

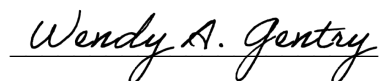
**A Phenomenological Exploration of New Teachers' Experiences in a vCoP Designed and
Administered by an Educator Preparation Provider**

Jessica E. Bird

B.S., Fort Hays State University, 1998

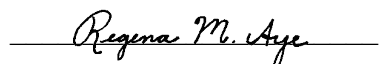
M.Ed., Fort Hays State University, 2002

Submitted to the Graduate Department and Faculty of the School of Education of
Baker University in partial fulfillment of the requirements for the degree of
Doctor of Education in Instructional Design and Performance Technology



Wendy A. Gentry, Ph.D.

Major Advisor



Regena M. Aye, Ed.D.



Steven R. Karlin, Ed.D.

Date Defended: May 8, 2023

Copyright 2023 by Jessica E. Bird

Abstract

New teachers often enter the classroom without ongoing support that may be essential to long-term retention. A lack of preparedness leads to greater stress levels and contributes to new teacher turnover. One way to address this lack of support may be virtual communities of practice (vCoPs) facilitated by an educator preparation provider. The problem addressed in this study was the high attrition rate among new teachers. The study explored the potential utility of a vCoP designed to improve preparedness among new teachers, with the goal of reducing attrition. The theoretical framework was situated learning theory, which built upon Vygotsky's theory of social constructivism. The sample included 11 recent graduates of an education program who were currently teaching in K-12 public schools in multiple rural Kansas districts. All 11 teachers took part in the vCoP, which lasted 5 weeks. Data from semi-structured interviews with participants were thematically analyzed. Analysis revealed eight main themes, including the vCoP helped improve teachers' preparedness, intention to implement things learned, impact of vCoP was influenced by previous classroom experience, vCoP did not influence teachers, effective aspects of vCoP, recommendations for improvements to the vCoP, the vCoP influenced teachers' intention to remain in the profession and new teacher challenges. Ten subthemes emerged, including classroom management, lesson planning/instruction, opportunity to reflect/share, vCoP fostered sense of community and support, participants appreciated the virtual platform, time, content, delivery and facilitation, lack of support for curriculum and instruction, professional and personal demands and expectations, and classroom management challenges. Overall, findings suggested that vCoPs may be an economical and viable tool for supporting new teachers.

Dedication

I dedicate this dissertation to several extraordinary individuals who have had a profound impact on my life and have been a constant source of inspiration and support.

First and foremost, I dedicate this work to my mother, Carolyn B. Bird, who passed away in 2015. She was my guiding light, my source of unconditional love and encouragement, and my biggest cheerleader. Her unceasing belief in my abilities and her unending support has been the driving force behind my pursuit of academic excellence. I dedicate this work to my father, John T. Bird. Your wisdom, guidance, and support have been instrumental in shaping the person I am today. Your belief in my abilities and your constant encouragement has given me the confidence to pursue my dreams and strive for excellence in all that I do. Finally, I also dedicate this dissertation to my partner, Gina, and children, Delaney, Andrew, and Olivia. Your support, understanding, and encouragement have been a constant source of motivation and inspiration throughout this journey. Your belief in me and your sacrifices to make this possible are deeply appreciated. Thank you all for your love and support!

Acknowledgments

I am immensely grateful to all the individuals who have supported me throughout my dissertation journey. Without their guidance, encouragement, and assistance, this work would not have been possible. First and foremost, I would like to express my deepest appreciation to my advisor, Dr. Wendy Gentry, and research analyst/advisor, Dr. Kyunghwa Cho, for their unwavering support, valuable insights, and patience during the entire process. Their expertise, encouragement, and mentorship have been invaluable. I am also grateful to the members of my dissertation committee, Dr. Regena Aye and Dr. Steve Karlin, for their valuable feedback, suggestions, and critical evaluation of my work. Lastly, I would like to thank all the research participants who generously shared their time and insights for this study. Their contributions have been instrumental in shaping the findings and conclusions of this dissertation. In conclusion, I would like to extend my heartfelt thanks to all those who have supported me in this journey.

Table of Contents

Abstract.....	ii
Dedication.....	iii
Acknowledgments	iv
List of Tables.....	x
List of Figures.....	xi
Chapter 1: Introduction.....	1
Background.....	2
Statement of the Problem	5
Purpose of the Study.....	6
Significance of the Study.....	6
Delimitations	7
Assumptions	8
Research Questions	9
Definition of Terms	9
Organization of the Study.....	11
Chapter 2: Review of the Literature	12
Theoretical Framework	12
Social Constructivism.....	13
Situated Learning Theory	13

Application to the Study	14
National Teacher Shortage	15
Movers vs. Leavers.....	15
Teacher Turnover	16
Causes of Turnover.....	17
Implications of Turnover.....	20
Causes of Turnover among New Teachers.....	22
Lack of Preparation and Support.....	23
Support Strategies to Reduce New Teacher Turnover	23
Administrative Support	24
Mentoring	25
Professional Development.....	26
Preservice and Induction	26
Communities of Practice	27
CoPs and Teachers	28
Virtual Communities of Practice	31
How They Work.....	32
How vCoPs Could Improve New Teacher Retention.....	33
Best Practices for vCoPs	34
Domain	34
Community.....	35
Practice	35

Design Principles of CoPs	36
Strategies to Foster Engagement in vCoPs.....	37
Summary.....	37
Chapter 3: Method.....	39
Research Design	39
Setting.....	40
Sampling Procedures	41
Instruments	42
Data Collection Procedures	46
Data Analysis and Synthesis	47
Trustworthiness	49
Researcher’s Role.....	50
Limitations.....	51
Summary.....	52
Chapter 4: Results.....	54
Sample Description	54
Thematic Analysis	55
Themes from Research Question 1.....	66
The vCoP Helped Improve Teachers’ Preparedness	66
Intention to Implement Things Learned	69

Impact of vCoP was Influenced by Previous Classroom Experience	71
vCoP Did Not Influence Teachers.....	72
Themes from Research Question 2.....	72
Effective Aspects of the vCoP.....	72
Recommendations for Improvements to the vCoP.....	74
Theme from Research Question 3	77
The vCoP Influenced Teachers’ Intention to Remain in the Profession	77
Additional Theme.....	78
New Teacher Challenges.....	78
Summary.....	80
Chapter 5: Interpretation and Recommendations	82
Study Summary	83
Overview of the Problem.....	83
Purpose Statement and Research Questions	83
Review of the Methodology	84
Major Findings	85
Findings Related to the Literature	87
Emerging Themes from Research Question 1	87
Emerging Themes from Research Question 2	89
Emerging Themes from Research Question 3.....	92
Additional Emerging Theme	92
Conclusions	94

Implications for Action.....	95
Recommendations for Future Research.....	95
Concluding Remarks	96
References	98
Appendices	115
Appendix A: Interview Questions	115
Appendix B: Informed Consent Form	118
Appendix C: Study Invitation.....	120
Appendix D: IRB Approval.....	121

List of Tables

Table 1. Alignment Between vCoP Best Practices and the Current Study	45
Table 2. Participant Demographics	55
Table 3. Open Coding Examples.....	56
Table 4. Codebook.....	57
Table 5. Axial Coding	59

List of Figures

Figure 1. Research Model.....	5
Figure 2. CoP Tips for Faculty Development	30
Figure 3. Thematic Map	65

Chapter 1

Introduction

Approximately 90% of the annual demand for teachers across the nation is caused by teacher turnover (Carver-Thomas & Darling-Hammond, 2017). Among new teachers, the attrition rate is particularly high, with 44% of new teachers leaving the profession within the first 5 years (Ingersoll et al., 2018). Established predictors of high turnover among new teachers include teacher expectations, personal issues, student behavior, low job satisfaction, poor school leadership, lack of professional development, and inadequate compensation (Harris et al., 2019). Professional support and preparedness can also predict turnover among new teachers (Harris et al., 2019).

New teachers often enter the classroom without ongoing support that may be essential to long-term retention (Olson et al., 2021). One way to address this lack of support may be virtual communities of practice (vCoPs) facilitated by educator preparation providers (EPPs). This study involved an exploration of new teachers' experiences in a vCoP designed and administered by an EPP. The aim of the vCoP was to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers.

This chapter provides the background of the problem of new teacher attrition. The purpose of the study is identified, along with the significance of the study. Delimitations are explained, and assumptions are acknowledged. Research questions are presented, and all key terms are conceptually defined. Lastly, a clear structure for the organization of the study is presented.

Background

Among the general teaching population, 1 in 4 teachers planned to leave the profession in 2021 (Steiner & Woo, 2021). Nationally, 8% of all teachers leave the profession each year (Carver-Thomas & Darling-Hammond, 2019). Approximately 90% of the annual demand for teachers across the nation is caused by teachers leaving the profession (Carver-Thomas & Darling-Hammond, 2017). Among new teachers, the attrition rate is even higher (Balow, 2021). Ingersoll et al. (2018) stated that 44% of new teachers leave the profession within the first 5 years. Considering the persistent national teacher shortage, it is essential to understand why new teachers are leaving at such high rates.

There are many known causes of attrition among new teachers. In a study conducted by Harris et al. (2019), the following predictors of attrition were identified: teacher expectations, personal factors/life issues, student behavior, work conditions/job satisfaction, school leadership, teaching experience, environment of trust, professional development, respect/support, and compensation. In addition, Hughes et al. (2015) identified emotional support as a leading factor in teachers' decisions to stay or leave the profession. Harris et al. determined that 68% of teachers identified quality professional development as a key factor to retention, but only 54% believed they were receiving such training. Teachers identified that decreased support was a major factor when deciding whether to stay or leave the profession (Harris et al., 2019).

Professional support can significantly influence new teachers' satisfaction and sense of preparedness (du Plessis et al., 2020). A lack of preparedness leads to greater stress levels and contributes to new teacher turnover (Skaalvik & Skaalvik, 2015). New teachers face demands of working with diverse student populations, which can create unique challenges. Teachers should feel prepared to teach all students, including those whose first language is not English, students

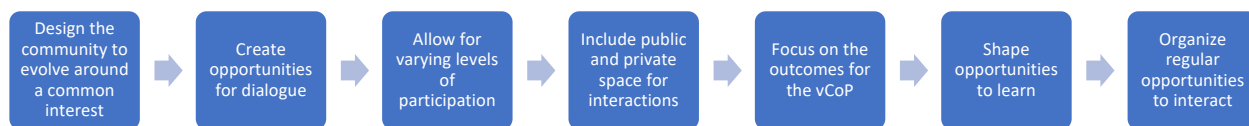
with special needs, and students from diverse backgrounds. When teachers feel dissatisfied or unprepared to do their jobs, associated stress may prompt turnover (Diliberti et al., 2021). Across the nation, leaders have used a number of strategies to improve teacher retention. In many states, mentorship programs are required by state departments of education. For example, in Kansas, all schools must provide new teachers with 2 years of mentoring. Another strategy that many districts implement is professional development programs to support teachers.

An additional strategy that may help prepare new teachers is communities of practice (CoPs). According to Voskoglou (2019), CoPs are “groups of people (experts or practitioners in a particular field) who share a concern for something they do and learn how to do it better as they interact regularly, having, therefore, the opportunity to develop themselves personally and professionally” (p. 386). Communities of practice have been widely used in industries spanning from business to healthcare (Li et al., 2009). Emerging technologies have allowed CoPs to expand into virtual communities of practice (vCoPs). Virtual communities are a type of CoP that uses technology to provide an environment where members can interact and share information, knowledge, and expertise that are not located in the same place (Rothaermel & Sugiyama, 2001).

The theoretical framework for the research was situated learning theory (Lave & Wenger, 1991), which built upon Vygotsky’s (1934) theory of social constructivism. As a foundation, social constructivism views human development as a process in which learners acquire sociocultural knowledge through collaborative interactions with other, more knowledgeable members of society (McLeod, 2020). Interaction and context are integral aspects of social constructivism. Like social constructivism, situated learning theory relies on unintentional interactions within authentic contexts and cultures (Dyack, 2020). Collaborative group work,

such as that which occurs in vCoPs, is a vehicle for unintentional interactions when paired with relevant activities that are authentic in both context and culture (Dyack, 2020). Situated learning theory builds upon social constructivism when looking at the three dimensions of social interaction: Joint enterprise, mutual engagement, and shared repertoire (Sayavaranont & Piriyasurawong, 2019). Situated learning theory's expansion of sociocultural constructivism is visible through groups working toward a common goal, shared meaning-making, and the sharing of common resources to facilitate learning (Sayavaranont & Piriyasurawong, 2019).

Situated learning theory is well aligned with the concept of CoPs. As Bond and Lockee (2018) explained, CoPs are based in theories of social learning and constructivism. As Yarris et al. (2019) explained, CoPs are derivative of situated learning, and a vCoP is simply a CoP that leverages internet technologies to facilitate engagement and communication among community members. Through vCoPs, educators can overcome barriers of time or distance to generate scholarship and learning (Yarris et al., 2019). Through the model of situated learning, CoPs, whether in person or virtual, allow professionals to collaborate, develop skills, and employ problem-solving strategies (Zakrajsek & Schuster, 2018). Several scholars have leveraged the theory of situational learning to support research on CoPs (Pyrko et al., 2019; Voskoglou, 2019; Zakrajsek & Schuster, 2018). "Community of practice theory is rooted in social learning and constructivist theories" (Bond & Lockee, 2018). The current study advanced the use of situated learning theory within the context of vCoPs.

Figure 1*Research Model, Cultivating a vCoP*

Note. Adapted from “Finding Your People in the Digital Age: Virtual Communities of Practice to Promote Education Scholarship,” by L. M. Yarris, T. M. Chan, M. Gottlieb, and A. M. Juve, 2016, *Journal of Graduate Medical Education*, 11(1), (<http://dx.doi.org/10.4300/JGME-D-18-01093.1>)

Statement of the Problem

The high attrition rate among new teachers is an issue in education. Numerous studies have been conducted to predict the causes of this phenomenon. One crucial factor contributing to this phenomenon is a lack of support. Even though many studies show the effect of CoPs, no research on vCoPs exists. Attrition has been a persistent problem in the teaching profession, with “leavers” (those who leave the profession entirely) increasing by 5.1% over the last 2 decades (Carver-Thomas & Darling-Hammond, 2017). According to Podolsky et al. (2016), 200,000 K-12 teachers leave the profession each year. The State of the U.S. Teacher Survey by Steiner and Woo (2021) revealed 1 in 4 teachers surveyed in early 2021 had plans to leave the profession.

