional development. (Teufel & Ahnert, 2022) A purposive sample was used in this study, with 16 high school English teachers participating. These teachers came from the same school district in the west valley of Arizona. This study included in-person interviews with participating teachers and the personal journals of teachers detailing their experiences with using a virtual learning community to receive professional development. The school district also provided data on participant use statistics within the virtual learning community. Chapter 4 is organized around two research questions: How do high school teachers perceive and describe their learning through virtual learning communities as a means of professional development, and how do high school teachers perceive and describe their learning from video in virtual learning communities

as a means of professional development? In the upcoming section, the researcher reports on the trustworthiness of the data, the results, and the evaluation of the findings. This chapter contains the levels of trustworthiness of the data collected, the data analysis procedures, the themes of the data that emerged, and the data results. A summary of this chapter follows.

Trustworthiness of the Data

Qualitative research methodology was used in this study due to its human element, which is an acceptable approach to determining teachers' perceptions of their virtual learning community as a platform for professional development. Stahl and King (2020) explained that trustworthiness can be established through credibility, transferability, confirmability, and dependability. This study relied heavily on these criteria, as with the use of human subjects for participants, the researcher focused on not only the statements provided but also the tone and inflection that were portrayed in the in-person interviews. Stahl and King (2020) explained that using in-person interviews as a data collection method, it is important that a researcher uses a sophisticated coding system that allows the verbiage used but adds the human element of understanding the articulation of responses. This adds to the trustworthiness of the data collected.

Credibility

The first aspect of trustworthiness is credibility. Credibility is established through the study's findings (Stahl & King, 2020). Credibility can be defined as a collection of data from various sources to provide elements of believability and corroboration (Stahl & King, 2020). Multiple human resources were used in collaboration with a collection of research found in the literature review. The teachers who participated in this study were established English teachers with a variety of years of experience. Years of experience ranged from two years to 25+ years. All had the same amount of subject time in the virtual learning community, thus providing

credibility to the data. This study relied on content-rich participants in their respective grade level curriculum and many years of service in education.

Transferability

The second aspect of trustworthiness is transferability. Transferability demonstrates that this study can be associated with other populations (Stahl & King, 2020). The researcher also demonstrated the transferability of the data by showing that this study could be used with different populations in the education community. Transferability can be established by replicating this study in another setting (Dufour & Richard, 2019). The researcher used the school district email to propose this study to all English teachers at both selected schools. For example, this study could have used teachers from social science, mathematics, science, foreign language, or career technical education. This study investigated teachers' perceptions of virtual learning communities as a means of effective professional development. All teachers who participated in this study had multiple levels of commonality, such as being from the same school district and being subjected to the online learning community for professional development. Additionally, there is the potential to replicate this study with other teacher sets from different curriculum departments, as they were also subjected to the online learning community as a means for professional development. All teachers in this school district had the same time allowances and opportunities. Baskarada (2014) explained that this type of sampling strategy will harvest unbiased and illustrative findings due to the vast approach to recruiting participants for this study. Of the 16 participants, all of whom were English teachers, this sample was one teacher group that was and has been subjected to district-mandated use of the virtual learning community as a means of professional development.

Confirmability

The third aspect of trustworthiness is demonstrating the confirmability of the data (Stahl & King, 2021). Confirmability is established when data sources can be substantiated by others and not just the singular researcher (Bloomberg & Volpe, 2019). Confirmability was demonstrated through the non-biased neutrality of the findings. All English teachers were given the opportunity to join without any prejudice or bias of the supervisor or leadership regarding the comments provided in the journals and interviews. The researcher provided the backgrounds of all participants (Table 3) to demonstrate that the participants did, in fact, come from various years of service, years of experience using VLC, and years in the profession to further show the non-biased neutrality of the data source. This baseline data of all teacher participants exemplified their years of teaching service, years in the school district, as well as the subject taught and the types of English classes they taught. The establishment of confirmability through triangulation was used in the thematic analysis. This included in-person interviews, which allowed the researcher and the participant to have a dialogue about their perceptions and see and feel the participants' tone and language when describing their perceptions. The researcher used an iPhone app called "Itranscribe." "Itranscribe" recorded and transcribed the interviews. Participants could see their transcripts when the interviews were finished to edit and reflect on their responses to ensure accuracy. This ensured that the data was unbiased, and their answers were true perceptions of using the virtual learning community as a means for professional development. Consistent with the methodology, design, and research process of this study, confirmability was established through an audit trail in NVivo. Through a rigorous coding process, all responses that were identified in the in-person interviews and journals were

interpreted and analyzed for themes. The participants' identities were safeguarded by renaming them Teacher 1, Teacher 2, and so forth.

Dependability

The fourth aspect of trustworthiness is dependability. Dependability is the ability for a study to be repeated by other researchers and produce consistent findings (Stahl & King, 2020). Dependability was established by allowing participants to edit and reflect on their responses before being finalized. All respondents were given 48 hours to digest and reflect upon how they answered both in-person questions and their journals. Participants were given a deadline of seven days to make any final changes to their perspectives. No participants edited their answers after the 48-hour window provided by the researcher. Participants' perspectives, opinions, and statements provided the necessary data to demonstrate this study.

Data Analysis Procedures

The study data were analyzed according to Braun and Clark's (2006) six stages of thematic analysis. The steps are familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report (Braun & Clark, 2006). The first step was familiarization with the data. A vast amount of data was captured from the in-person interviews and the teacher-led journals. All participants had substantial responses, which gave a deeper analysis of what was noted. In reading the initial notes from the participants and researcher, common terms and phrases were highlighted for commonality between participants. Terms such as “confident,” “enjoyment,” and other terms of happiness, overall productivity, and efficiency were highlighted. Other terms that suggested feelings of negativity were also highlighted to gauge the commonality between participants.

The second step was to develop initial codes. Once the initial notes were analyzed for basic commonality between participants, the second step in thematic analysis began to gauge deeper and more meaningful statements to develop codes for further study. There were seven codes used to categorize the data from the teacher journals and the in-person interviews. These seven codes were positive descriptions and perceptions of the use of video, negative descriptions and perceptions of the use of video, positive perceptions of the use of VLCs for professional development, negative perceptions of the use of VLCs for professional development, statements in relation to RQ1, statements related to RQ2, and statements of indifference. Common statements that were seen throughout the re-reading process included statements of feeling empowered with the use of VLCs as a modality for learning. The overarching statement noted throughout the research notes was a feeling of efficiency and a modern feeling of learning as opposed to past professional development methods. Essentially, the researcher highlighted the commonalities, further analyzed them for their connectedness to the research questions, and generated a coding system in NVivo for further analysis.

The researcher developed a total of seven codes that were consistent with the data that was collected. These codes were positive perceptions of a VLC for professional development, negative perceptions of a VLC for professional development, positive perceptions of the use of video in a VLC, negative perceptions of the use of video in a VLC, direct reflections to RQ1, direct reflections to RQ1, and feelings of indifference. After analyzing the data, these codes allowed the researcher to efficiently organize all aspects of the collected data for a more concise and thorough analysis.