Even more troubling is the high rate of attrition among new teachers. Ingersoll et al. (2018) reported 44% of new teachers left the profession within the first 5 years. The causes of attrition among new teachers are well-established. Research indicates new teacher attrition is associated with a number of factors, such as stress (Liu & Onwuegbuzie, 2012), lack of support (Harris et al., 2019), classroom management and student behavior issues (Harris et al., 2019), lack of self-efficacy (Sokmen & Kilic, 2019) and difficulties coping with professional demands

(Lindqvist et al., 2021; Skaalvik, & Skaalvik, 2015). Common among these factors is a general lack of preparedness. New teachers often enter the classroom without ongoing support that may be essential to long-term retention (Olson et al., 2021). Many studies show the predictors to explain the high turnover or attrition rate for new teachers. One way to address this lack of support may be virtual communities of practice (vCoPs) facilitated by educator preparation providers (EPPs).

Purpose of the Study

The purpose of this phenomenological study was to explore new teachers' experiences in a virtual community of practice (vCoP) designed and administered by an EPP. The aim of the vCoP was to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers. The researcher investigated (a) teachers' perceptions of any ways the vCoP improved sense of preparedness and (b) any ways teachers believe the vCoP could be improved. The interviews provided an opportunity to understand better the experiences of new teachers participating in a vCoP.

Significance of the Study

The current study had important practical implications. This study was an effort to identify issues that relate to new teacher attrition and ways EPPs could support new teachers after graduation. If findings indicated the EPP-developed and facilitated vCoP improves new teachers' perceived levels of preparedness and professional commitment, other programs may consider implementing vCoPs as a tool to increase new teacher retention. This analysis could be beneficial in determining if EPPs can help schools and districts reduce new teacher attrition. This information may help EPPs across the country provide induction support to new teachers post-graduation. By understanding the perspectives of new teachers after participating in a vCoP,

EPPs, and school districts could form partnerships that lead to more comprehensive induction models.

Research on the benefits of utilizing a vCoP to support new teachers during their induction phase has the potential to lead to successful new teacher experiences, which, in turn, could help schools, districts, and the greater community provide students with high-quality teachers beyond their first 5 years of experience. Podolsky et al. (2016) posited that teacher turnover and lack of experienced teachers create educational disadvantages. Student achievement is negatively impacted when schools and districts have high rates of teacher turnover (Sorensen & Ladd, 2020). Similarly, Ronfeldt et al. (2013) reported that teacher turnover caused a decrease in student achievement.

Additional burdens are associated with teacher turnover, such as human resource costs. Recruitment, hiring, and training to replace teachers who leave is expensive for districts (Sorensen & Ladd). The estimated cost of replacing new teachers who turnover is \$20,000 (Darling-Hammond et al., 2019). According to Garcia and Weiss (2019), teacher attrition is a threat to the entire public education system. Research to better understand strategies to improve new teacher retention may lead to positive social changes that have long-term positive effects on the broader communities, in which education is the cornerstone.

Delimitations

Delimitations are researcher-determined characteristics that limit the scope and describe the boundaries of the study, such as the sample size, methodological decisions, geographical location or setting in which the study takes place, and population traits (Creswell & Creswell, 2018). The current study was subject to factors that limited the scope of investigation. First, the study only focused on new teachers in Southwest and Central Kansas. Teachers in other areas of

the state or country may have had valuable insights to offer, but they fell outside the scope of this focused, qualitative investigation. For this study, only new teachers in their first year of teaching were included. Novice teachers with more experience may have had different perspectives to offer, but the current investigation focused on recent graduates who experienced teacher induction. Another delimiting factor was that the sample only included new, first-year teachers who worked in kindergarten through eighth-grade classrooms. High school and pre-kindergarten teachers were not included. The method and design presented additional delimitations. The researcher used a qualitative method to conduct a phenomenological study. Findings from a quantitative investigation would likely have produced different results. Other delimiting factors included the researcher's choice of data collection strategy and theoretical framework. Finally, the study focused on CoPs that were virtual in nature and did not represent more traditional, in-person forms of such communities.

Assumptions

This study was based on a number of factors the researcher had to assume as true in order to conduct the investigation. First, data for this study were collected via semi-structured interviews. The researcher assumed all participants would be forthcoming and honest in their responses to the interview questions. Because the vCoP was facilitated by an educational consultant, the researcher assumed the community was facilitated in accordance with the parameters determined by the EPP. The researcher checked in weekly to ensure parameters were being followed. It was also assumed that all community participants would actively engage in the weekly meetings.

Research Questions

RQ1

Based on their experiences in a virtual community of practice, how did participation affect new teachers' sense of classroom preparedness?

RQ2

Based on their experiences in a virtual community of practice, what improvements could be made to better prepare new teachers for the classroom?

RQ3

Based on their experiences in a virtual community of practice, how did participation influence new teachers' commitment to remain in the profession?

Definition of Terms

The following definitions help provide an understanding of factors and terms utilized to frame and support the study.

Community of Practice (CoPs)

Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Lave & Wenger, 1991).

Educator Preparation Provider (EPP)

The entity responsible for the preparation of P-12 educators at initial and advanced levels. EPPs may include non-profit organizations, public or private institutions of higher education, a school district, a corporation, or a governmental agency (caepnet.org).

Induction

Induction includes activities or programs that can be inclusive of workshops, orientations, seminars, in-service, professional development, and mentoring within a school or district for teachers, specifically novice or beginning teachers (Ingersoll, 2012).

Leavers

Leavers are those who leave the profession entirely (Carver-Thomas & Darling-Hammond, 2017).

Movers

Movers are those who move from one school or district to another but remain in the profession (Carver-Thomas & Darling-Hammond, 2017).

New (Novice) teacher

Teachers are considered new (or novice) for the first 3 years of their professional experience (Petty et al., 2016). For the purposes of the current study, a new teacher referred to a new graduate who was in their first year of teaching.

Self-efficacy

Self-efficacy is a term commonly defined as the belief in one's capabilities to achieve a goal or an outcome (Bandura, 1997).

Teacher attrition

Teacher attrition is the phenomenon and rate of teachers leaving the teaching profession (Wellner & Pierce-Friedman, 2021).

Teacher retention

Teacher retention refers to the proportion of teachers in a given year who are still teaching in the same school the following year (Madden-Dent & Oliver, 2021).

Virtual community of practice (vCoP)

A vCoP is a CoP that leverages internet technologies to facilitate engagement and communication among community members (Yarris et al., 2019).

Organization of the Study

This study is organized into five chapters. Chapter 1 includes the introduction of the study, which provides the background of the problem, purpose of the study, significance of the study, delimitations, assumptions, definition of terms, research questions, and an overview of the organization of the study. Chapter 2 provides a review of the literature organized by topic in relation to the study. Chapter 3 consists of a description of the methods and procedures used in this qualitative phenomenological study. Chapter 4 introduces the participants of the study and presents the findings of the research and data analysis. Chapter 5 consists of a summary of study findings, limitations, delimitations, conclusions, with recommendations for further research and strategies for practice.

Chapter 2

Review of the Literature

This chapter provides a review of the study's theoretical framework and the literature related to the problem of new teacher turnover and communities of practice (CoP). The aim of the literature review is to conceptualize the research and reveal the gap that was addressed. The theoretical framework is detailed, including discussions of social constructivism and situated learning theory. Topics reviewed in this chapter include the national teacher shortage, teacher turnover, and its causes, support strategies to reduce new teacher attrition, traditional and virtual communities of practice, as well as best practices and design principles for communities of practice.

Theoretical Framework

The theoretical framework for this research was situated learning theory (Lave & Wenger, 1991), which built upon Vygotsky's (1934) theory of social constructivism. Lave and Wenger (1991) posited learning cannot occur when knowledge and social practice are separate. In the theory of situated learning, a community of practice is developed through participants engaging in a shared domain for the purposes of learning. Initial participation is viewed as peripheral, expanding in nature through continued engagement until participants are fully immersed in the community (Lave & Wenger, 1991). According to situated learning theory, learning is conceived as a continuous social and active process that arises from socially constructed practices (Lave & Wenger, 1998). As follows, the theory of social constructivism is discussed in order to contextualize and introduce situated learning theory.

Social Constructivism

Social constructivism posits human development is a process in which learners acquire sociocultural knowledge through collaborative interactions with others (McLeod, 2020). Social constructivism focuses on interactions and context, and individuals are active participants in the construction of knowledge. McLeod (2020) posited through social constructivism; learners gain sociocultural knowledge through collaboration. Socio-constructive experiences occur when learning is personalized, connected, and collaborative (McLeod, 2020). Collaborative environments where communities are developed may positively influence teaching and learning (DuFour & DuFour, 2012; Lave & Wenger, 1991).

Situated Learning Theory

Lave and Wenger (1991) expanded upon social constructivism to develop situated learning theory, which is visible through groups working toward a common goal, meaning making and sharing common resources to facilitate learning (Sayavaranont & Piriyastrawong, 2019). Lave and Wenger defined situated learning as a process of relationship development through interaction with others within a domain or authentic context. According to situated learning theory, learning occurs in social situations and interactions with others (Bond & Lockee, 2018; Lave & Wenger, 1991; Sayavaranont & Piriyastrawong, 2019). Wenger (1998) emphasized that situated learning theory is about relationships and exchanges between people who have a desire to improve their practice.

Situated learning theory builds upon social constructivism when looking at the three dimensions of social interaction: Joint enterprise, mutual engagement, and shared repertoire (Sayavaranont & Piriyastrawong, 2019). Joint enterprise is established when members participate and add to their communities. Mutual engagement occurs through relationships

developed within the community. Finally, shared repertoire is evident when resources and artifacts are collectively shared with the community (Wenger-Trayner and Wenger-Trayner 2015).

Application to the Study

According to Bond and Lockee (2018), CoPs are based on the theories of social learning and constructivism. Several scholars have leveraged the theory of situated learning to support research on CoPs (Pyrko et al., 2019; Voskoglou, 2019; Zakrajsek & Schuster, 2018). As Bond and Lockee explained, the theory behind CoPs is based in constructivism and social learning. Communities of Practice are derivative of situated learning, and a virtual community of practice (vCoP) is simply a CoP that leverages internet technologies to facilitate engagement and communication among community members (Yarris et al., 2019). Yarris et al. (2019) claimed through vCoPs; educators can overcome barriers of time or distance to generate scholarship and learning.

Through the model of situated learning, CoPs, whether in person or virtual, allow professionals to collaborate, develop skills, and employ problem-solving strategies (Zakrajsek & Schuster, 2018). Collaborative group work, such as that which occurs in vCoPs, is a vehicle for unintentional interactions when paired with relevant activities that are authentic in both context and culture (Dyack, 2020). Wenger and Snyder (2000) explained that CoPs are powerful mechanisms for transferring knowledge and best practices through social interactions as well as generating new solutions and refining professional skills. According to Lewis and Rush (2013), learning that occurs on a collaborative virtual platform aligns with successful socio-constructivist practices. This research will advance the use of situated learning theory within the context of

vCoPs by exploring new teachers' experiences in a vCoP designed and administered by an educator preparation provider (EPP).

National Teacher Shortage

Researchers have been discussing and predicting the national teacher shortage for many decades (Balow, 2021). Sutchter et al. (2016) estimated the annual U.S. teacher shortage would climb to 110,000 vacancies by the 2017-2018 academic year. The researchers also predicted the shortage would be at its greatest during the 2024-25 school year, with an estimated shortage of 200,000 teachers (Sutchter et al., 2016). While the pandemic exacerbated the teacher shortage, it has been a long-standing issue in the United States that has been studied by educational researchers for the past four decades (Balow, 2021; Harris et al., 2019). The Bureau of Labor Statistics claimed there were 567,000 fewer public school teachers in 2022 than there were prior to the pandemic (Jotkoff, 2022). During the 2020-2021 school year, one in four teachers reported an intention to leave the profession, compared to just one in six pre-pandemic (Balow, 2021).

The scope of the teacher shortage is wide and influenced by many factors. Some researchers define the shortage as an inability to fill vacancies, while others view it as poor quantity and qualifications within the teacher supply pipeline (Sutchter et al., 2019). During the 2011-2012 school year, the teacher supply and demand chain was not indicative of a crisis; however, the gap widened each year thereafter and has since grown four times the 2012-2013 estimate of 20,000 (Garcia & Weiss, 2019).

Movers vs. Leavers

Turnover is typically categorized as movers and leavers. According to Carver-Thomas and Darling-Hammond (2017), movers are teachers who move from one school or district to another but remain in the profession, while leavers are those who leave the profession entirely.

Approximately 90% of the annual demand for teachers is caused by teachers leaving the profession. Two-thirds of the 90% who leave are not leaving because of retirement (Carver-Thomas & Darling-Hammond, 2017) but out of choice to leave the profession.

While movers remain in the profession, this type of turnover still has consequences. There is no guarantee their vacancies will be filled with teachers who are as or more qualified than departing teachers (Carver-Thomas & Darling-Hammond, 2017). Because the rate of turnover is highest in Title I schools, shortages are compounded in schools serving predominantly minority students (Carver-Thomas & Darling-Hammond, 2017). The attrition rate has continued to climb for the past 2 decades, and Carver-Thomas and Darling-Hammond (2017) claimed attrition rates reached 8%, which equates to about 90,000 teacher vacancies across the country.

Teacher Turnover

Approximately 90% of the annual demand for teachers across the nation is caused by teachers leaving the profession, further compounding the teacher shortage (Carver-Thomas & Darling-Hammond, 2017; Darling-Hammond et al., 2018). According to a 2021 National Education Association (NEA) survey conducted, 55% of surveyed teachers planned to leave the profession at the time of data collection (Jotkoff, 2022). Among the general teaching population, one in four teachers planned to quit in 2021 (Balow, 2021). Nationally, 8% of all teachers leave the profession each year (Carver-Thomas & Darling-Hammond, 2019).

Sutcher et al. (2019) found pre-retirement attrition accounted for two-thirds of all attrition in 2015-2016. Decreasing the attrition rate to 4% would reduce the annual shortage to approximately 130,000 teachers (Sutcher et al., 2019). In the United States, annual turnover rates are highest in the South (16.7%) and lowest in the Northeast (10%). In comparison, annual

teacher turnover in Midwestern and Western regions averaged about 13% (Carver-Thomas & Darling-Hammond, 2017). While turnover rates vary across the country, Carver-Thomas and Darling-Hammond reported teachers in Title I schools' turnover at a rate of 50%; 70% of teacher's turnover within schools serving large populations of minority students (Carver-Thomas & Darling-Hammond, 2017).

Causes of Turnover

There are many known causes of teacher turnover. In a study conducted by Harris et al. (2019), the following predictors of attrition were identified: teacher expectations, personal factors/life issues, student behavior, work conditions/job satisfaction, school leadership, teaching experience, environment of trust, professional development, respect/support, and compensation. In addition, Hughes et al. (2015) identified emotional support as a leading factor in teachers' decisions to stay or leave the profession. Harris et al. determined that 68% of teachers identified quality professional development as a key factor to retention, but only 54% believed they received such training. Teachers identified that decreased support was a major factor when deciding whether to stay or leave the profession (Harris et al., 2019). Additionally, poor working conditions, lack of administrative support, low salaries, and family reasons were cited as reasons for teacher attrition (Sutcher et al., 2016).

Skaalvik and Skaalvik (2015) identified six categories of challenges and stress in the teaching profession. Those categories included workload and time pressure, adapting to student needs, disruptive student behavior, value conflicts, lack of autonomy, teamwork, and lack of status. Factors such as poor working conditions, lack of support, and life situations lead to higher stress levels and lower levels of job satisfaction (Seelig & McCabe, 2021), which are known causes of teacher attrition (Newberry & Allsop, 2017; Skaalvik & Skaalvik, 2015). Diliberti et al.

(2021) reported that 75% of teachers surveyed stated that work was always or often stressful. Of the six categories identified by Skaalvik and Skaalvik, additional factors or themes related to teachers leaving the profession have been identified. These common causes of turnover are categorized and discussed as follows.

Individual Factors. Individual factors may impact a teacher's motivation to remain in or leave the profession. One obvious factor is job satisfaction. Skaalvik and Skaalvik (2011) conceptualized job satisfaction as teachers' affective reactions to their work. There are two main aspects of measuring job satisfaction: how satisfied teachers are with specific characteristics of the jobs and their overall sense of satisfaction (Ingusci et al., 2016; Skaalvik & Skaalvik, 2011). Teachers' job satisfaction has been found to be a strong predictor of a person's decision to leave the teaching profession (Skaalvik & Skaalvik, 2011).

Research has also been conducted on predictors of decreased job satisfaction (Ingusci et al., 2016; Lee & Nie, 2014; Petrou et al., 2015), as this is directly related to turnover. Job crafting is defined as a specific strategy an employee uses to modify a job to their needs, skills, and preferences. Petrou et al. (2015) explained job crafting was a self-initiated behavior targeted at pursuing resources, challenges and reducing the emotional, mental, or physical demands of a job. Ingusci et al. (2016) found job crafting was significantly related to perceived organizational support (POS), which in turn led to higher job satisfaction. According to Lee and Nie (2014), teachers who feel empowered and can take ownership feel less impacted by the job demands and have higher levels of job satisfaction.

Low self-efficacy can also contribute to teacher turnover. Morris et al. (2017) defined teachers' self-efficacy as beliefs that teachers have about their ability to perform tasks related to the profession. According to Sokmen and Kilic (2019), there have been a limited number of

studies comparing the relationship between job satisfaction to self-efficacy; however, of the studies done, it was noted that self-efficacy had a positive relationship with job satisfaction (Skaalvik & Skaalvik, 2011). Teachers often get burdened with additional duties and tasks that contribute to the feeling of not being able to get the job done, leaving teachers with a lack of self-efficacy. This lack of self-efficacy is a predictor of burnout and job satisfaction (Sokmen & Kilic, 2019).

Work Demands. Another predictor of teacher turnover relates to work demands. Recent research revealed a predictive relationship between high work demands, limited classroom resources, and poor job satisfaction (McCarthy et al., 2015). For example, Hanson (2013) found disruptive student behavior was a leading cause of teacher stress. Buchanan et al. (2013) noted disruptive behavior as a top concern for teachers. Additionally, the scholars reported teachers' inability to consistently address classroom management issues contributed further to feelings of anxiety and ineffectiveness. In a study by Thibodeaux et al. (2015), disciplinary issues were the number one reason teachers left the profession. Ladd (2011) asserted that the consistency among the findings of numerous research studies suggests that student behavior, school discipline, and responses to discipline were of major concern to teachers. Other demands also have a negative impact on teachers' willingness to remain in the profession. Educators often spend exorbitant amounts of time working outside the classroom to meet professional demands (Hanson, 2013).

Organizational Factors. Organizational factors, such as working conditions, leadership, communication, support, teacher empowerment, and growth opportunities, can have a strong influence on teacher turnover (Boyd et al., 2011; Ladd, 2011). Sutchter et al. (2019) found that a perceived lack of support was the strongest indicator of teacher turnover, and teachers were twice as likely to be a mover or leaver when administrative support was perceived as low.

Hanson (2013) indicated that increased turnover occurred when teachers lacked administrative support. Hughes et al. (2015) found emotional support was essential to teacher retention.

Improving workplace conditions via increased leadership and administrative support can reduce attrition (Podolsky et al., 2016). Fuller et al. (2016) found turnover was influenced by teachers' perceptions of material and social support within their schools.

Implications of Turnover

Teacher turnover has implications that affect students, schools, and entire communities. For example, student outcomes are negatively impacted when schools and districts have high rates of teacher turnover (Sorensen & Ladd, 2020). Ronfeldt et al. (2013) reported teacher turnover caused decreases in student achievement. Additional burdens are associated with teacher turnover, such as human resource costs. Recruitment, hiring, and training to replace teachers who leave is expensive for districts (Sorensen & Ladd, 2020). The estimated cost of replacing new teachers who turnover is \$20,000 (Carver-Thomas & Darling-Hammond et al., 2019). According to Sutchter et al. (2016), the financial cost of U.S. teacher attrition is around \$8 billion annually. Garcia and Weiss (2019) argued teacher attrition was a threat to the entire public education system. Additionally, the shortage makes it even more challenging to champion the profession and enhance the reputation of teaching, thereby exacerbating shortages (Balow, 2021). The implications of a teacher shortage include students not having the same opportunities as others due to schools hiring less qualified teachers or teachers not licensed appropriately (Reichardt et al., 2020). Teacher turnover in high minority population schools has been known to cause decreases in student learning (Ronfeldt et al., 2013). The most common implications of teacher turnover are discussed as follows.

Implications for schools/districts. For schools, the implications of teacher turnover include financial costs and recruitment issues. According to Garcia and Weiss (2019), high teacher turnover costs money that could otherwise be used for professional development and other resources to support schools. The toll turnover takes on the morale of the school was noted by Garcia and Weiss in terms of a lack of staff cohesion. Sorensen and Ladd (2020) reiterated that perpetual turnover breeds more turnover, leading to less qualified teaching pools. In addition, school or district reputations can decline as the quality of teaching and school climates are negatively affected, which has even greater implications for communities (Balow, 2021).

Implications for students/communities. Sutcher et al. (2019) posited teacher turnover negatively impacts student learning through class size increases, the elimination of courses, and the hiring of unqualified or inexperienced teachers. Schools located in areas that serve low-income students and are categorized as Title I schools experience an even greater percentage of turnover (Sutcher et al., 2019). The number of years of experience that a teacher teaches has been shown to have a positive effect on student learning and achievement (Burroughs et al., 2019).

Teacher turnover can also undermine efforts to provide equitable education to all students (Carver-Thomas & Darling-Hammond, 2017; Garcia & Weiss, 2019; Sutcher et al., 2019). Educational equity is associated with higher student performance (Burroughs et al., 2019; Sutcher et al., 2019). The issue of inequalities in teacher effectiveness imposes a disadvantage for some students. According to Burroughs et al. (2019), inequities can be tied to student characteristics such as low socioeconomic status (SES), race, ethnicity, and gender. Furthermore, the researchers claimed that nearly every educational system where parents have low SES, and less formal education perform worse on almost every educational metric (Burroughs et al.,

2019). This could cause the cycle of poverty to continue and thus have a negative impact on the community. Education can provide the opportunity to break the cycle of poverty for individuals, families, and communities as well as on a larger scale (UNICEF, 2015).

Causes of Turnover among New Teachers

While the general turnover rate among teachers is problematic, turnover specific to new teachers is even higher. Teachers are considered new (or novice) for the first 3 years of their professional experience (Petty et al., 2016). This study focuses on new teachers within their first year of professional experience. Nearly 10% of new teachers leave in the first year (Abitabile, 2020). Examining 3 decades of data from 1987 to 2016, Ingersoll et al. (2018) reported 44% of new teachers left the profession within the first 5 years. Focusing on more recent data gathered between 2007 and 2012, Gray and Taie's (2015) longitudinal study revealed over half of new teachers left the profession within 5 years. According to the researchers, 10% of new teachers did not teach after their first year, 12% did not teach in their third year, 15% in their fourth year did not teach, and 17% were not teaching a fifth year (Gray & Taie, 2015). In a study done by Ingersoll et al. (2014), several factors were identified that had no real effect on new teacher attrition. Types of college attended degree level and preparation route (traditional or alternative) had little impact on whether a first-year teacher stayed or left after their first year. However, new teachers who had an increased amount of pedagogical training were considerably less likely to leave the profession.

The causes of attrition among new teachers are well-established. Research indicates causes of new teacher attrition are quite similar to those associated with attrition among the general teaching population. New teacher attrition is associated with several factors, such as stress (Liu & Onwuegbuzie, 2012), lack of support (Harris et al., 2019), classroom management

and student behavior issues (Harris et al., 2019), lack of self-efficacy (Sokmen & Kilic, 2019) and difficulties coping with professional demands (Lindqvist et al., 2021; Skaalvik, & Skaalvik, 2015). A lack of support can contribute to increased turnover among novice teachers (Gilmour & Wehby, 2020). Job demands and long-term stress were shown to lead to reduced teacher self-efficacy (Skaalvik & Skaalvik, 2018), thereby contributing to turnover. Poor job satisfaction can create turnover through a variety of factors, such as school and working conditions, salary, student behavior, accountability, resources, professional development, leadership, and the ability to participate in important decision-making processes (Seelig & McCabe, 2021). Common among many of the factors is a general lack of preparedness.

Lack of Preparation and Support

A significant cause of new teacher turnover is a lack of preparation and support (Skaalvik & Skaalvik, 2015). New teachers often enter the classroom without ongoing support that may be essential to long-term retention (Olson et al., 2021). A lack of preparedness leads to greater stress levels and contributes to new teacher turnover (Skaalvik & Skaalvik, 2015). Common areas of support that are often lacking for new teachers include induction support and administrative support (Harris et al., 2019). For example, Sutchter et al. (2016) reported a lack of administrative support has been found to contribute to over half of teachers leaving the profession (Sutchter et al., 2016).

Support Strategies to Reduce New Teacher Turnover

According to Sparks et al. (2017), school districts have been forced to implement induction programs as a method to retain new teachers. Support strategies and programs such as induction programs aim to improve the performance and retention of new teachers (Ingersoll, 2012). In response to high turnover rates among new teachers, a variety of support strategies

have been developed to improve retention, including administrative support, mentoring, professional development, and preservice/induction programs. With the exception of preservice and induction, all of these support strategies may be beneficial to the general population of teachers. However, these strategies may be particularly essential to new teacher retention.

Administrative Support

Administrative support is critical for retaining educators (Ladd, 2011). The Learning Policy Institute (2017) reported teachers who felt supported were more likely to remain in the classroom. Administrative support encompasses a wide range of factors. For example, administrative support for new teachers may include creating environments that support the professional and emotional demands of teaching (Gholam, 2018). Shuls and Flores (2020) posited supportive principals take time and effort to help new teachers address challenges, such as relationships, workload, student behavior, and curricular concerns. Administrative support can vary from emotional support to instructional support (The Learning Policy Institute, 2017). Also essential to administrative support is administrators having a deep understanding of new teachers' needs and expectations of administration (Shuls & Flores, 2020).

Another way administrators can support new teachers is through the creation of collaborative environments. Principals and administrators can create opportunities for instructor collaboration when they create teacher schedules. Ronfeldt and McQueen (2017) ascertained that creating schedules conducive to collaboration and planning may reduce new teacher turnover by approximately 40%. Creating a climate or school culture in which trust and collaboration are established between teachers and administrators allows new teachers to thrive (Kutsyuruba et al., 2017). School culture affects every aspect of school life, which includes the value and

importance placed on professional development (Kutsyuruba et al., 2017). Administrators should foster environments of shared decision-making and governance (Learning Policy Institute, 2017).

Mentoring

Mentoring is another strategy to provide new teachers with support. Sparks et al. (2017) suggested if a school district's priority was the retention of new teachers, then mentoring programs are highly recommended. Mentoring programs for new teachers have been studied for the past 20 years (Gray & Taie, 2015; Ingersoll, 2012; Ronfeldt & McQueen, 2017). Using data from the National Center for Educational Statistics (NCES), Sparks et al. reported the turnover rate among new teachers in a mentoring program was 15%, compared to 26% among those who did not participate in mentoring. Ingersoll (2012) defined a mentor as a veteran teacher who works with a novice by providing guidance for the purposes of planning, application, and evaluation. Gray and Taie (2015) determined that new teachers who were assigned a first-year mentor were retained at a rate of 92% compared to only 84% of those without mentors. Similarly, Ronfeldt and McQueen (2017) claimed that being assigned a mentor reduced turnover among first-year teachers by 50%. The benefits of mentoring continue to improve throughout the first 5 years of a new teacher's career (Gray & Taie, 2015). Darling-Hammond et al. (2018) posited high-quality induction that includes a mentorship is associated with higher retention rates among new teachers.

Sutcher et al. (2016) stated that well-designed mentoring programs improve retention rates. While mentoring programs vary by district and state (Sutcher et al., 2016), effective mentoring programs contain three elements that foster relationships needed for mentoring. The first element is trust, and the second is support and guidance in creating classroom environments conducive to learning (Sutcher et al., 2016). The third element is support and guidance in

developing effective instructional practices (Gholam, 2018). Sutcher et al. (2016) gave three suggestions for designing strong mentoring programs. The first suggests that the mentor and mentee should teach in the same content area, the second factor includes the mentor should be formally trained to be a mentor, and last, mentors and mentees should be afforded release time to conduct the mentorship.