The third step was to search for themes. Throughout the first two steps of identifying commonality in phrases and evaluating notes to generate a coding system. The researcher began

identifying patterns and themes and making additional notes to ensure that common terms and phrases in the read and re-reading of notes matched, and future conclusions could be made.

During this step, the researcher took steps one and two, highlighted words and phrases, and noted how often these sentiments occurred. This type of evaluation produced six main sub-themes that were directly related to both research questions. Once the seven codes in NVivo were set, the researcher read through the data again for specific words and phrases that could be attributed to each code. Words and phrases of growth or negative feelings were seen throughout the data and coded. Participants were very frank and forthright in their answers, thus making the coding job easier for the researcher. A main commonality evident by the number of occurrences and specific words used was participants' confidence in the VLC. Kostere and Kostere (2021) explained that qualitative research design highly depends on the transparent and plausible interpretation of the narratives provided by all human interactions.

The fourth step was reviewing themes. The researcher used the seven codes to further identify and understand the relationships and the level of connectedness between them. NVivo allowed percentages to be generated of how commonly such terms and phrases were used by participants in the data. For example, participants who agreed with using the VLC as a means of professional development showed a 76.8% commonality among participants. Therefore, based on this, it can be concluded that most of the 16 participants agreed with RQ 1.

The fifth step was defining and naming themes. Then, the researcher reviewed the themes and their definitions. The researcher again read through the coded data to further determine the apparent themes. Further commonalities in the phrases and words used to describe their experiences were analyzed for the overall theme of the data. The use of multiple sources and specifically aligning matching themes with one another established trustworthiness and

substantiated the responses from teachers. Additionally, credibility was established through the triangulation of coded responses per the themes discovered.

The sixth step was writing up the results. The write-up of results from the analysis of the identified themes is the culmination of steps 1-5 in the six stages of analysis. This stage is imperatively important as it allows the researcher to give further illustrations of the data. During this stage, the researcher hand-wrote an outline detailing what emerged from each stage of the analysis to ensure that all the details from all six stages were explained in this dissertation.

Themes

Six themes emerged that aligned with the two research questions. Three themes, along with one sub-theme per theme, aligned with RQ 1, and three themes, along with one sub-theme per theme, aligned with RQ 2. Table 2 shows the themes and sub-themes that align with each research question. During the coding and theme alignment stage of analysis, common words and phrases were highlighted with each corresponding research question for accuracy. Themes one through three, with sub-themes one through three aligned with RQ 1, and themes four through six, along with sub-themes four through six, are aligned with RQ.

Table 1*Identified Themes and Sub-Themes*

RQ	Identified Themes	Sub Themes
RQ 1	Theme 1: Solid Platform for Learning	Subtheme 1: Dependability
	Theme 2: Adequate Coverage of Topics Within the VLC	Subtheme 2: Deeper Learning
	Theme 3: Effective Means of Learning	Subtheme 3: Genuine Professional Support
RQ 2	Theme 4: Deeper Understanding of PD	Subtheme 4: Professional Learning
	Theme 5: Specific Curriculum Development	Subtheme 5: Continuity in Learning
	Theme 6: Commonality of Learning Among Department Members	Subtheme 6: Continuity

Participants

This study was conducted with 16 participants. All participants were English Language Arts teachers with various backgrounds and many years of experience at the high school level. Of the 16, 10 were women and six were men. All participants in this study were certificated teachers with the Arizona State Department of Education. The 16 participants taught various levels of English language arts, ranging from 9th grade to 12th grade. The race and ethnic backgrounds of the teachers also varied, including Caucasian, African American, and Hispanic backgrounds. Table 2 provides a summary of the participants in this study.

The participants in this research study have come from various backgrounds, years of experience using the VLC platform, and grade levels taught. In this research study, it is important to note the range between some participant's years of teaching experience relative to their years of VLC usage. Some teachers, such as Teachers 1, 2, 8, 10, 11, and 12, have 19 +

years of teaching experience but less than 10 years of using a VLC for their professional development. Therefore, these teachers spent almost a decade receiving professional development offerings from school district leadership in methods other than technology, such as a VLC.

Table 2

Characteristics of Research Study Participants

Teacher ID	Years of VLC Experience	Grade Level Taught	Years of Teaching Experience
Teacher 1	8	12 th Grade	24
Teacher 2	6	11 th Grade	21
Teacher 3	3	12 th Grade	5
Teacher 4	4	9 th Grade	9
Teacher 5	6	9 th Grade	7
Teacher 6	2	11 th Grade	3
Teacher 7	9	12 th Grade	11
Teacher 8	11	11 th Grade	22
Teacher 9	7	11 th Grade	14
Teacher 10	9	10 th Grade	22
Teacher 11	9	10 th Grade	24
Teacher 12	5	9 th Grade	19
Teacher 13	9	9 th Grade	13
Teacher 14	4	9 th Grade	5
Teacher 15	4	11 th Grade	6
Teacher 16	3	11 th Grade	3

Findings

Six themes emerged that aligned with the two research questions. Three themes, along with one sub-theme per theme, aligned with RQ 1, and three themes, along with one sub-theme

per theme, aligned with RQ 2. The findings illustrate these themes after analyzing the three data sources: teacher interviews, teacher journals, and secondary data from teacher participation in the VLCs. The findings are reported by research question and then by theme and subtheme.

Participants in this study shared many responses regarding using a VLC for professional development and using video for learning inside the VLC. Responses varied amongst teachers for various reasons, such as length of teaching experience, grade level subject matter, learning style, and time spent using the VLS as a learning tool. While the core subject of ELA was common among participants, all participants shared their approval and comfort with using a VLC.

Research Question 1

Theme 1: Solid Platform for Learning. Fourteen of 16 participants in this study agreed that the VLC was a solid and reliable platform for learning regarding professional development offerings. In the in-person interview process, participants shared in various ways that they felt the VLC never had issues with the login process, the loading of learning modules, or viewing any interactive activities. For example, Teacher 9 stated, “Quality of content is usually good, most videos that we get are usually high grade...district spent time making them so we can understand and keep our attention. Most topics are relevant to what we do.” Teacher 13 also explained,

[The VLC] is effective because of its easy-to-use application and digestion of the learning content. The video provides us with a channel on which we can discuss in a very high-tech, relevant atmosphere and have many presentations that we watch as a department and discuss. It makes completing our PD requirements a breeze.

Most participants expressed the sentiment that the VLC is a solid platform for professional development. Most of the time, participants in this study reported that they had positive perceptions of using VLCs as a means of professional development. Of nearly two-thirds of respondents who expressed that the VLC was a solid platform, there was a noticeable difference in time spent logging into the platform. On average, many participants spent 52% more time per week (over the course of the school year) logged into the VLC.