Professional Development

Professional development is another type of support found to have a positive impact on new teacher retention. Professional development should be individualized and created around the needs of new teachers (Shuls & Flores, 2020). Bonato (2019) identified seven steps school leaders could employ to help prevent new teacher attrition. One of those steps centered around professional development opportunities. Furthermore, Bonato explained that some professional development should revolve around helping teachers learn how to work more efficiently.

Preservice and Induction

Ingersoll (2012) established pre-service as the education and preparation that occurs before employment and in-service as on-the-job professional development; induction may be viewed as a form of early career professional development. Induction programs for beginning teachers have been shown to increase self-efficacy and job satisfaction among new teachers (Renbarger & Davis, 2019). According to findings from Darling-Hammond et al.'s (2018) study on Californian teachers, turnover was heavily influenced by levels of preparation and early mentoring. Additionally, teachers who were not fully prepared prior to entering teaching left at two to three times the rate of teachers who had fully completed a preparation program.

A benefit of pre-service preparation is that it may help new teachers understand the realities of the profession. According to Renbarger and Davis (2019), unrealistic perceptions of

the teaching profession may be a cause for attrition in new or pre-service teachers. Furthermore, Renbarger and Davis explored job satisfaction among new teachers affected by professional development, mentoring, and self-efficacy and found that mentoring programs, along with a new teacher's high level of self-efficacy, led to increased job satisfaction. Ingersoll (2012) also found that mentoring programs and induction programs increased new teacher job satisfaction.

Induction programs contain a variety of activities that a new teacher could engage in, such as professional development, mentoring, orientation, and collaboration with other teachers and supervisors. Ingersoll (2012) explained that mentoring and induction are often used interchangeably. However, typically mentoring is one part of a larger induction program. Gholam (2018) noted that an induction program provides professional development along with administrative support.

Communities of Practice

A Community of Practice (CoP) may be a viable strategy for improving teacher preparation and support. A CoP can be characterized as a social learning system (Wenger-Trayner & Wenger-Trayner, 2015). Wenger et al. (2011) defined a CoP as a group of people who find it useful to learn from each other about a particular domain, thus forming learning partnerships. Three elements are necessary for a community to become a CoP. The first is a shared interest, and the second is engagement with community members (Marx et al., 2021; Wenger-Trayner & Wenger-Trayner, 2015). Finally, CoPs must involve the sharing of practice (Marx et al., 2021; Wenger-Trayner & Wenger-Trayner, 2015). According to Voskoglou (2019), CoPs are “groups of people (experts or practitioners in a particular field) who share a concern for something they do and learn how to do it better as they interact regularly, having, therefore, the opportunity to develop themselves personally and professionally” (p. 386).

Wenger-Trayner and Wenger-Trayner (2015) posited that a CoP involves a group of people who share an interest or passion and, through meeting and interacting, learn how to improve in their professional domains. For example, a group of new teachers may benefit from a CoP by meeting to discuss their experiences, expertise, challenges, and solutions to common problems. Wenger-Trayner and Wenger-Trayner identified three essential characteristics of a CoP: the domain, the community, and the practice. In a CoP for novice teachers, the domain would include all aspects of teaching and classroom responsibilities as experienced by new teachers. The community, in this example, would include new teachers with similar teaching assignments and educational backgrounds. The practice of the CoP would involve engaging in the community through dialogue, problem-solving, and shared resources, with the goal of improving new teachers' sense of preparedness.

Marx et al. (2021) explained that a CoP could be informal or formal and for a specific purpose or just for informal learning. Wenger et al. (2011) claimed that members of CoPs join forces to tackle challenges the group may face, either individually or collectively, and leverage each other's experiences to learn. According to Azukas (2019), there is short- and long-term value in participating in a CoP. Short-term value typically revolves around seeking multiple perspectives or solving short-term issues, while long-term value includes deeper engagement with ongoing practices (Azukas, 2019).

CoPs and Teachers

A lack of research exists on the use of CoPs within the context of new teacher support and retention. However, researchers have examined CoPs within populations of rural K-12 teachers, science, technology, engineering, and math (STEM) K-12 teachers, and higher education and professional development. For example, Gardner (2020) identified best practices

for CoPs among science teachers and students in rural areas. Among mathematics teachers in rural areas of developing countries, Voskoglou (2019) found vCoPs to be a promising practice for adapting teaching to the 21st century. The current research expands upon scholarship on the use of vCoPs among rural teachers by exploring a vCoP as a strategy to improve novice teachers' sense of teaching preparedness.

While the current investigation utilizes a vCoP within the guidelines provided by Bond (2013) and Bond and Lockee (2018), a vCoP can present in many different forms. For example, Willet and Reimer (2018) found Twitter use among math teachers demonstrated characteristics of an online CoP. The researchers reported the information shared through Twitter resembled a CoP because there was a shared domain, a connected community of people, shared professional practice, and a discipline of convening (Willet & Reimer, 2018).

Hunuk et al. (2019) researched teacher interactions and patterns within a newly developed CoP to understand how conversations evolved and how teachers supported and encouraged each other to grow professionally. According to Hunuk et al., understanding how groups developed and interacted was an essential component of developing a CoP with teachers. In the current study, a facilitator is leveraged to foster interaction and engagement within the vCoP. Findings may shed new light on how facilitated conversations among community members affected new teachers' sense of preparedness.

de Carvalho-Filho et al. (2020) studied the use of CoPs for faculty development within higher education. As depicted in Figure 2, the researchers identified 12 tips for implementing a CoP for faculty development.

Figure 2

CoP Tips for Faculty Development



Note. Adapted from “Twelve Tips for Implementing a Community of Practice for Faculty Development,” by M. A. de Carvalho-Filho, R. A. Tio, and Y. Steinert, 2020, *Medical Teacher*, 42(2), p. 143-149 (<https://doi.org/10.1080/0142159X.2018.1552782>).

de Carvalho-Filho et al.’s findings indicated that CoPs were powerful in regard to faculty development as well as creating a learning-centered environment in higher education.

Furthermore, Tinnell et al. (2019) conducted a study that focused on faculty of engineering courses at a university engaging in a CoP and found that participation improved their teaching strategies. Ghamrawi (2022) provided an overview of several studies about vCoPs in relation to professional development. Her findings cited a study from Hanewald (2013) that explained a

vCoP in Australia failed due to technological illiteracies. Ghamrawi (2022) also cited Moodley (2019), who claimed his successful vCoP occurred due to an app that allowed for “face-to-face” virtual interaction.

Virtual Communities of Practice

Emerging technologies have allowed CoPs to expand into virtual Communities of Practice (vCoPs). Virtual communities are a type of CoP that use technology to provide an environment where members can interact and share information, knowledge, and expertise while being in different places (Rothaermel & Sugiyama, 2001). Bond (2013) explained it was important to consider the environment and tools necessary to create an effective vCoP; best practices for vCoPs are described in the following section. Leveraged technology must be user-friendly, and a clear purpose should be established for collaboration. Collaborative group work, such as that which occurs in vCoPs, is a vehicle for unintentional interactions when paired with relevant activities that are authentic in both context and culture (Dyack, 2020). Additionally, the tasks designed for a vCoP should foster collaboration, cooperation, and interaction in the virtual environment, thereby improving the learning experience for all participants (Bond, 2013).

There are several types of vCoPs, but one of particular interest for the current study was the blended design or virtual synchronous community of practice. According to Bond (2013), utilizing some synchronous face-to-face interaction, even that which occurs through technology, can help develop the vCoP. Creating opportunities for synchronous meetings through technology may enrich interactions among participants and foster engagement. Bond explicated that synchronous vCoPs work well when effectively facilitated. The facilitator should oversee the particulars of the vCoP, such as the time, tools, and resources needed for a successful community.

In 2013, Bond identified synchronous vCoPs as new and emphasized the need for further research on them. A review of the literature between 2013 and 2020 revealed little research on vCoPs, especially in the realm of new K-12 teachers. With the COVID-19 pandemic that emerged in March 2020, workers across the world were forced into synchronous and virtual work settings (Diab-Bahman & Al-Enzi, 2020; Henry et al., 2021). Within education, teachers and students had to quickly adapt to remote and online learning settings. The need for virtual support and professional development strategies for teachers quickly emerged (Ghamrawi, 2022). Despite the increased adoption of these virtual strategies, little research exists on their use and effectiveness. Most of the available research focuses on learning losses with an emphasis on the effects of COVID-19 (Donnelly & Patrinos, 2022). And while there has been some research on teacher professional growth through CoPs, research on the use of vCoPs for teacher professional development is less prevalent (Ghamrawi, 2022). Given the persistent rate of turnover among new teachers within the high-stress professional context created by the COVID-19 pandemic, research is needed to better understand the utility of a vCoP for helping to improve the sense of preparedness among new teachers. Better preparation could help reduce the stress experienced by new teachers, both generally and within the context of the pandemic. This research will address the gap on the use of vCoPs to support new teachers.

How They Work

Much of the research on the use of CoPs focuses on traditional, in-person settings (Marx et al., 2021; Wenger et al., 2011; Wenger-Trayner & Wenger-Trayner, 2015). However, significant overlap exists in the ways CoPs and vCoPs work (Bond, 2013). In this section, CoPs and vCoPs are discussed interchangeably, focusing on the common threads of how these two different types of communities' work. The activities of a CoP can be led by members of the CoP

and include problem-solving, requests for information, authentic experiences, reuse of assets, coordination and sharing of resources, discussion of development, documentation and validation, knowledge mapping, and gap identification (Wenger-Trayner & Wenger-Trayner, 2015). Others argue that a CoP can be led by a facilitator to achieve the same goals and activities (Bond, 2013). Some CoPs utilize a facilitative leadership model, and according to Kapucu (2012), the role of the leader is to develop, manage, and monitor the group and to build a community of trust so that risk-taking is encouraged. Bond (2013) further explained that facilitation can lead to opportunities for interaction and knowledge-sharing. Bond recommended that facilitators act as guides who help create group discussions and move those discussions in appropriate directions.

According to Pyrko et al. (2019), a successful CoP works through real-life problems, and the knowledge is gained through a sustained effort versus a transference of knowledge. Pyrko et al. further explained that members of CoPs share knowledge and adapt it to their own professional contexts, therefore learning from each other. Bond (2013) suggested that lulls in the CoP activity can be expected, but leaders can reenergize groups through opportunities to discuss controversial topics. Sustainability is created in a CoP through fostering ownership, building trust, and creating opportunities for engaging participation (Bond, 2013).

How vCoPs Could Improve New Teacher Retention

Virtual communities of practice and communities of practice, in general, may increase new teacher retention by addressing factors related to new teacher turnover. New teachers report feeling isolated, underprepared, and overwhelmed when entering their first teaching assignments (Jacobson et al., 2020). As reported by Bond (2013), teachers felt less isolated after participating in a CoP with their peers. Self-efficacy in new teachers is also strongly correlated to retention beyond the first 3 to 5 years (Gunn and McRae, (2021). Bond (2013) reported that self-efficacy

was higher among those who participated in CoPs than those who did not. Kapucu (2012) also claimed that CoPs support teacher self-efficacy.

Bonato (2019) provided seven practical ways to support new teachers, two of which included providing professional development and support. Jacobson et al. (2020) expounded on the importance of providing continual opportunities for collaboration and learning with time to reflect and apply new learning. Furthermore, Shuls and Flores (2020) found that additional factors impacting new teacher attrition included feelings of solitude, lack of professional development or growth, poor work-life balance, and a lack of educator preparation prior to teaching. Voskoglou (2019) explained CoPs could provide opportunities for participants to interact regularly and develop themselves personally and professionally. Virtual communities of practice may be helpful for teachers who are seeking solutions to problems while identifying common approaches that may work across a variety of contexts. Moreover, through this collective knowledge generation, teachers can adapt approaches and find ways to incorporate new learning into their classrooms (Visser et al., 2014). Creating a vCoP for new teachers may provide them with an additional layer of support by allowing them to develop personally and professionally as they begin their teaching careers (du Plessis et al., 2020; Olson et al., 2021).

Best Practices for vCoPs

Based on Bond's (2013) systematic review of vCoPs, three key elements should drive a research-based community. These elements include domain, community, and practice. Each of these elements is discussed as follows.

Domain

The domain of a CoP is the area of focus in which the group has shared knowledge or competence (Bond, 2013). Voskoglou (2019) described domain as the area of interest for the

community. When the group conversation is focused, the domain clearly distinguishes what is important to the community (Willet & Reimer, 2018) and allows members to develop group or individual identities (McDonald & Mercieca, 2021). Additionally, according to Wenger-Trayner (2015), members of a CoP have shared competence and commitment to the domain, thus distinguishing CoPs from other types of communities.

Community

The community of a CoP includes the members who participate by engaging in dialogue and sharing information with the intent of helping each other (Bond, 2013). Voskoglou (2019) further expanded the definition by distinguishing that members of the community may or may not work for the same entity and may communicate and interact virtually. According to Wenger-Trayner (2015), the community is a relationship in which the participants learn from each other and care about their standing within the community. Azukas (2019) found that community building played an essential role in creating a successful vCoP that utilized a blended model, which could occur whether face-to-face interactions were in person or virtual. Furthermore, Azukas found that asynchronous components, when combined with face-to-face sessions, may increase communication and collaboration.

Practice

The practice of a CoP describes the actual development of shared resources, experiences, and problem-solving (Bond, 2013; Voskoglou, 2019). According to Willet and Reimer (2018), shared practice is the product that the CoP develops through their meetings and interactions. These definitions suggest knowledge and engagement with a domain is, in effect, the practice. Wenger-Trayner (2015) stated the members of CoPs are practitioners, not just people who have a

common interest. Haas et al. (2020) found that failure to reach professional goals through the practice could cause participants to disengage or leave the community.

Design Principles of CoPs

It is a combination of all three of these elements (domain, community, and practice) that create a CoP (Wenger-Trayner, 2015). Wenger et al. (2002) identified seven design principles for creating a CoP:

1. Design for evolution
2. Open dialogue between inside and outside perspectives
3. Invite different levels of participation
4. Develop both public and private community spaces
5. Focus on value
6. Combine familiarity with excitement
7. Create rhythm for the community

According to the researchers, the design of a CoP should be adaptable and integrate dialogue from multiple perspectives. Different levels of participation should be welcomed, and the focus should be on various spaces. Value, familiarity, and excitement should be fostered in a practical and routine way that establishes rhythm (Wenger et al., 2002).