Sub Theme 1: Dependability. During both the in-person interviews and the teacher journals, teachers shared that the platform was dependable and did not cause any significant issues during the technology aspect of learning. For instance, Teacher 10 explained, "... I like how it is set up; I enjoy and understand the parameters in which we are to work. I think my perception has always been positive with this initiative...I am pretty picky with my technology." Many participants also shared that they had positive perceptions of the use of a virtual learning community as a means for professional development in terms of the VLC being a solid, reliable platform, being an effective means for learning professional development topics, and providing adequate coverage of issues that are required for professional growth. For instance, Teacher 11 stated, "My perception has been positive, and I think, for the most part, that is the easy access and setup of the learning community. I understand how it works and where to find things." In another example, Teacher 6 shared that,

Our virtual learning community is the best thing our school district has done for us in the nine years I have been here. The virtual learning community lets us complete all our professional development online and with the help and support of those in our department. We have used eLearning-style methods to integrate video and online chat to be effective communicators.

Participants felt that using the VLC was dependable for all their professional development needs.

Theme 2: Adequate Coverage of Topics Within the VLC. Throughout the in-person interviews, Teachers 4, 9, and 13, who were all senior-level (12th grade) teachers, shared that certain ELA classes required more attention to professionally developing teacher knowledge of topics within the curriculum. Senior-level ELA teachers (Teachers 4 & 9) explained that teaching Seminole text was an aspect of the curriculum that needed attention to grow and develop. All three grade-level ELA teachers decided that the VLC provided sufficient coverage of difficult, complex topics, which offered positive professional growth and retention. For example, Teacher 16 explained, “As a senior English teacher, I struggle to teach Seminole texts. We spent many hours learning and discussing our approach and how to move forward, especially with the literacy initiative, bringing in so many new practices and focuses.” Additionally, Teachers 1 and 7, who were freshman-level (9th grade) teachers, explained that teaching grammar, which is a staple in this grade level, needed more development, and the VLC could be used for this. For example, Teacher 7 stated, “For me, grammar was a black eye in my classroom, and I need all the help I can get. Using the numerous resources within the community helped me.”

Another example shared among numerous ELA teachers was regarding the desired development of the district-mandated literacy implementation. ELA teachers described this initiative as complex and, in many ways, a new pedagogical approach to teaching literacy in their classrooms. For instance, Teacher 14 explained, “Throughout our several literacy implementations, there have been several topics that I had prior knowledge with, but the use of the learning community helped foster a deeper understanding and, more importantly, a deeper ability to use the concepts.” Furthermore, Teacher 1 expressed, “The whole literacy overhaul has been hard for me. It truly has rewritten how we use vocabulary... The learning community has

brought to light many aspects of teaching and learning, and I have become a better teacher.”

Across all the data sets, most teachers felt that the VLC provided adequate coverage of topics.

Sub Theme 2: Deeper Learning. During the data analysis of theme 2, the sub-theme of deeper learning became more evident with ELA teachers as 11 of the 16 teachers expressed some sentiment that they felt a deeper level of learning in the VLC. For example, Teacher 2 explained, “My classroom has improved because of the deeper skills development within the topics. I can better manipulate the topics and learning modules with the community’s help.” Teachers also expressed positive sentiments that the VLC provided deeper meaning and learning for topics discussed in live environments. For instance, Teacher 5 explained,

One specific topic(s) that the virtual learning community has helped me with was the major literacy overhaul our school district was a part of. Having access to information and my colleagues had and continues to help me understand all the layers of the initiative. For example, when Dr. Dickey spoke to us over the 23/24 SY, it was very vocabulary-heavy and pushed the students up to the text's difficulty instead of lowering the text level. I struggled with that, but the virtual learning community helped.

Theme 3: Effective means of learning. Theme 3 emerged through the consistent agreement that the VLC was an effective means for this type of growth. Teachers demonstrated the effectiveness of the VLC through better teaching strategy, improved retention of concepts in the pedagogy, and a better overall understanding of the professional development modules. Teacher 15 explained, “My classroom has improved because of the deeper skill development within the topics. I can better manipulate the topics and learning modules with the community’s help.” Teacher 4 furthered this sentiment by saying, “My classroom has improved mainly because I understand our professional development better. It has a direct translation of what the

kids get every day. Better instruction and better practices.” Participants demonstrated the positive sentiment that the VLC was an effective means of learning.

Sub Theme 3: Genuine Professional Support. Treating teachers like professionals was an overarching sentiment expressed through the in-person interview and the teacher journals. Trust and access were two words used continually (15 of 16 teachers) during the data collection period. Teacher 5 concluded, “I think the benefits are the efficiency and the freedom it gives departments to be in charge of their learning.” Teacher 7 expanded on this feeling by saying, “My experience has been positive and has been very effective...for example, how I navigate and apply the use of video... [has] opened my classroom. The experience has been overwhelmingly positive...” Genuine professional support continued to be prevalent throughout the data.

Research Question 2

Theme 4: Deeper Understanding of PD. The VLC provided a deeper understanding of professional development topics. Fifteen of 16 participants concluded that video inside the VLC provided a deeper understanding of all topics presented. High school teachers have finite time for professional development; therefore, using a VLC and providing a learning tool such as video is invaluable. For example, Teacher 13 responded, “It is effective because of its easy digestion of the learning contents. Video provides us with a channel for discussion in a high-tech and relevant atmosphere with credible presentations... It makes completing our PD requirements a breeze.” Participants often and quickly spoke about video being easily accessible for continual mastery of concepts. Many participants agreed with the video's ability to review and provide commentary and questions about professional development topics. For example, Teacher 11 said, [As a department], “completed all of our professional development online [with the] help and support

of those in our department...these methods to learn like the use of video and online chat to be effective communicators.”

Teacher journals also revealed much satisfaction with video inside the VLC, as most teachers shared that video is a powerful tool for aesthetic learning and further engagement from department members. For instance, Teacher 14 stated, “I think it is more effective... video is powerful, and how we use it is even more powerful. The way we communicate and learn in our virtual community is tremendous, and I thoroughly enjoy when we are all engaged.” Throughout the data, teachers continually stated that the VLC provided a deeper understanding of the topics.

Sub-theme 4: Professional Learning. When pressed for time and materials, teachers look to meaningful professional development that also feels independent and allows them to be certified professionals. The use of video is a vital aspect of the virtual learning community. During interviews and participant journals, participants explained in detail that video was “the glue,” that journals explained in detail that video was “the glue,” which tied the community together and allowed all participants to feel more connected and engaged. Teacher 15 stated, “The role of video in our learning community is the mainstay of the platform. Without it, I would not like participating in this.” This engagement and sentiment were tied to many responses, ranging from feelings of deeper learning to the efficiency of the delivery. For example, Teacher 13 explained, “The use of video is an integral aspect of this learning because it allows us to learn at our pace and discuss at our pace...and what we do not accomplish, we can do it at home.” In addition to bridging that gap to professionalism in the education of teachers, video has become a centerpiece for their professional learning. For example, Teacher 12 stated,

Video is an integral part of our learning community as it gives us a human interaction component, which I like. I like interaction with humans, but behind a camera, if that

makes any sense. It is nice to be comfortable at my desk in my chair; video allows that to happen.

Teacher 7 also stated, “The role of video is the learning conduit, and we rely on video to be the active channel that we focus our attention on to learn.” In conclusion, teachers felt that the VLC gave them an avenue of professional learning that made them feel highly professional.

Theme 5: Specific Curriculum Development. As the adaptation in the VLC became the platform for professional development, curriculum-specific departments began to lean on this technology as a learning tool for subject/grade level learning and support. English Language teachers, for the most part, complemented each other’s statements by explaining that there are certain aspects of their grade-level curriculum that they struggle with. For example, grammar lessons continue to plague even the most experienced educators. In particular, Teacher 15 explained,

One topic that the virtual learning community helped me with was a very small subunit in grammar that we covered. Grammar was a black eye in my classroom, and I needed all the help I could get. Using numerous resources within the community helped me, and their access also helped. I spent many hours at home engaged in the community.

Furthermore, ELA teachers discussed vocabulary’s role in their classrooms, a continual struggle that video inside the VLC has aided in. For example, Teacher 5 explained, “The whole literacy overhaul has been hard for me. It has rewritten how we use vocabulary, text, and everything in ELA. The learning community brought to light so many aspects of learning that I have become a better teacher.” Overall, video in a VLC has helped most respondents. For example, “As a senior English teacher, there are so many concepts that are mastered through the years of high school, and when they get to my level, I continuously improve pieces of the curriculum. Furthermore,

Teacher 16 stated, “The use of the learning community has helped me be more effective when catching them up.” In conclusion, teachers felt that the VLC aided them in specific curriculum development.

Sub-theme 5: Continuity in Learning. Department-wide, the positivity can be seen in comments that address the continuity video provided to all learners in the VLC. In this sub-theme, all respondents responded to the sentiment that video has improved understanding in the ELA department. For example, Teacher 3 explained, “I think it has already proven successful, as we are having better conversations about professional development topics than ever before.” For instance, Teacher 4 added, “It creates an effective outlet for professional development because it allows us something to focus on that is consistent.” The high school ELA teachers who participated in this study and the importance of using video inside the virtual learning community as a tool for professional development. Most participants shared the same sentiment as Teacher 3, saying, “The role of video in our learning community is the mainstay of the platform. Without it, I would not have liked to participate in this.”

Theme 6: Commonality of Learning Among Department Members. In this final theme, 9 out of 16 teachers stated there was a commonality amongst department members since they were learning from the same modules, as opposed to some department members excelling and others falling behind. For instance, Teacher 6 stated, “In the past, we had monthly, in-person, maybe bimonthly in-person meetings, and if you did not get your questions addressed, then it would be a while before the team was together, or you would have access to the information.” Department members further demonstrated that they felt a bond was created between the department in the various types of learning that took place in the VLC. Significantly, Teacher 14 expressed, “Video is powerful, and how we use it is even more

powerful. The way we communicate and learn in our virtual community is tremendous, and I thoroughly enjoy it when we are all engaged.” It also was noted in the data analysis that teachers felt a high level of engagement amongst each other through video communication.

Sub-theme 6: Continuity. English Language teachers provided commentary on the engagement within the department and learning as a department. Still, even more profound, more profound was revealed that it was revealed that the use of video in the VLC provided an element of continuity among members. Teacher 6 explained, “I cannot say it enough: video is what we gather towards, learn from, and reflect on. Our department discussions have been so much better when we have been able to watch and then discuss.” Participants continued to express their need for an internal modality, such as video, to connect an otherwise singular technological platform. Participants who responded to RQ2 exclaimed that the video allowed them to re-watch, pause, and learn at their own pace instead of in-person teaching. For example, Teacher 3 explained, “The use of video is an integral aspect of this learning because it allows us to learn at our pace and discuss at outpace. Sometimes, we do not complete professional development in the allotted timeslot, and we convene later.” The continuity among ELA members has also provided a trickle-down effect on the classroom. Teacher pedagogy has evolved, and methods have been enhanced due to the use of video in the VLC. For example, Teacher 8 explained, “I think it has allowed me a few new pathways to teaching that I would not have before.” The improvement of teaching practice continued to be at the forefront of importance with teachers. Throughout the data analysis, teachers expressed how the VLC continued to impact pedagogical gains.

Evaluation of Findings

In this section of the evaluation of findings, the researcher critically analyzed and interpreted the results of this study in the context of the literature review and the theoretical

framework. Putnam and Borko's (2000) situative theory is the theoretical framework for this study. Situative theory is defined as a community of learners based on the premise that learning occurs as people participate in a shared environment (Putnam & Borko, 2000). Putnam and Borko (2000) addressed the need to explain how teachers learn. The is organized around the two research questions.

Research Question 1

The three themes under RQ 1 were a 1) solid platform for learning, 2) adequate coverage of topics within the VLC, and 3) effective means of learning. This research study is based on the situational theory from Borko et al. (2020), which provides the theoretical framework for how teachers learn. This theoretical framework directly supports the findings in this study by providing a framework for how teachers learn and grow as professionals. Additionally, Borko et al. (2020) explained that when given a solid learning platform, teachers will, in fact, be empowered. Many teachers in this study expressed that the VLC provided a solid platform that was conducive to learning and empowerment, in addition to feelings of professionalism. This framework is grounded in sociocultural and situated cognitive perspectives, which offers a unique lens to understand the intricate interplay between individuals, social interactions, and the environment in the learning process. For instance, Greenwald (2022) confirmed these findings in their study by demonstrating results that when groups of teachers engage in learning activities, there is a prevalent feeling of engagement among participating teachers. The findings show that teachers positively perceived their social interactions using the VLC. Many teachers commented on how the learning environment was conducive to their professional growth and developing better teaching pedagogy in their respective grade levels. A study by Miller et al. (2021) further confirmed these perceptions in their study by stating that the sharing of content and discussion

forums only adds to the depth of teacher development. Senior-level teachers expressed positive perceptions on how the VLC improved their in-classroom teaching of Seminole texts with the help of video in the VLC. According to a study from Wai (2020), the core principles of situative theory emphasize social participation, cultural context, and authentic learning experiences, further confirming the findings from senior-level teachers in this study.