Bond (2013) also developed a set of design principles for CoPs, focusing specifically on virtual settings. According to the researcher, domain is the most fundamental element of a vCoP, with a focus on goal creation and defining anticipated outcomes. Knowledge sharing through collaborative participation must be fostered. The plan of a vCoP must be evaluated and adjusted as needed to maximize value and participation.

Strategies to Foster Engagement in vCoPs

Haas et al. (2020) defined vCoP engagement as the physical, cognitive, and emotional contributions within the community. A vCoP will have increased engagement when the facilitator brings value to the community through sharing best practices and creating new knowledge. Haas et al. also suggested building easily accessible repositories of knowledge and organizing regularly scheduled meetings. Furthermore, if the community provides members with tools and resources that directly tie to one's work, engagement increases. Fait et al. (2020) established that engagement affects all areas of a CoP and contributes to a sense of belonging, which can simultaneously increase engagement. In order to increase the chances of participation, it is essential to make sure the domain is relevant and a priority to members (Wenger-Trayner, (2015). Furthermore, Wenger-Trayner (2015) explained that members of the CoP need to see the results of their efforts and the benefits of participating.

Summary

Research supports the use of CoPs and vCoPs for learning and professional development in several contexts (Bond, 2013; Li et al., 2009). The healthcare industry has been utilizing CoPs for several decades as a method to provide healthcare professionals with support, informal training, and professional identity development (Li et al., 2009). Furthermore, business industry leaders have incorporated CoPs to share knowledge and solve problems for many years (Bond, 2013; Li et al., 2009). Communities of practice and vCoPs have also been utilized in higher education to assist with faculty professional development (Bond, 2013). Additionally, some research exists about the use of CoP and vCoPs among K-12 educators within the context of STEM and rural education (Gardner, 2020; Voskoglou, 2019).

Virtual communities of practice could be used as a tool to improve support and preparation for new teachers, but little research has been conducted within this context. New teachers leave the profession at high rates, and studies indicate a lack of support or preparedness may lead to attrition among new teachers (Diliberti et al., 2021; du Plessis et al., 2020; Harris et al., 2019; Ingersoll et al., 2018; Skaalvik & Skaalvik, 2015). Accordingly, the purpose of this phenomenological study is to explore new teachers' experiences in a vCoP designed and administered by an EPP. The aim of the vCoP is to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers. The researcher will investigate (a) teachers' perceptions of any ways the vCoP improved sense of preparedness and (b) any ways teachers believe the vCoP could be improved.

This chapter provided a comprehensive review and synthesis of the existing research related to new teacher turnover, professional development, and CoPs. While studies exist on the use of CoPs in education settings, and virtual communities have been examined in other industries and professional contexts, research on the use of vCoPs as a tool to prepare and support new K-12 teachers is lacking. This study will address this gap in the literature. The following chapter provides methodological details of the research, including a discussion of the sample, recruitment, instrumentation, data collection, and data analysis strategies.

Chapter 3

Method

New teachers often enter the classroom without ongoing support that may be essential to long-term retention (Olson et al., 2021). One way to address this lack of support may be virtual communities of practice (vCoPs) facilitated by educator preparation providers (EPPs).

The purpose of this study was to explore new teachers' experiences in a vCoP designed and administered by an EPP, which aimed to improve new teachers' sense of preparedness. The researcher investigated (a) teachers' perceptions of ways, if any, the vCoP improved sense of preparedness and (b) teachers' perceptions of ways, if any, the vCoP could be improved.

This chapter provides methodological details for the current study. First, the research method and design are presented. Discussions of the population and sample, recruitment strategy, and ethical assurances are also provided. Instrumentation is detailed, along with data collection and analysis procedures. Limitations are acknowledged, and the chapter closes with a brief summary.

Research Design

Qualitative research is used to understand social phenomena and to explore participants' points of view in natural settings (Creswell & Creswell, 2018). Qualitative research differs from quantitative research in a number of ways. The two methods differ in philosophical assumptions, research strategies, and analysis procedures (Creswell & Creswell, 2018). While quantitative researchers focus on identifying and measuring relationships between numerical variables, qualitative researchers search for deeper meanings found in textual data (Creswell & Creswell, 2018). Qualitative researchers do not test hypotheses or variables but use inductive methods to generate conclusions (Creswell & Creswell, 2018). Qualitative research derives from

anthropology, sociology, and the humanities (Creswell & Creswell, 2018). This method is valuable for describing a phenomenon through the voices, perceptions, and experiences of study participants (Austin & Sutton, 2014). This method gives researchers an understanding of the phenomenon as others experience it (Austin & Sutton, 2014).

The purpose of the current study was to explore new teachers' experiences in a vCoP designed and administered by an EPP. Qualitative data consisting of interviews with participating teachers helped reveal teachers' perceptions of ways, if any, the vCoP improved sense of preparedness, and ways, if any, teachers believe the vCoP could be improved. A qualitative method was appropriate for exploring teachers' perceptions in this context.

A phenomenological design was selected for the study. Phenomenology is a derivative of philosophy and psychology in which the researcher describes participants' lived experiences and perceptions of a phenomenon (Creswell & Creswell, 2018). All participants in a phenomenological study have experienced the same phenomenon (Creswell & Creswell, 2018). According to Creswell and Creswell (2018), researchers select a design based on their personal experiences; this researcher chose a phenomenological design due to their positionality and personal and professional experience with the phenomenon. Through semi-structured interviews, phenomenology was useful for understanding new teachers' perceptions of participating in a vCoP.

Setting

The setting was virtual, and there was not a research site attached to the study. A virtual setting was selected because the aim of this study was specifically to study vCoPs. This setting was different from other settings because each session was held via Zoom, and participants were dispersed across the rural parts of the State of Kansas. The data collection process of

interviewing was also conducted virtually via Zoom; this decision was based on the possibility of participants being geographically dispersed across rural Kansas.

Sampling Procedures

According to the most recent data from the National Center for Educational Statistics (2019), 329,000 new teachers were hired for U.S. public and private schools in 2017. Historical data reveals consistency in the number of new teachers hired annually. Additional data from the NCES (2021) indicated the number of new teachers hired in public schools was 36% higher in 2010 than in 1999 and was projected to increase an additional 28% between 2010 and 2021. The number of new teachers hired in private schools was one percent higher in 2010 than in 1999 and was projected to increase by 4% between 2010 and 2021 to 87,000.

Nationally, in 2019-2020 there were 152,939 program completers. In the State of Kansas, there were 2,134 program completers for education programs. Of those completers, 1,973 students completed a K-12 teacher preparation program and were issued a license. Including out-of-state teachers who became licensed in Kansas, 2,683 newly licensed teachers worked in the state during the 2019-2020 academic year (Title II Report, 2021).

The general population for this study was new K-12 teachers. For this study, the target population consisted of all K-12 teachers who were in their first year of teaching in the State of Kansas. Teachers are considered new (or novice) for the first 3 years of their professional experience (Petty et al., 2016). The inclusion criteria were as follows: (a) new K-12 teacher, (b) currently working in a public or private school in one of the selected rural Kansas districts, (c) is in their first year of teaching, (d) graduated from a small, private, Catholic institution, and (e) graduated between December 2021 and May 2022. Participants were limited to those in their first year of teaching to ensure everyone had similar experience levels in the classroom.

The purposive criterion-based sample for the current study included a minimum of 10 recent graduates of an education program who were currently teaching in K-12 public schools in multiple rural Kansas districts. Using recommendations from previous qualitative researchers (Francis et al., 2010; Morse, 1994), a sample size of at least 10 participants was chosen. In qualitative investigations, the adequacy of a sample size is indicated by saturation, which represents the point at which the addition of new participants produces no new findings (Mason, 2010).

Instruments

Instrumentation for this study involved a protocol for the vCoP in terms of topics that were discussed and how the vCoP was conducted. In addition, an interview protocol was used to collect data needed to answer the research questions. Each protocol is described as follows.

vCoP Protocol

A protocol was developed to guide the organization and implementation of the vCoP. Bond (2013) developed a set of design principles for CoPs, focusing specifically on virtual settings. The protocol included a discussion of the best practices of a vCoP, domain, community, and practice. The domain for the vCoP was the area of focus, which included topics to support new teachers. Each session had a selected topic that was the center of the discussion. The community included the new teachers who were identified as viable participants and who volunteered to be part of the study. The community had a common interest around being a new teacher. The practice of the community included meeting for five different sessions over a period of 5 weeks. The practice included sharing resources, experiences, and discussions of common problems (Bond, 2013).

The participants received an email from the researcher, which outlined the process for the vCoP. The email outlined expectations, which included a time commitment of 1 hour per week for 5 weeks, a stable internet connection, and an electronic device with a camera, microphone, and speaker. Participants received a list of topics for each of the five sessions along with Zoom links to access the vCoP at scheduled dates and times. Calendar invites were also sent to each participant with the topic and Zoom link. Zoom was utilized for the weekly synchronous meetings, and the sessions were recorded so the researcher could monitor the facilitation of each session. The researcher chose to employ a facilitator rather than lead the vCoP to limit bias and power differentials that may be present because of the researcher's professional title and position.

The facilitator held a master's degree in education and a bachelor's degree in speech and communication. The facilitator had a background in teaching at the elementary level. She also had experience with instructional coaching, ranging from serving as an advisor/instructional coach for Teach for America as well as an assistant principal and dean of students in a K-12 setting. Finally, the facilitator completed the Real-Time Teacher Training and a teaching program through the Relay Graduate School of Education. Real Time Teacher Coaching was a coaching model that affected teacher practice through immediate coach feedback during instruction. These programs were designed to teach knowledge, skills, and mindsets, improve sense of self-efficacy, belonging, and long-term commitment to the profession.

The five session topics included:

- Session 1: Introductions and community building (Bond, 2013)
- Session 2: Classroom management (Chelsey & Jordan, 2012)
- Session 3: Lesson planning/curriculum design (Chelsey & Jordan, 2012)

- Session 4: Engagement/effective teaching strategies (Lawson & Lawson, 2020)
- Session 5: Coping with professional demands (Lindqvist et al., 2021)

The researcher created an online course using the Canvas learning management system. The participants were familiar with Canvas through prior use during their undergraduate work. Participants were enrolled in the course so that discussions outside of the synchronous vCoP meeting could occur, and so the facilitator and participants could share resources. Furthermore, the researcher was able to monitor discussion post prompts and participant responses. The vCoP protocol was developed in alignment with the best practices recommended by Bond (2013).

Table 1

Alignment Between vCoP Best Practices and the Current Study

Best Practice	Application to the Current Study
Domain (Bond, 2013; Wenger & Snyder, 2000)	<p>The domain for the vCoP was the area of focus, which included topics to support new teachers. Each session had a selected topic that was the center of the discussion.</p> <p>The vCoP focused on new classroom teachers and their sense of preparedness. The vCoP supported new teachers' skills and efficacy related to best practices for classroom instruction and management.</p> <p>Topics in the vCoP focused on strategies to improve new teachers' sense of preparedness. These research-based topics included:</p> <ul style="list-style-type: none"> - Community building (Bond, 2013) - Classroom management (Chelsey & Jordan, 2012) - Lesson planning/curriculum design (Chelsey & Jordan, 2012) - Engagement/effective teaching strategies (Lawson & Lawson, 2020) - Coping with professional demands (Lindqvist et al., 2021)
Community (Bond, 2013; Wenger & Snyder, 2000)	<p>The community included the new teachers who were identified as viable participants and volunteered for the study. The community had a common interest around being a new teacher.</p>

Practice (Bond, 2013; Wenger & Snyder, 2000)	Participants in the vCoP demonstrated their knowledge regarding best practices for classroom management and instruction.
	Participants in the vCoP engaged in knowledge sharing through online discussion forums and virtual meetings.
	Through online interactions and dialogue, participants discussed solutions to problems common among new teachers, thus improving their knowledge and skills in the areas of classroom instruction and management.
	The practice of the community included meeting for five different sessions over a period of 5 weeks. The practice included sharing resources, experiences, and discussions of common problems.
	The infrastructure needs for knowledge-sharing via the vCoP included an online forums and meetings through Canvas and Zoom.
Interactions for practice included participating in weekly discussion board posts and weekly virtual meetings over the course of 5 weeks.	

Interview Protocol

This study explored new teachers' experiences in a vCoP designed and administered by an EPP. The aim of the community was to improve new teachers' sense of preparedness, with the goal of reducing attrition among these teachers. In order to assess participants' perceptions of how the vCoP influenced sense of preparedness, individual semi-structured interviews were conducted with each individual upon completion of the vCoP. All interviews occurred via Zoom at dates and times convenient to participants. Interviews were expected to last no longer than 60 minutes and consisted of a series of questions designed to answer the research questions (Appendix A). All questions were asked to each participant in the exact order they occur in the protocol to ensure consistency across interviews; however, because it was a semi-structured interview, additional questions were asked for clarification purposes (Appendix A). Interviews

were recorded with participants' permission so audio could be transcribed for analysis. Participants were reminded that all answers would be kept confidential and no identifying information would be shared throughout the process. After interviews were completed, participants were thanked for their time, and the meeting ended.

Data Collection Procedures

The researcher obtained approval through the institutional review board (IRB) on December 14, 2021, and followed Baker University's code of conduct (Appendix D). Ethical considerations in relation to qualitative research includes voluntary participation. Participants were allowed to withdraw from the study at any stage if they so choose. The cornerstone of ethical research is informed consent (Denzin & Lincoln, 2011). Informed consent (Appendix B) was obtained in writing, and the researcher provided sufficient information to each participant so they could make a fully informed decision. Data collected throughout the study were kept in a secure location and was password-protected. Interview questions were free of offensive, discriminatory, or unacceptable language. Confidentiality was maintained throughout the analysis and reporting of findings.

After the vCoP meetings concluded, the process of data collection began. The researcher contacted each respondent with an email thanking them for their participation in the vCoP and asking them what days and times they would be available for an exit interview to discuss their experiences in the group. When participants responded, the researcher scheduled their individual interviews and sent them links to log in for their meetings. After agreeing to the interview, all interviews were conducted via Zoom.

The researcher logged in to each meeting 10 minutes early to test their internet connection and device. When participants logged in, the researcher admitted them and thanked

them for agreeing to participate. The researcher reminded participants of the purpose of the interview and invited them to ask any questions before beginning. Next, the researcher notified participants that the recording would begin. Interview questions were then asked exactly as outlined in the interview protocol. When appropriate, the researcher asked probing and follow-up questions to generate richer responses. After all questions had been asked, participants were given the opportunity to share any additional information they felt was relevant. The interviews then concluded, and the recording was stopped.