Through the years, professional development, with its varying practices, has created turmoil within the teaching community. According to Boudett (2017), teachers are in constant reflection of past learning experiences. As professional careers take teachers from varying school districts, each organization provides a different approach, which can cause apprehension. According to Kavitha and Lolani (2021), their findings agreed with the sentiments expressed by teachers in this study by explaining that some school districts do not provide the same level of support for professional growth. This aligns with the results when the teachers in this study confirmed that inconsistent professional development models and platforms make it difficult to be productive, empowered learners. Teachers 3, 6, and 9 commented that the varying styles of professional development in school districts can be “daunting” and “uninviting.” Many teachers also expressed their positive perceptions of the genuine professional support that their professional development was created with. According to Padron et al. (2022), professional growth was a common positive perception of teachers in this study, which further confirmed this study as the teachers continually expressed concern with the inability of professional growth with non-VLC types of professional development. In the literature review of this study, authors such as Stebick et al., (2023), Greenwald, (2022), and Barnes (2021) discussed the polarizing effects that inconsistent professional development can cause on teachers, which in turn further cemented a negative connotation of professional development amongst teachers. Hunuk et al.

(2019) explained professional development needs to be consistent and given through a consistent platform for teachers to want to continue to learn and grow professionally. Using a VLC for professional development contributes to the data collected, citing that the VLC is a solid platform for learning. Wilson et. al (2019) explained that the overall satisfaction of the learning experience is quantified through a solid, reliable platform. Situative theory quantifies these comments as this framework emphasizes an authentic learning experience.

Many teachers in this study commented on the depth and coverage of all topics presented in the VLC. Topics covered included, but were not limited to, professional development training, in which both district and state required compliance, and topics directly related to specific grade-level ELA classes. The desire for all-inclusive professional development that covered both state and district needs, but also addressed specific classroom needs, was not a typical characteristic of a traditional professional learning model. According to Babelyuk et al. (2021), the VLC provided a wider array of coverage, learning time, and connectivity to the material. Teachers 11 and 16 explained that when it came to Seminole text and the improvement of their own teaching pedagogy, the VLC connected them in ways other forms of professional development did not. This is a powerful statement considering that situative theory (Borko et al., 1999) explains that the ability to have access to material that is rich in learning supports the community practice and learning of a VLC.

Throughout the data, many teachers referred to the VLC as an effective means of learning. Teachers 7, 10, and 11 explicitly commented that they felt their time was worth more learning inside the VLC. For instance, Teacher 10 said, “My time is valuable, and I feel that the virtual learning community maximizes my time.” The effectiveness of this learning came from many factors, many of them referring to access, time allotment, and social connectedness inside

the VLC. For example, Teacher 1 expressed, I feel more connected to my department with the [VLC] as we are learning together.” Teachers 1, 8, and 10 explained that having a constant connection to the professional development materials meant they could access the information on their own terms and participate in discussions in real-time. For instance, Teacher 8 explained, “I can access the VLC from the comfort of my own home on my own time.” Other teachers explained that access and the use of video inside the VLC are also attributed to their learning and made the VLC effective. Vygotsky (1978), in his seminal work, explained that the concept of proximal development regarding learning bridges the independence gap between what learners can do independently and what they can do with structured guidance. This seminal work from Vygotsky (1978) confirmed the results of this study by demonstrating the need for independence, which the VLC provided to the teachers in this study. For example, Teacher 4 explained, “The VLC has given me a sense of independence and empowerment of my own learning; I am in control for once.” Other teachers commented on their independence in their own personal growth as educators and how effective the VLC was in accomplishing this.

Research Question 2

The three themes under RQ 2 were 4) a deeper understanding of PD, 5) specific curriculum development, and 6) commonality of learning among department members. These themes were derived from the data analysis and coding phase of this study, and they were prevalent throughout the common statements and specific words used to describe the use of video inside the VLC. All three of these themes are a testament to the teacher's feelings towards their experiences with using video in a VLC. The digital age brought about a significant shift in the professional development that teachers receive. According to Chen and Gaowei (2020), the

ability to offer professional development in a technological sense empowers teachers. Therefore, these three themes add to the feelings expressed by teachers in this study.

Historically, professional development has been presented in a drill-and-kill type setting where learners can expect to listen to a presenter and be expected to gather as much as they can in a timed setting. Studies from Useche et al. (2022) and Barnes (2021) presented findings that confirmed the teacher's opinions in this study that for professional development to be effective, it must be engaging and interactive. According to Austin and Turner (2022), the optimal learning scenario is when learners can experience microlearning, a form of professional development delivered in timely, small, and easily digestible chunks. Teachers 6, 9, and 14 expressed that the video inside the VLC offered a deeper understanding of their professional development content due to the small videos and activities associated with the videos. According to Sykes (2022), individual activities, discussions, and collaborations with peers add to the learning, as seen in the VLC. Additionally, these videos inside the VLC were relatable and content-specific, meeting all local and state regulations required of teachers annually. According to Evans et al. (2023), using video in an online platform is a vital tool to provide mastery in their professional development learning. Many teachers continually commented on the impact of video. For instance, Teacher 2 explained, "I was able to be in the comfort of my home and still had the opportunity to learn in a meaningful way." For example, Beilstein (2021) validated these perceptions in their study by finding that empowerment of learning can come in many forms and having the ability to learn on your own terms and personal surroundings can add to the learning experience. The use of video directly added to a deep and rich learning modality for PD.

While the need for better access and learning in professional development requirements remained at the forefront of the data collected, teachers have specific needs of their own with

respect to curriculum. Inside the VLC, teachers used video to record and demonstrate new approaches or learned pedagogy with specific curriculum aspects. For example, McLaughlin (2021) cited in their study that video can add a new learning avenue for teachers, specifically for content implementation. The video used inside the VLC was added to classrooms that ranged from 9th grade to 12th grade levels of ELA. For instance, Teacher 5, who was a 9th-grade ELA teacher, expressed their concern for grammar development. Learning from video inside the VLC aided that concern. Graham (2023) explained that when the ability to learn visually is presented, teachers feed off that kind of interaction. This refinement of skills was evident within many of the teachers in this study. Katzman (2023) explained that platforms such as YouTube Learning and Ted Talks have revolutionized the need for video learning. Many teachers referred to the video inside the VLC as an example of a Ted Talk. Even though there was a significant disparity between years of teaching experience and years of VLC experience, the participants still concluded that the VLC as a platform and the use of video was an effective, efficient means of professional development. Teachers 4, 9, and 15 expressed that video gave them a personalized and “intimate” learning experience with the aid of video in the VLC. In a study from McLaughlin et al. (2020), the authors validated these findings by stating that video adds to the personalized learner experience. For instance, Teacher 9, in a journal entry, explained, “Video helped my learning style.” Comparatively, teachers with less disparity between their years of teaching and years of usage of the VLC. They expressed similar sentiments that the VLC was efficient and effective.

The emergence of virtual learning communities made individual teachers more knowledgeable and impactful, and departments became more articulate in the curriculum. Evans et al. (2023) expressed that when the video was used as a resource inside a VLC, teaching

departments could act as one in terms of learning together. Many teachers felt in sync with other department members by having the same access to learning as everyone else. Teacher 12 explained, “For the first time, I was not left behind on new practices and information.” It was apparent throughout the data analysis that the ELA department was more knowledgeable as a collective. Fox (2023) confirmed these perceptions in their study by concluding that access to learning through technology tends to mold groups of people for better learning experiences. For instance, Teacher 3 explained that they felt they could contribute more to department meetings by having the same videos and content as everyone else. Kavitha & Lolani (2021) confirmed these findings by explaining that working as a group can have benefits that foster innovative growth. The data shows that the commonality of learning among members was evident.

Summary

Chapter 4 included a review of the trustworthiness of the data, including how credibility, transferability, confirmability, and dependability were obtained. This study was designed with a population that was vetted by ensuring all participants had the proper background by using a general email recruitment letter that asked for background information consisting of years of VLC experience, grade level taught, and years of teaching experience, which in turn confirmed the dependability (Table 2). Using a department-specific population in this study, it can also be concluded that it could be used in other educational departments and repeated by other researchers, further substantiating the confirmability and credibility. Throughout the literature review, the researcher noted that ELA teachers have been used in similar studies, and therefore, the transferability of the data sources could be confirmed. For example, Coppe et al. (2024) studied teacher-led professional development studies and concluded that there is an opportunity to study all education departments to reveal further credibility to this population. Chapter 4 also

reviewed the data analysis procedures using the five-step data analysis method (Braun & Clark, 2006). The six steps were familiarizing the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Following was a summary of the characteristics of participants in this study and a summary of the themes found by the research question. There were two research questions in this study. Under RQ 1, there were three themes and one sub-theme for each theme. Under RQ 2, there were three themes and one sub-theme for each theme. Chapter 5 includes a discussion in further detail of the findings and presents implications and recommendations for practice and future research.

Chapter 5: Implications, Recommendations, and Conclusions

School districts have traditionally developed and implemented professional development programs to provide avenues of learning and growth for teachers. In addition to learning and growth, professional development programs have been an avenue to completing state and district licensure requirements. This study was guided by the problem that teachers' needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs (Coppe et al., 2024; Pawan et al., 2021). Teachers often face outdated professional development plans that do not provide modern opportunities and flexibility for professional learning (Rutherford-Quach et al., 2021). The purpose of this descriptive qualitative case study was to investigate teachers' perceptions of virtual learning communities as a means of effective professional development.

The participants in this study completed an in-person interview and personally kept a teacher journal based on specific questions addressing the aspects of their professional development in a virtual learning community. The results of the data analysis generally aligned with the themes in the literature, and the theoretical framework of situative theory supported the participants' responses. The data revealed how interactive, meaningful, and purposeful the virtual learning community is as opposed to traditional forms of professional development. Chapter 5 presents the implications of the study, as reviewed in the literature review. Additionally, Chapter 5, including recommendations for future practice and research, is discussed alongside the conclusions to summarize the main points of this chapter.

Implications

Two research questions guided this study: 1) How do high school teachers perceive and describe their learning through virtual learning communities as a means of professional

development, and 2) How do high school teachers perceive and describe their learning from video in virtual learning communities as a means of professional development? Both were designed to question the experience and allow teachers to share their experiences using the virtual learning community for their professional development. Implications of the study will be organized by the two research questions.

Research Question 1

Based on the findings presented in this study, the virtual learning community has empowered teachers to learn and grow in a professional manner. The participants in this study believed that the virtual learning community gave them more opportunities for inquiry, discussion, and inter-departmental support. Participants reported that traditional, in-person methods of professional development were not effective in terms of embracing the overall need for teacher development. Additionally, participants felt an inability to freely seek out more information on professional development topics. The virtual learning community provided chat features and video features that teachers could access in their own personal time. School districts need to understand the effectiveness of the virtual learning community in a professional development setting for teachers to improve the overall classroom instruction for students (Pawan et al., 2021). Furthermore, virtual learning communities (VLCs) provide an opportunity for additional pathways for professional development learning. Historically, professional development has been top-heavy with fulfilling state and district licensure requirements, such as bloodborne pathogen training, active shooter training, employee awareness training, etc. These examples utilize the majority of the allotted learning time during the school year, leaving teachers scrambling for learning opportunities to improve their craft. The use of VLCs has provided a learning platform that provides a pathway for teachers to gain access to highly

engaging learning modules that directly impact teacher pedagogy. This additional pathway has allowed school districts to efficiently provide licensure requirements and provide a 24-7 learning platform for teachers to grow. These implications were seen throughout the data from this study and directly relate to the already established literature. In a study from Babelyuk et al. (2021), it was concluded that at the height of COVID-19 parameters in school systems, in addition to the allotment of time for professional development being inadequate, this study implied that the use of VLC created additional learning opportunities.

Additionally, in McClaughlin et al.'s (2021) study of professional development methods offered to teachers, the participants believed that teachers should be empowered to learn continually throughout the school year as opposed to traditional professional development models that front-loaded the learning in the first days of school and then not returning to learning goals until the next school year. The results of the current study suggested that participants enjoyed and sought the ability to learn throughout the school year in the virtual learning community. This finding is echoed in Beilstein et al. (2021) study of math teachers who used a virtual learning community for pedagogical improvements that allowed these math teachers continual access to learning and development. The participants in this study reported gaining a deeper understanding of the concepts.

Research Question 2

Teachers' perceptions and descriptions of their learning from video in a VLC can be shaped by their personal motivations regarding professional growth. Throughout this study, participants have described their personal motivations for using VLCs in terms of how they hoped their professional development offerings would improve. Based on the findings of this study, video has been seen as a positive addition to not only its role in professional development,

but also as a learning tool inside the VLC. In a study conducted by Rezecku et al. (2022), their findings supported the positive use of video inside the VLC, citing the use of video as “interactive learning” (p. 46), thus supporting the overall positive perception amongst participants in this study. While not all participants shared the same level of digital literacy, the video inside the VLC bridged this gap by providing visual models for better teaching techniques, which further supported the use of the foundational, situative theory (Vygotsky, 1978), in which video served as a tool for proximal learning for all participants. Several participants in this study extended the proximal learning theory presented in the situative theory by stating that having free access to video use gave them a sense of ownership and facilitated an organic type of learning when watching videos multiple times. Additionally, situative theory emphasized the results of this study by demonstrating that the use of a standard learning tool (video) can enhance the depth of learning for all participants, particularly in environmental contexts such as being connected to the VLC. In a study by Nestulya (2022), as described in the literature review, their findings supported the findings of this study, stating that situative theory addresses the social participation of learners. The results of this study are supported by the findings, as reflected in the comments and perceptions of the participants. For example, many participants in this study described the use of video as a tool that allows both commentary and further dialogue amongst English department members. These communities of practice, which originated as a concept from Wenger (1998), are central to the foundational theory of this study and fully support the findings of these participants through a common interest, engagement in a joint activity, and an in-depth interaction to build expertise.