After all interviews were conducted, the researcher downloaded all recorded meetings from Zoom and had them transcribed using Otter. Each participant was sent a copy of their transcript for review. This transcript review process improved study credibility by allowing participants to confirm the accuracy of the transcripts and provide any clarification they deemed necessary. Participants were provided with 1 week to review their transcripts. Once the review process was complete, data analysis began.

Data Analysis and Synthesis

Data were analyzed based on the guidelines of thematic analysis (TA) from Braun and Clark (2006). Thematic analysis is a qualitative method that is used to answer research questions by locating, analyzing, and reporting themes within the data. According to Braun and Clarke, there are six steps to data analysis for qualitative research.

Step 1: Become familiar with the data

Step 2: Generate initial codes

Step 3: Search for themes

Step 4: Review themes

Step 5: Define themes

Step 6: Write-up

It was essential for the researcher to become immersed in the data through multiple readings while searching for meanings and patterns (Braun & Clarke, 2006). It was recommended that the researcher read through the entire data set prior to generating initial codes. Step 2 began once the researcher became familiar with the data (Braun & Clarke, 2006). Coding was used to identify interesting features of the data and group data meaningfully. Once the coding was complete, the researcher collated the data extracts with the codes (Braun & Clarke, 2006). Step 3 occurred when the researcher used the collated information and coding to identify the themes present in the data. The information was analyzed by sorting or combining codes into larger themes and subthemes. Codes and themes that did not seem to align with the research questions were set aside for later review (Braun & Clarke, 2006). This step ended with the researcher beginning to make sense of the individual themes.

Step 4 had two levels; the first included revising the themes through careful review while looking for a coherent pattern for candidate themes. During this step, the researcher reorganized, added, or deleted themes (Braun & Clarke, 2006). A thematic map was also developed through this process. Once the themes were identified, the researcher moved to level 2. The entire data set was used to work through level 2 of step 4. Level 2 of this step included validating the individual themes and ensuring the thematic map matched the meanings present in the entire data set (Braun & Clarke, 2006). The thematic map was completed prior to moving to the next step. Step 5 of the thematic analysis involved defining and refining themes that were used in the analysis. According to Braun and Clarke (2006), defining and refining involved making sense of what each theme was about. Each theme in step 5 had a written analysis which led to step 6. The

sixth step involved producing the report that told the story of the data in a manner that convinced the reader of the merit and validity of the analysis (Braun & Clarke, 2006).

Trustworthiness

Qualitative research lacks the reliability and validity checks that are possible in quantitative investigations, as there are no numerical data to analyze (Creswell & Creswell, 2018). In lieu of reliability and validity, qualitative researchers use the concept of trustworthiness to support the robustness of investigations. Four categories of trustworthiness include credibility, dependability, transferability, and confirmability. Strategies to improve each of these trustworthiness domains were employed in the current study. Credibility supports the notion that findings are trustworthy and believable (Creswell & Creswell, 2018). As recommended by Shenton (2004), credibility in the current study was ensured using established research methods. In addition, provisions of confidentiality helped ensure participants provided open and honest responses to interview questions. The researcher engaged in reflexive journaling and member checking to improve credibility. Transferability describes how well findings may be transferred to other contexts or situations (Merriam, 2008). Transferability in this study was achieved through a rich audit trail, which included details of all data collection and analysis procedures. In addition, the researcher improved transferability by examining findings through a theoretical lens, as recommended by Shenton (2004). Dependability describes the consistency of findings, which will also be ensured through the audit trail and reflexive journaling. Finally, confirmability describes how well the researcher has maintained objectivity through the analysis and presentation of results. To minimize the intrusion of bias, the researcher intentionally bracketed out her personal biases and assumptions prior to any engagement with data collection or analysis.

Researcher's Role

The researcher's role in qualitative research is interpretive and allows them to have varying levels of involvement with the participants (Creswell & Creswell, 2018). Qualitative research also demands the need for the researcher to identify any biases that may impact the study (Creswell & Creswell, 2018). In the current study, the researcher was employed as an interim dean for a school of education from which participants were recruited. The researcher recognized the potential for bias but maintained integrity and ethical practices to minimize those biases throughout the study. As an interim dean for the teacher preparation program in which the participants graduated, it was important to bring in an outside facilitator. The researcher acknowledged the potential for bias and that opinions related to new teachers were possible. Every effort was made to remain open-minded and unbiased throughout each phase of the study. The researcher's role in this project included designing the study, developing the vCoP, recruiting participants, interviewing participants, and performing data collection. The researcher was also responsible for presenting and disseminating study results.

The researcher was the interim dean for the school of education and social work, from which graduates were recruited for the research. The researcher had access to graduates' email addresses and sent an invitation to eligible individuals who graduated from the education program between December 2021 and May 2022. A total of 96 individuals completed the program and were reviewed for eligibility. Those who were currently teaching in rural areas of Kansas were invited. The study invitation was sent to prospective participants, fully describing the parameters of the study. The email included inclusion criteria as well as information regarding voluntary participation. Those who were interested in participating were asked to reply to the study invitation indicating their interest. Details regarding participation were sent via

email. In addition, each participant was sent an informed consent form (Appendix B) to review, sign, and return to the researcher. The consent form contained details regarding the study's purpose, inclusion criteria, participation requirements, confidentiality, and the voluntary nature of participation. Individuals who did not provide written consent were not able to proceed with the study.

Limitations

The study was subject to several limiting factors. First, the researcher had little control over participant engagement with the vCoP. Although the researcher did check in on the group's progress and discussions, they did not directly interact or facilitate. Participant engagement was subject to individual motivation, time constraints, and the facilitator's ability to foster engagement and discussion among group members. The use of a facilitator did create an additional limitation because the researcher relied on them to implement the vCoP protocol with fidelity. The researcher did have weekly check-ins with the facilitator to monitor progress, but the progress of the group was largely contingent upon actions of the facilitator. The researcher chose to employ a facilitator rather than lead the vCoP in order to limit bias and power differentials that could have been present because of the researcher's professional title and position.

Another potential limitation was related to the possibility that participants may have censored their responses to interview questions after the vCoP concluded. Despite assurances of confidentiality, participants may have answered questions in ways that bolstered or protected their professional identities. To help minimize the potential for this limitation, all participants were provided with pseudonyms, and no identifying information was published in the study results.

Technical problems could have created additional limitations, as participation in the vCoP were required to have internet access and a computer equipped with a working microphone and webcam. To reduce this potential limitation, participants were encouraged to log into the group early to test their devices and internet connections. Finally, the small sample size may have created limitations regarding transferability. Findings are not generalizable to other samples or the larger population of new teachers, which may have had different characteristics or backgrounds that contributed to different experiences and outcomes with vCoPs.

Summary

The high attrition rate among new teachers is an issue in education. Numerous studies have been conducted to predict the causes of this phenomenon. One crucial factor contributing to this phenomenon is a lack of support. Even though many studies show the effect of CoPs, no research on vCoPs exists. New teachers often entered the classroom without ongoing support, that may have been essential to long-term retention (Olson et al., 2021). One way to address this lack of support may have been through vCoPs facilitated by EPPs. The purpose of this study was to explore new teachers' experiences in a vCoP designed and administered by an EPP. The aim of the vCoP was to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers. The researcher investigated (a) teachers' perceptions of any ways the vCoP improved sense of preparedness and (b) any ways teachers believed the vCoP could be improved. Participants included a sample of 11 recent graduates of an education program who were currently teaching in K-12 public schools in multiple rural Kansas districts. The inclusion criteria were as follows: (a) new K-12 teacher, (b) currently working in a public or private school in one of the selected rural Kansas districts, (c) is in their first year of teaching, (d) graduated from a small, private, Catholic institution, and (e) graduated between December 2021

and May 2022. At the conclusion of the 5-week vCoP, participants were interviewed. Interview transcripts were thematically analyzed, and results are presented in Chapter 4.

Chapter 4

Results

The purpose of this phenomenological study was to explore new teachers' experiences in a virtual community of practice (vCoP) designed and administered by an EPP. The aim of the vCoP was to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers. The researcher investigated (a) teachers' perceptions of any ways the vCoP improved sense of preparedness and (b) any ways teachers believe the vCoP could be improved. The following research questions guided this study:

1. Based on their experiences in a virtual community of practice, how did participation affect new teachers' sense of classroom preparedness?
2. Based on their experiences in a virtual community of practice, what improvements could be made to better prepare new teachers for the classroom?
3. Based on their experiences in a virtual community of practice, how did participation influence new teachers' commitment to remain in the profession?

This chapter contains details of the analysis and findings. First, a description of the study sample is provided. Data analysis procedures are detailed, followed by a thematic presentation of results. The chapter closes with a brief summary.

Sample Description

The sample for this study included 11 recent graduates of an education program who were currently teaching in K-12 public schools in multiple rural Kansas districts. To be eligible, all participants had to meet the following inclusion criteria: (a) new K-12 teacher, (b) currently working in a public or private school in rural Kansas, (c) in their first year of teaching, (d) graduated from a small, private, Catholic institution, and (e) graduated between December 2021

and May 2022. A total of 16 participants indicated interest in participating in the study. Of the 16 participants, one was ineligible due to living out of state, two were unable to commit to the duration of the vCoP, and two participants attended the first session but were unable to continue due to unforeseen time conflicts. Consequently, the final sample consisted of 11 individuals.

The age of participants ranged from 23 to 50 years old, with a median age of 38 years old. Nine participants identified as female and two identified as male. The self-reported racial background of participants included Hispanic, Caucasian, and White. The previous professional backgrounds of participants included substitute teacher, finance, payroll processing, and paraprofessional. Participant demographics are detailed in Table 2.

Table 2

Participant Demographics

Participant	Age	Gender	Race	Professional Background
Participant 1	38	F	Hispanic	Substitute Teacher
Participant 2	35	F	Caucasian	Finance
Participant 3	38	F	Caucasian	Substitute Teacher
Participant 4	49	F	Caucasian	Substitute Teacher
Participant 5	32	F	White	Payroll Processing
Participant 6	28	F	Hispanic	Substitute Teacher
Participant 7	33	M	Hispanic	Substitute Teacher
Participant 8	40	F	White	Para/Substitute Teacher
Participant 9	23	F	Hispanic	Paraprofessional
Participant 10	23	F	Hispanic	Substitute Teacher
Participant 11	50	M	Hispanic	Substitute Teacher

Thematic Analysis

Data were analyzed using the guidelines for thematic analysis (TA) developed by Braun and Clark (2006). Thematic analysis is a qualitative analysis method used to answer research questions by locating, analyzing, and reporting themes within the data. According to Braun and Clarke, there are six steps to data analysis for qualitative research, including becoming familiar

with the data, generating initial codes, searching for themes, reviewing themes, defining themes, and developing a narrative of the results.

After all interviews had been conducted, audio from each was transcribed using the transcription software Otter. Next, the analysis process began. The first step involved a repeated review of the transcripts. This review allowed the researcher to begin identifying patterns in the data. Next, step two involved generating the initial codes through the process of open coding. During open coding, the researcher closely analyzed the data to identify key concepts and generated codes to label and categorize the concepts. Samples of the open coding are provided in Table 3.

Table 3

Open Coding Examples

Excerpt	Code Applied
I also liked having the takeaways each week the Hey, try this in your classroom. You know, that was that was nice. That was almost like a tool in hand or a tangible that we could walk away from and put into practice.	Intention to implement strategies learned
And I also feel like it also opened doors to have someone else to reach out to in the event that there was a question that could be answered. So, I guess networking and opening up those lifelines.	vCoP created a sense of support
I think it helped me improve my classroom management skills because it gives me more ideas and more understanding of how to deal with certain behaviors that I was having in my classroom.	vCoP influenced classroom management skills
One of my big takeaways was, she told us to have like to be working towards one question when we lesson plan. Not necessarily so much as an objective, but to like write out the one question we want them to be able to answer to show that they've understood the assignment or the lesson.	vCoP influenced lesson planning

Classroom management is, by far the hardest thing.

Classroom management was a challenge as a new teacher

But I did feel prepared for walking into a classroom and teaching because we had spent so much time in classrooms.

Felt prepared to enter the classroom

And it just kind of reaffirmed my abilities and my confidence a little bit and why I went into teaching and why I love it.

vCoP encouraged intent to remain in the profession

In total, 88 codes were identified during the open coding process, with a total of 338 coded passages. The complete codebook is provided in Table 4.

Table 4

Codebook

1. Better use of Canvas	45. Reconnect with previous classmates
2. Breakout rooms	46. Reflected on my own teaching
3. Classroom management through relationship building	47. Reflection is important
4. Classroom management was a challenge as a new teacher	48. Self-care
5. Confident with content	49. Self-efficacy
6. Constant changes in education challenging as a new teacher	50. Self-efficacy attributed to teacher education program
7. Cross-curricular teaching	51. Self-efficacy related to being prepared
8. Curriculum pacing a challenge as a new teacher	52. Self-efficacy with classroom management
9. Dealing with admin demands	53. Setting expectations (classroom management)
10. Didn't know everyone in vCoP so may have affected ability to share	54. Shared resources outside of vCoP
11. Differentiation is a challenge as a new teacher	55. Student teaching should be longer than 1 semester
12. Discussed sessions outside of vCoP	56. Student teaching was helpful
13. District expectations are too much	57. Time limits – sense of urgency
14. Doesn't reflect well but knows it's a good idea	58. Timing of vCoP in relation to finishing program
15. Engagement was a challenge as a new teacher	59. vCoP community building activities were helpful
16. Facilitator shut down some ideas	60. vCoP created a safe place to share
17. Feels supported as a new teacher	61. vCoP created a sense of support
	62. vCoP delivery fostered discussions
	63. vCoP didn't feel like a community
	64. vCoP didn't influence intent to remain in the profession

-
- | | |
|--|---|
| 18. Felt more comfortable toward the end of the sessions | 65. vCoP didn't influence my ability to engage students |
| 19. Felt prepared to enter the classroom | 66. vCoP didn't influence my classroom management |
| 20. Felt reassured by vCoP | 67. vCoP didn't influence my teaching strategies |
| 21. Felt vCoP content was redundant | 68. vCoP didn't influence satisfaction as a new teacher |
| 22. First year is about survival | 69. vCoP didn't influence self-efficacy |
| 23. Instructional coaches are important | 70. vCoP difficult with multiple districts on the vCoP |
| 24. Intention to implement materials shared | 71. vCoP encouraged intent to remain in the profession |
| 25. Intention to implement strategies shared | 72. vCoP helped understand curriculum design |
| 26. Intention to remain in the profession | 73. vCoP influenced ability to engage students |
| 27. Lack of curriculum as a new teacher | 74. vCoP influenced classroom management skills |
| 28. Lack of instructional support | 75. vCoP influenced lesson planning |
| 29. Lack of resources as a new teacher | 76. vCoP influenced satisfaction as a new teacher |
| 30. Learned vCoP topics in teacher prep program | 77. vCoP influenced teaching strategies |
| 31. More opportunities to discuss and talk with vCoP members | 78. vCoP sessions needed to be longer |
| 32. Needed more with Professional Demands | 79. vCoP should be in person |
| 33. Networking | 80. vCoP some members dominated discussions |
| 34. New teachers need support groups | 81. vCoP was beneficial |
| 35. No influence from vCoP | 82. vCoP was engaging |
| 36. No previous classroom experience | 83. vCoP was more elementary focused |
| 37. Observable | 84. Very satisfied as a new teacher |
| 38. Overwhelmed as a new teacher | 85. Wanted help with specific student issue |
| 39. Previous experience | 86. Wanted more engagement strategies to implement |
| 40. Professional demands – academic compression | 87. Wanted reading material |
| 41. Professional demands – organization | 88. Zoom was effective delivery method |
| 42. Professional demands – state testing | |
| 43. Professional demands are more than expected | |
| 44. Realized the need to reach out for support | |
-

Note. Codes are alphabetized for readability.