Recommendations for Practice

The study yielded three key recommendations for practice. First, the use of VLCs as a means for professional development is empowering and engaging in the overall professional growth amongst teachers. School administrators should consider modifying traditional professional development models to support the continued growth and success of educators. As seen in this study, the use of VLC provides a platform for engagement, educational responsibility, and overall empowerment for teachers of their learning. The use of a VLC could result in more efficient use of time and promote additional time for teachers to focus on their professional development responsibilities. Flexibility was also a term used in many of the teacher journals and interviews from the data of this study. Teachers having constant access to the VLC provided an opportunity to address real-time issues seen in classrooms, which allowed teachers to learn and grow through issues on a weekly basis. In a previous study by Beilstein et al. (2021), their research concluded that teachers do not get learning opportunities frequently enough, and therefore new issues do not get confronted until after that fact. This study provided results that concluded having constant access to the VLC gives teachers an additional pathway for immediate assistance.

An additional recommendation is to allocate funds for teacher-led professional learning through the VLC. The market for VLCs has tremendously grown. There are VLEs such as Udemy, Cornerstone, Docebo, Coursera, that, for a price, school districts can buy into these platforms. These cost-based platforms provide learning opportunities, in addition to allowing users to create channels for learning that are user-based, with uploads and chat. There are also many free options, such as Moodle, Chamilo, and Canvas, that offer many of the same features but are more user-friendly for creating and growing learning modules. In these free platforms,

channels grow organically from teachers in the specific channels they subscribe to. The creation of videos, the use of chat rooms, and the overall access to the VLC place teachers at the forefront of their learning. Throughout the participants' statements in this study, it was evident that teachers value being in control of their learning and flourish when allowed to share and discuss their teaching practices. This validation is crucial for the continual growth of teaching expertise.

Lastly, establishing a reliable and user-friendly platform for professional development. While not all teachers share the same level of technological expertise, using a VLC that is free of issues and user-friendly is key to implementing this type of professional development model. Teachers in this study cited that the VLC used was free of error, easy to access both at school and home, and additionally, the platform was set up in a manner that was easy to navigate. With the market as saturated as it is currently with VLC platform options, school districts and teachers' groups have an opportunity, regardless of the cost of technology holdbacks. Moodle, which is a widely used VLC, offers both free and paid versions of access. In this study, some of the participants commented on the positives of allowing a teacher group to build from the ground up and make their channel or learning module, specifically geared for their needs.

Recommendations for Future Research

Considering the theoretical framework, findings, and implications of this study, several avenues for future research exist to extend the current study's findings and further solidify the need for a new method of professional development within a virtual learning community. The first recommendation for future research is to replicate this study with different teachers from different academic departments, such as math, history, or science. Throughout this study, the researcher examined the perceptions of English teachers only. Investigating other departments' perceptions of the use of VLCs in lieu of traditional professional development models would

provide a deeper understanding of whether the findings of this study were isolated to one academic department or if, in fact, other academic departments would benefit from this type of technological learning.

Another avenue for future research would be to study the perceptions of district leadership as they transition from a traditional professional development model to a VLC. For decades, professional development has been characterized by a top-down approach to learning, which provides very little opportunity for teacher-led learning and departmental engagement. This type of study would assist in school district leadership in possibly examining the impact of VLC being the leading platform for professional development. This type of study must take into consideration the stakes at which a school district leadership team examines the benefits of providing a fully technological platform to ensure school and state professional development measures are provided and learned.

Finally, a third recommendation is to conduct a longitudinal study to gauge the overall level of learning of teachers using a VLC for professional development. Continued use of in-person interviews and teacher journals over a specified timeframe could provide detailed and extensive information on the impact of using VLCs. Learning about this type of impact through this type of study would provide valuable information for decision-makers to make more informed choices regarding the professional growth of teaching staff, in addition to contributing to the literature on how teachers learn.

Conclusion

The problem addressed in this study was that teachers' needs for ongoing training and skill enhancement are no longer being met by traditional, in-person professional development programs (Coppe et al., 2024; Pawan et al., 2021). The purpose of this descriptive qualitative

case study was to investigate teachers' perceptions of virtual learning communities as a means of effective professional development. There were two research questions: how do high school teachers perceive and describe their learning through virtual learning communities as a means of professional development, and how do high school teachers perceive and describe their learning from video in virtual learning communities as a means of professional development?

The analysis of the data in this qualitative single case study proved to be the best method for interviewing teachers, analyzing responses from teacher journals, in addition to looking at the time spent inside the VLC and the amount of time teachers spent inside the platform. This research provides valuable insights into the impact of virtual learning communities and professional development in a high school setting. This study's findings highlight the significance of breaking away from traditional formats of professional development offerings to empower teachers and put them in a position of control over their own learning. This study also emphasizes the impact and level of learning that can occur when teachers are allowed to collaborate and access a technological platform, utilizing tools such as video to learn teaching methods and fulfill school district and state-level learning mandates. The importance of future research lies in conducting similar studies to gather larger datasets on the impact that a VLC could have on other academic departments, such as history, math, career-technical education, and science. Utilizing this same qualitative, single case study will enhance our knowledge. Concentration on each individual academic area will enhance our overall knowledge of the impact of VLCs. Professional development has an important place in the lives of teachers during every school year, and conducting further research can aid in school districts in providing more efficient and effective models. This could lead to an overall improvement in teaching practice and student learning.

By analyzing the perceptions of teachers' learning within a VLC, this study aimed to uncover the actual impact of the VLC compared to traditional professional development models. As seen in this study through teacher journals and in-person interviews, it can be concluded that teachers hold numerous positive perceptions of this type of learning. This study also examined the use of video inside the VLC and explored these perceptions from English Teachers, using Putnam and Borko's (2000) situative theory, which is the theoretical framework for this study. Situative theory is defined as a community of learners based on the premise that learning occurs as people participate in a shared environment. The VLC offered a shared environment with access among all English teachers in this study. Providing this environment culminated in positive perceptions amongst teachers that being a part of this environment was both self-fulfilling, collaborative, and led to other perceptions that this shared community bonded the department.

This study also contributes to the existing body of literature on learning within a technological platform by providing qualitative results from a theoretical perspective. This investigation provides factual data on the link between this study and other research studies, specifically in terms of the elements examined. This study directly corresponded with Putnam and Borko's (2000) model of situative theory in this educational context. This research has highlighted the importance of teachers' learning being at the forefront of their professional development throughout every school year, and additionally, the model in which this learning is delivered has profound implications. The findings emphasize the significance of allowing teachers to have access to and provide the technological tools necessary for a higher level of learning. To continue cultivating additional perceptions of teachers' learning within a VLC, further research is needed, including collaboration with other academic departments. This would

ultimately have a positive impact on school districts that strive to provide the best possible learning environments for their teachers. Additional exploration is warranted for this improvement.

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Appendix A

Letter to District

My name is Joe Kinney, and I am a doctoral student at National University. I am conducting a research study on the use of video in professional development. The two research questions that I am looking to investigate include:

How do high school teachers perceive and describe virtual learning communities as an effective means of professional development?