Step 3 of the analysis involved searching for themes and subthemes. During this step, the researcher began searching for themes and subthemes through a careful and systematic review of the initial codes generated during the open coding process. The researcher reviewed each code, looking for similarities and patterns among them. Related codes were grouped together to form a

potential theme. The researcher then examined the potential theme in detail to ensure that it accurately reflected the data while also identifying any subthemes that were present. This process continued until all codes were reviewed, potential themes were identified, and all subthemes were captured. The result was a comprehensive set of themes and subthemes that accurately captured the key concepts and patterns present in the data. The relationships between the research questions, themes, subthemes, and codes that emerged during the axial coding process are illustrated in Table 5.

Table 5

Axial Coding

Research Question	Themes	Subthemes	Codes
1	The vCoP helped improve teachers' preparedness	Classroom management	vCoP influenced classroom management skills Self-efficacy with classroom management Setting expectations Classroom management through relationship building vCoP influenced ability to engage students Time limits/sense of urgency Observable Self-efficacy
		Lesson planning/instruction	Confident with content Cross-curricular teaching vCoP helped understand curriculum design vCoP influenced teaching strategies vCoP influenced lesson planning Self-efficacy related to being prepared
		Opportunity to reflect/share	Felt reassured by vCoP vCoP created a safe space to share Reflection is important Reflected on my own teaching

	Intention to implement things learned		Intention to implement materials shared Intention to implement strategies learned
	Impact of vCoP was influenced by previous classroom experience		Self-efficacy attributed to teacher education program Student-teaching was helpful Previous experience Felt prepared to enter the classroom No previous classroom experience Student-teaching should be longer than a semester
	vCoP did not influence teachers		vCoP didn't influence classroom management vCoP didn't influence teaching strategies vCoP didn't influence satisfaction as a new teacher vCoP didn't influence my ability to engage students vCoP didn't influence self-efficacy
2	Effective aspects of the vCoP	vCoP fostered sense of community and support	Felt more comfortable toward the end of the vCoP vCoP delivery fostered discussions vCoP community building activities were beneficial vCoP created a sense of support vCoP was beneficial Networking Reconnect with previous classmates
		Participants appreciated the virtual platform	Zoom was effective delivery method Breakout rooms were effective
	Recommendations for improvements to the vCoP	Time	vCoP sessions needed to be longer Timing of vCoP in relation to finishing program – after 1 st year More opportunities to discuss and talk with vCoP members
		Content	Needed more help with professional demands vCoP was elementary focused Wanted more engagement strategies to implement Wanted specific questions related to their district answered

			<p>Wanted help with specific student issue</p> <p>Felt vCoP was redundant</p> <p>Learned vCoP topics in teacher prep program</p> <p>Wanted material to read</p>
		Delivery and facilitation	<p>vCoP should be in person</p> <p>Better use of Canvas</p> <p>VCoP difficult with multiple districts in the vCoP</p> <p>Facilitator shut down some ideas</p> <p>Some members dominated discussions</p> <p>vCoP didn't feel like a community</p>
3	The vCoP influenced teachers' intention to remain in the profession		vCoP didn't influence intent to remain in the profession
Additional theme	New teacher challenges	Lack of support for curriculum and instruction	<p>Realized the need to reach out for support</p> <p>Lack of instructional support</p> <p>New teachers need support groups</p> <p>Lack of resources</p> <p>Curriculum pacing</p> <p>Lack of curriculum</p>
		Professional and personal demands and expectations	<p>Academic compression/pace of teaching</p> <p>Professional demands are more than expected</p> <p>Organization</p> <p>state testing</p> <p>Constant changes in education</p> <p>Dealing with administration</p> <p>District expectations are too much</p> <p>Overwhelmed as a new teacher</p>
		Classroom management challenges	Classroom management

During step 4 of thematic analysis, the researcher reviewed the themes generated in step 3 to ensure they accurately reflected the data and were relevant to the research question. The researcher examined each theme in detail, reviewing the codes used to generate the theme and

identifying any discrepancies or contradictions. The researcher looked for patterns within and across themes to ensure that they were distinct and not overlapping.

For step 5 of thematic analysis, the researcher defined the themes that emerged from the analysis. This involved providing a clear and concise description of each theme, which captured the essence of the codes and subthemes that make up that theme. Below, the researcher described the characteristics of each theme, including its meaning and relevance to the research question.

The vCoP helped improve teachers' preparedness: The vCoP program helped improve and positively impacted participants' confidence, skills, and abilities as new teachers.

Classroom management: The vCoP program influenced participants' classroom management skills, engage students, and manage time.

Lesson planning/instruction: The vCoP program helped participants to feel more confident in their content knowledge and ability to teach across different subjects. The program also helped participants to better understand curriculum design and influenced their teaching strategies and lesson planning.

Opportunity to reflect/share: The vCoP program created a safe and supportive space for participants to reflect on their own teaching practices and share their experiences with others. It includes the feeling of reassurance in the vCoP, as well as the importance of reflection as a tool for professional growth.

Intention to implement things learned: The participants expressed commitment and motivation to apply the knowledge, materials, and strategies shared and learned during the vCoP sessions. This theme referred to the importance of practical application and the potential for the vCoP to impact participants' classroom practices and student learning outcomes.

Impact of vCoP was influenced by previous classroom experience: The impact of the vCoP was affected by the participants' previous classroom experience.

vCoP did not influence teachers: Some participants indicated the vCoP did not have a significant impact on various aspects of their teaching practice, such as classroom management, teaching strategies, satisfaction as a new teacher, ability to engage students, and self-efficacy.

The vCoP influenced teachers' intention to remain in the profession: Various factors influenced participants' decisions to stay in the teaching profession.

Effective aspects of the vCoP: Participants described positive aspects of the vCoP.

vCoP fostered sense of community and support: Participation in the vCoP created a supportive and collaborative environment. Overall, this theme reflects building a supportive community and promoting professional growth and development.

Participants appreciated the virtual platform: Participants found the virtual platform to be a positive aspect of the vCoP.

Recommendations for improvements to the vCoP: Participants provided feedback regarding areas of the vCoP that needed improvement.

Time: Participants desired longer vCoP sessions, more opportunities to discuss information with other vCoP participants, and more timely programs.

Content: Participants needed more help with professional demands and engagement strategies to implement as well as specific questions related to their district answered, help with specific student issues, and desired material to read.

Delivery and facilitation: Referred to the way the vCoP was delivered and facilitated.

New teacher challenges: Participants described various obstacles and difficulties faced by teachers during their initial years of teaching.

Lack of support for curriculum and instruction: New teachers face challenges due to the lack of support and resources provided to them in terms of instructional guidance, curriculum, and professional development.

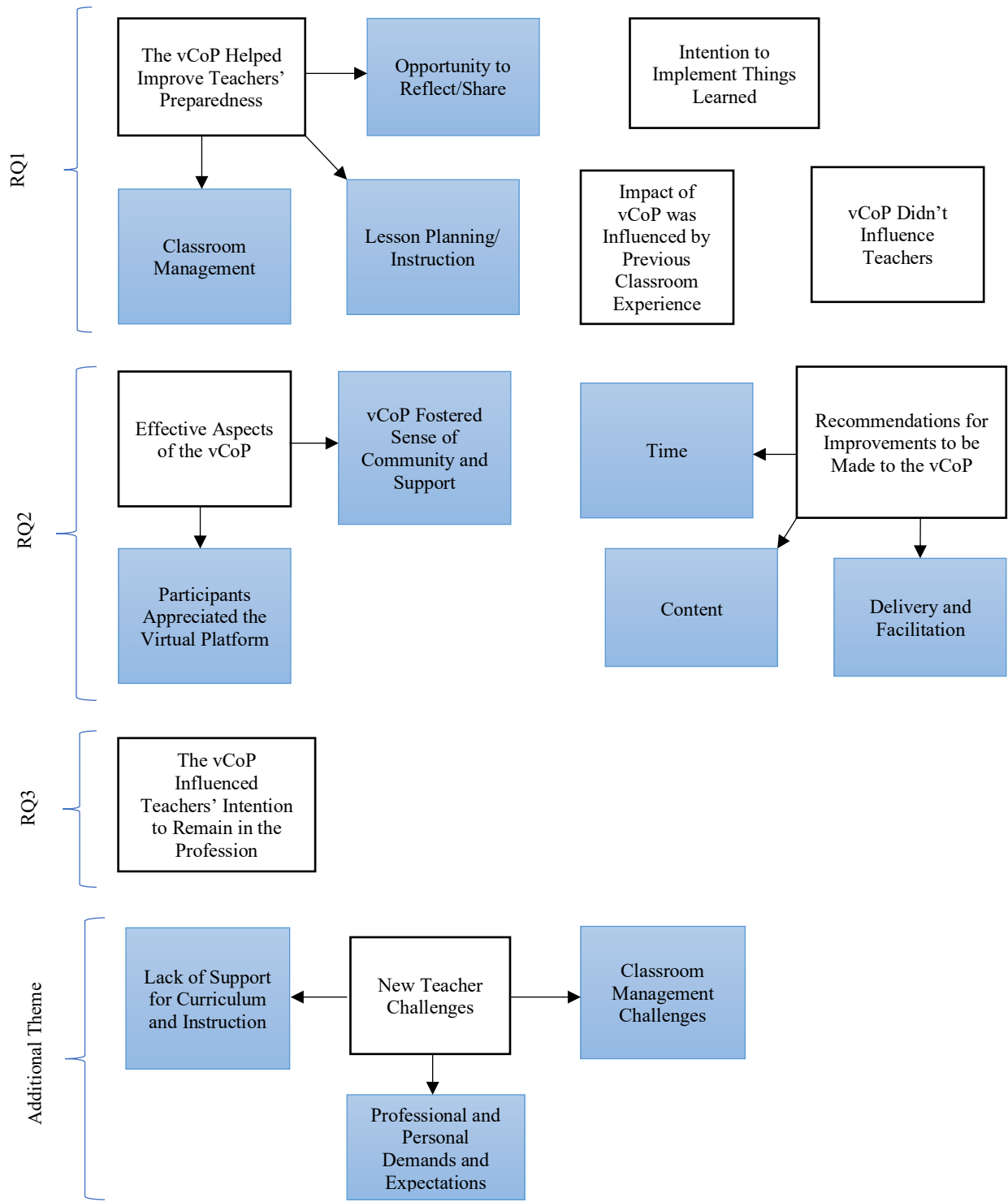
Professional and personal demands and expectations: This subtheme pertains to the challenges faced by new teachers due to the high level of professional demands and expectations placed on them.

Classroom management challenges: New teachers face challenges with managing their classroom effectively, including issues related to student behavior, discipline, and creating positive learning environments.

A visual representation of the relationships between the study themes and subthemes is provided in Figure 3.

Figure 3

Thematic Map



Finally, in step 6 of the thematic analysis, the researcher developed a narrative of the results. In this step, the researcher synthesized the findings from the previous steps and crafted a narrative that described the overall meaning of the data. The narrative was based on the themes that emerged from the data, and the researcher used direct quotes and examples from the data to illustrate each theme. The researcher interpreted the data and drew meaningful conclusions that were supported by the data. A narrative of the results is thematically presented as follows.

Themes from Research Question 1

Based on their experiences in a virtual community of practice, the first research question asked, how did participation affect new teachers' sense of classroom preparedness? Four main themes emerged in relation to this question, including *The vCoP helped improve teachers' preparedness*, *Intention to implement things learned*, *Impact of vCoP was influenced by previous classroom experience*, and *vCoP did not influence teachers*. Three subthemes were also identified for the first theme, including *Classroom management*, *Lesson planning/instruction*, and *Opportunity to reflect*. Each of these themes and subthemes is discussed below.

The vCoP Helped Improve Teachers' Preparedness

Participant interviews indicated that the vCoP improved the teachers' sense of preparation in multiple ways. The four categories that participants mentioned, in terms of improving preparedness, included classroom management, lesson planning/instruction, opportunity to reflect/share, and self-efficacy. Each category emerged as a subtheme and is discussed as follows.

Classroom Management. The first subtheme to emerge focused on the ways participation in the vCoP improved participants' classroom management skills. Seven participants specifically mentioned ways the vCoP was helpful for classroom management. For

example, Participant 11 shared, “The classroom management portion that was addressed to us during this session really helped me.” Similarly, Participant 4 said the vCoP improved their understanding of how to deal more effectively with poor student behavior, like being off task. Participant 9 said, “I feel like it did really influence my classroom management skills,” and Participant 2 said they felt “very capable” with their classroom management skills after participating in the vCoP.

Participants 2 and 3 described how the vCoP promoted classroom management through relationship-building. Participant 2 explained that discipline became “almost an afterthought” when teachers first establish strong relationships with students. While Participant 3 admitted to being “firm” and “strict,” they rarely had discipline issues because of the relationships they developed with their students. Participants also described ways the vCoP helped them promote increased student engagement, which can help reduce behavioral problems and the need for classroom management. For example, Participant 10 admitted, “It definitely helped me engage my students more.” Speaking of the engagement content of the vCoP, Participant 7 reflected on learning about various strategies available to them: “just knowing that there's [engagement] ideas to try and different strategies to use.” A similar sentiment on the engagement strategies they learned was shared by Participant 9: “I guess just hearing other people's experiences, it made me realize things that I can do differently or things that I could improve on in my classroom.”