How do high school teachers perceive and describe the video as an effective means of professional development?

The goal of the study is to add research for school districts in considering how to provide professional development and other learning opportunities to their faculty and how optimal learning amongst teachers can take place. The data I will be collecting involves the use of the district professional development agendas and virtual check-in data for each professional development using video in a virtual learning community. I will also be recruiting individuals who meet all of these criteria:

1. High School Teacher
2. Teaching for five or more years

3. Involvement of learning virtual learning community professional development for two years or more

If the candidates decide to participate in the study, they will be asked to participate in the following activities:

1. Questionnaire about the number of years taught and number of years participating in the virtual learning community.
2. In-person interview asking about the utilization of the content provided and the learning that has occurred from using video in the virtual learning community.
3. Journals including the reflection of the virtual learning community content being utilized in the classroom and the perception of the learning.

During these activities, the 15-20 teachers chosen will be asked questions about:

- The understanding and knowledge level that has occurred from using video in the virtual learning community.

Teachers will be asked to complete the out of class interviews and questionnaires during non-teaching times and will be advised that this is not a replacement for already assigned duties and responsibilities as a district employee. Thank you for your consideration of this research study taking place at your school district. I am available for questions or concerns at my email address. Thank you for considering participating in this voluntary research!

Joe Kinney

Appendix B

Participant Recruitment Letter

My name is Joe Kinney, and I am a doctoral student at National University. I am conducting a research study on the use of video in professional development.

I am recruiting individuals who meet all of these criteria:

1. High School Teacher
2. Teaching for five or more years
3. Involvement of learning virtual learning community professional development for two years or more

If you decide to participate in this study, you will be asked to do the following activities:

1. Questionnaire about the number of years taught and number of years participating in the virtual learning community.
2. In-person interview asking about the utilization of the content provided and the learning that has occurred from using video in the virtual learning community.
3. Journals including the reflection of the virtual learning community content being utilized in the classroom and the perception of the learning.

During these activities, you will be asked questions about:

- The understanding and knowledge level that has occurred from using virtual learning communities.

If you are interested in participating in this study, please click this link: [insert survey/questionnaire link]. If you have questions, please contact me at the information below.

Thank you for considering participating in this voluntary research!

Joe Kinney

Joe.kinney@buhisd.org

623-238-2899

Appendix C

Questionnaire

Directions: Answer the following questions about your teaching career by using short answer format.

1. What is your content area of teaching at the high school?
2. How long have you been teaching at the high school?
3. How long have you been teaching all together?
4. How long have you been involved in learning in virtual learning in professional development at the district?
5. Have you used the content from the virtual learning community professional development in the classroom?

Appendix D

Interview Questions

Directions: Answer the following questions by using short descriptive answers to your best abilities using your own unique understanding.

1. What is your definition of a virtual learning community? (RQ 1)
2. What is your perception of your experiences of a virtual learning community in terms of a way of professional development? (RQ 1)
3. In your opinion, how can the experiences learning from video in a virtual learning community be an effective modality for school district mandated professional development? (RQ 2)
4. What role does video play in a virtual learning community? (RQ 2)
5. In your opinion, how is using a video an integral aspect to a virtual learning community? (RQ 2)
6. In your opinion, why does the use of video in a virtual learning community create an effective means for professional development? (RQ 1)
7. What has been your understanding and experiences of learning through the use of video in virtual learning community and how are you using it effectively or ineffectively? (RQ 1)
8. What are the benefits of learning from video in the virtual learning community? (RQ 1)
9. What are the drawbacks of learning from video in the virtual learning community? (RQ 1)
10. How do other methods of professional development, (in-person, conferences, etc.) compare with learning from a video? (RQ 2)

Appendix E

Journal Prompts for Teachers

Describe the perception you have from learning from the video from the virtual learning community?

Have you perceived the virtual learning community professional development method to learn as a more effective or less effective method vs in-person learning? Explain why or why not.

Describe a time when the virtual learning community improved your understanding of specific topic.

Describe a time when the virtual learning community did not improve your understanding of a specific topic.

Has the virtual learning community and learning from video overall improved your classroom instruction due to retention of the content or not. Explain why or why not.

Appendix F

Recruitment Letter

My name is Joe Kinney, and I am a doctoral student at National University (NU). I have been working in the school research site for 17 years. I also hold a role as principal in the Buckeye Union High School District.

I'm asking you to take part in a research study about the use of video in a virtual learning community as a part of professional development for teachers. The name of this research is TEACHER DEVELOPMENT THROUGH VIDEO VIRTUAL LEARNING COMMUNITIES.

You may participate in this research if you meet all of the following criteria:

1. Work in the Buckeye Union High School District
2. Teacher grades 9-12
3. Teaching for 5 or more years
4. Participated in 2 or more years in the BUHSD virtual learning community.

I hope to include 15-20 people in this research.

Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

What you will be asked to do: If you agree to be in this study, you will be asked to do the following activities:

1. A questionnaire that includes information about your background information about experiences in teaching, your participation in virtual learning community and your integration content in the classroom.
2. An interview that lasts 30-45 minutes to gain a more detailed understanding of what was learned from the professional development sessions.
3. Journals of classroom teaching including lesson plans, management, and content that was provided using video in the virtual learning community.
4. Archival Data will also be collected including time spent participating in the learning community and total amounts of opportunities teachers were given learning a virtual learning community through virtual check-in checklist and agendas of the meetings.

During these activities, you will be asked questions about:

- Your opinion and experiences learning from video in the virtual learning community in professional development at your school district.
- Your time learning about and experiences implementing virtual learning community professional development content in your classroom.
- Your experiences and comparison of professional development methods you have experienced during your teaching career.

Risks: There are minimal foreseeable risks or discomforts associated with this research. You can still skip any question you do not wish to answer, skip any activity, or stop participation at any time.

Some possible risks include: Answering questions regarding your own teaching, understanding, and involvement in professional development. To decrease the impact of these risks, you can skip any question you do not wish to answer, skip any activity, or stop participation at any time.

Benefits: If you participate, there are no direct benefits to you. This research may increase the body of knowledge in the subject area of this research.

Recording: I would like to use audio to record your responses with voice recorder during the interview.

Mandated Reporting: My professional role outside of NU requires me to report suspicion of child or elderly abuse, suspicion of possible harm to self or others, and committed crimes to the appropriate authorities.

Confidentiality: I will keep the records of this study private and take reasonable measures to protect the security of all your personal information. In any report I make public, I will not include any information that will make it possible to identify you. The data will be locked in a safe including all interview, notes, confidentiality forms, and consent forms. The researcher will be the only person with access to these materials. The data on the computer will be stored with a password-safeguard computer on the hard drive.

Taking part is voluntary: Participation in this study is completely voluntary. You may quit at any time.

If you have questions: Please ask any questions you have now. If you have questions later, you may contact me at joe.kinney@buhisd.org or at 623-238-2899.

If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) via email at irb@nu.edu.