Lesson Planning and Instruction. The second subtheme to emerge involved ways participation in the vCoP improved participants’ lesson planning and instruction. Three participants noted the tools and strategies that helped them improve their planning. For example, Participant 11 stated that Planbook, a resource discussed in the vCoP, helped them organize their daily lessons. In relation to planning, Participant 7 revealed, “having more tips on how to

actually get that [planning] done, more outlines, that's always very helpful." Participant 6 mentioned purposeful planning, stating, "Something I'm currently practicing but going back to is purposeful planning and being able to [plan], if you're better prepared, you know, those lessons are going to go smoothly." Related to the vCoP sessions, Participant 7 said they learned how to add more variety to their lessons: "just kind of picking and choosing from some of their ideas and some of the discussions we had helped to kind of spice up my lessons and my teaching."

Also related to lesson planning, several participants noted that identifying an essential question was important. Participant 5 indicated the takeaway for lesson planning revolved around determining the essential question students should focus on throughout the lesson. Similarly, Participant 7 explained, "what is it that they're trying to learn, that last question, either like on the exit ticket or in the lesson plan, itself. And then you kind of start there." Participant 7 later mentioned planning each lesson with the "ending in mind." A change in teaching strategies was noted by Participant 9 when hearing others' lesson planning ideas during the vCoP. Participant 4 opined, "and then [participating in the vCoP] made me really sit down and reevaluate...the whole concept of my strategies and teaching."

In addition to planning and instruction, understanding curriculum was indicated as an important element that helped participants improve their skills during the vCoP. Participant 5 articulated the value of conversation when they discussed the reasons behind the organization of the curriculum and delved into the details of certain curriculums, explaining what made some curriculum effective and others less productive. Taking the time to explore curriculum and the resources that came with different curriculums helped Participant 6 gain an understanding of how to better teach math.

Opportunity to Reflect/Share. The third subtheme identified for the first theme was related to the notion of reflection. Participant 2 exclaimed, “it gave me an opportunity to reflect and try something and see if that made a difference in the classroom.” Self-reflection was also mentioned by Participant 10, who shared: “what I appreciated about [the vCoP] the most was that I was able to reflect and find ways to grow.” Being a reflective practitioner was identified by four participants as an essential skill when it came to teaching and being an educator. Participant 11 discerned that reflection led to really “taking a look at myself” as a teacher. Similarly, Participant 1 recalled,

Reflection in general, like maybe throughout the week on Fridays, she said, make an appointment to yourself, you know, and think about the whole week, what did you do? What can you do better? What can you change? What worked, what didn't work and things like that? And that is something that I haven't done it. Like for sure, like make that time for myself and think these things didn't work, you know, make some changes or adjustments.

Intention to Implement Things Learned

Participant interviews indicated that the vCoP improved the teachers’ sense of preparation through the implementation of materials and strategies learned and explored throughout the vCoP. This second main theme highlighted participants’ intentions to implement the pedagogical and classroom management strategies they learned during the vCoP. Four participants identified materials they had utilized or implemented as a result of participating in the vCoP. Participant 3 described an “EL Curriculum” website and how useful it had been in planning lessons: “So, there's a module for an EL curriculum for sixth grade that's about space. And it ties in the English part, and the fluency and the reading and grammar. And it gives

independent reading book ideas.” Another resource was mentioned by Participant 11, who described a tool that helped with organizing and planning: “The last one being just how to plan your time, how to plan to plan, with some different types of plan books.” Participant 6 mentioned handouts provided by the vCoP facilitator, which they felt was a helpful resource. Participant 6 stated,

She gave us these like little handouts or access to the site where there are these lists or things where we could maybe reflect and write down what we want to get completed throughout the week. There were just some really neat handouts there that I looked into.

Participant 10 discussed a website employed that teachers could access to read about different curricula and their evaluations: “I’m going to go look up the [curriculum] we’re using, like, I feel like that’s something vital that a teacher should know, is, okay, how good is my curriculum rated for, you know, grade level and appropriateness.”

All 11 participants expressed an intention to implement a variety of strategies, while many indicated they immediately implemented or tried a strategy after learning about it through the vCoP. Participant 1 stated of the facilitator, “she encouraged us to try new techniques,” while Participant 2 recalled, “I also liked having the takeaways each week, like hey, try this in your classroom...that was nice. That was almost like a tool in hand or a tangible that we could walk away from and put into practice.” A specific example of a collaboration strategy was provided by Participant 7 related to student collaboration:

When it was time for them to collaborate, like the think pair share, kind of modifying it, and I liked knowing that there should be a certain rhythm to it, kind of let them escalate, and then before it kind of stops, you need to stop them.

Participant 10 described implementing a new strategy they learned to improve classroom transitions, sharing: “I kind of started implementing that [strategy]. Like, when I say go, you're going to do this. And that has really changed the way my kids move...and transitions are a lot smoother.”

Impact of vCoP was Influenced by Previous Classroom Experience

The impact of the vCoP relating to a sense of preparedness varied depending on a number of factors. One such factor was the individual's previous classroom experience. Additionally, factors such as self-efficacy attributed to participants' teacher education programs and their student-teaching experiences were identified as contributing factors. Four participants in the study shared their positive experiences after completing their elementary education teacher preparation program. Participant 2 expressed a sense of comfort and professional self-efficacy gained from their degree program, sharing, "I felt very comfortable and very capable after leaving the [teacher preparation] program."

Similarly, Participant 3 expressed a sense of preparedness, citing the helpfulness of the student-teaching component of their teaching program: “I felt very prepared. I thought the student-teaching was very helpful.” Participant 5 echoed this sentiment, noting that the extensive time spent in classrooms during their program helped them feel ready to enter the classroom: “I did feel prepared for walking into a classroom and teaching because we had spent so much time in classrooms.” Participant 9 reiterated the feeling of preparedness, specifically mentioning their student-teaching experience as a significant contributor to this sense of preparedness.

Other participants posited that previous experience impacted their sense of preparedness. Several participants explained that serving as a paraprofessional or substitute teacher was beneficial. Participant 8 proclaimed, “we're not new teachers because we were long-term subs

before we came into the teacher preparation program.” Participant 6 asserted, “I’m just going to go back to what I learned from the actual program that we need to incorporate.”

vCoP Did Not Influence Teachers

While many participants described ways the vCoP was beneficial to them, some participants also described ways the vCoP did not influence their instructional skills or classroom management. For example, Participants 2, 8, and 9 all felt that participation in the community did not influence their instructional skills or ability to engage their students. Moreover, Participants 1 and 2 reported no increase in their self-efficacy despite their participation in the vCoP. Regarding professional satisfaction, Participant 3 mentioned being satisfied prior to the vCoP: “I was pretty satisfied as a new teacher before.” As Participant 4 said, “I will stay a teacher; it is what I’ve always wanted to do.” Similarly, Participant 8 shared, “my intent to remain a teacher honestly isn’t about the community; it’s about myself. It is what my mission is. Because that is why I became a teacher.”

Themes from Research Question 2

Research question 2 asked, based on their experiences in a virtual community of practice, what improvements could be made to better prepare new teachers for the classroom? Two main themes and five subthemes emerged for this question. The themes included *Effective aspects of the vCoP* and *Recommendations for improvements to the vCoP*. The subthemes included *vCoP fostered sense of community and support*, *Participants appreciated the virtual platform*, *Time*, *Content*, and *Delivery and Facilitation*. These themes and subthemes are described next.

Effective Aspects of the vCoP

Participant interviews indicated that some aspects of the design and implementation of the vCoP were effective. The two categories that participants mentioned, in terms of the vCoP

being effective, included ways the vCoP fostered a sense of community and support and the benefits of the virtual platform. Each category emerged as a subtheme and is discussed as follows.

vCoP Fostered Sense of Community and Support. A sense of community was established through community-building activities, as noted by five of the participants. Participant 4 mentioned that the activities in the vCoP made them feel more comfortable when it came to discussing issues with others. Likewise, Participant 7 reflected on the experience and noted that community-building was a “nice” way to start and felt it was “comforting.” Other participants emphasized the connection they felt with their previous classmates, contributing to a strong sense of community within the vCoP. Participant 6 posited, “it’s neat to be able to network; I had some people in [the vCoP] that were classmates,” indicating that the opportunity to connect with familiar faces enhanced their participation in the vCoP. Related to establishing a sense of community, four participants also noted the vCoP provided a safe place to share and discuss issues or problems they were encountering.

Eight participants indicated the vCoP created a sense of community and support. A sense of community, especially, was of significant importance to the participants. Participant 1 stated, “Well, I’m not alone, you know, I’m not the only one. And sometimes we can even help others by giving our experiences.” Of similar sentiment, Participant 2 noted that the vCoP provided a platform for other teachers to recognize they were not alone in their challenges and allowed them to feel a sense of community, “I would say that a lot of things that I heard echoed throughout the community of practice was that you recognize you’re not alone. So, I feel like that gave a sense of community to people who needed it.”

The idea of being able to reach out to others in the community was comforting to participants. A place to share ideas and get support was beneficial. For example, Participant 11 shared how the vCoP enabled them to share strategies that were working for them with their students, while Participant 7 pointed out that having a community of individuals to turn to for help and support was a significant advantage.

Participants Appreciated the Virtual Platform. Six participants felt the virtual platform of the vCoP was particularly beneficial. Two described ways they believed Zoom was a helpful delivery method. For example, Participant 1 shared, “You know, it's flexible. So, it was okay. I personally like to have more one to one contact. But, you know, since we have many things to do, I like Zoom; it is a really good resource.” Participant 11 felt Zoom was helpful, explaining how the online platform made it easy for “everyone to make it there...by logging on their computer.” Five participants mentioned the benefits of breakout sessions and rooms, which were a part of the vCoP. These breakout sessions gave participants opportunities to review things with partners and then return to the larger group to share what they had discussed.

Recommendations for Improvements to the vCoP

Despite some of the benefits of the vCoP mentioned in the previous subtheme, participant interviews also indicated that the design and implementation of the vCoP could be improved in some ways. The four categories that participants mentioned, in terms of improving the vCoP, included time, content, delivery, and facilitation. Each category emerged as a subtheme and is discussed as follows.

Time. The first subtheme to emerge under the theme of areas of improvement for the vCoP was time. Six participants indicated that additional time during the vCoP sessions or additional sessions would have been beneficial. It was stated that additional time could have

allowed further discussions and opportunities to dive deeper into topics and content. Participant 10 explained, “[it was challenging] due to the time we had, and having to get through the slides, so maybe if we had a little bit more time to just share and talk.” Relatedly, Participant 3 felt the large amount of material was difficult to cover in the 5-week timeline for the vCoP.

Participant 5 indicated a desire to have additional time to discuss experiences as a first-year teacher. Sharing experiences in greater detail while respecting student privacy was noted by Participant 6. Although two participants felt increased time could improve the vCoP, they also indicated that additional time might deter others from participating. Despite these concerns, most participants agreed that additional time would have allowed for deeper discussion and more in-depth sharing of experiences.

Content. The second subtheme to emerge under the theme of improvements to the vCoP was content. The content improvements varied from participant to participant but were notable. Some participants mentioned professional demands. For example, Participant 3 specifically wanted to discuss state assessments and the purpose behind them: “I wish we could have talked more about testing. The state assessments, why we test these kids so much, why it starts at such a young age.” Additionally, Participant 1 would have appreciated the opportunity to discuss specific questions related to programs used in their district.

Other suggested improvements to the vCoP content included more in-depth strategies related to classroom management. Classroom management, in general, was of great importance to participants; however, a few mentioned specific student behavior issues that they needed help with. For example, Participants 8 and 10 specified they wanted more information related to “severe behaviors” or “destructive students” during the vCoP sessions.

Participant 1 made the connection between management and engagement. In fact, Participant 1 was interested in finding even more strategies or activities to engage students as a means to help with management issues. According to Participant 3, additional reading material could have been helpful but also noted additional reading materials may have deterred other participants. Two participants felt the topics discussed during the vCoP were redundant to things learned in their teacher preparation program but did not describe any additional content that they would have added to the vCoP. As Participant 1 stated, “I think everything that we talked about, we have seen before in class or any other places in school.”

Delivery and Facilitation. The third subtheme to emerge under the theme of improvements to the vCoP was related to delivery and facilitation. A few participants indicated factors they believed could improve delivery and facilitation. For example, Participant 9 thought the vCoP would be better in person rather than via Zoom. While Participant 2 noted, “I feel like it would be difficult to discuss as a community of practice across the districts,” indicating a preference to have the vCoP with new teachers in the same district. Lastly, two participants would have liked to utilize the discussion board via Canvas as a means of more ongoing discussion among participants.

Participants also described ways improvements to the vCoP were linked to facilitation. Participants 3 and 10 indicated they felt their ideas were “shut down” when they were sharing. Those two participants also perceived other members of the vCoP as “dominating” the discussions and conversations. Participant 5 felt it would have been good to spend more time “building the community” so the support network could be expanded. Similarly, Participant 3 noted the importance of clearly defining the community and its goals and having more opportunities for participants to discuss ideas.

Theme from Research Question 3

Research question 3 asked, based on their experiences in a virtual community of practice, how did participation influence new teachers' commitment to remain in the profession?

Participants identified various factors that influenced their intent to persist. The participants were able to provide personal experiences and perspectives regarding the vCoP and its impact on their commitment to remain in the profession.

The vCoP Influenced Teachers' Intention to Remain in the Profession

Study participants identified how the vCoP influenced their intent to persist as teachers. Five participants specifically affirmed the vCoP encouraged their intent to remain in the profession. Participants 4, 8, and 9 specifically stated their involvement in the vCoP did not influence their intent to remain in the profession. As Participant 5 expressed, "...it just kind of reaffirmed my abilities and my confidence a little bit and why I went into teaching and why I love it." Participant 10 reflected on participating in the vCoP and declared:

I realized that like, we're all teachers in there, and we all have hard days, and we all have things that are challenging. And I think that one thing is when you're in a community, you see that you're not alone. Like you're not the only teacher that struggles with teaching, that you're not the only teacher who has a very talkative class, you know, like, there's other people out there. And if they're pushing through, then you can push through, you know, and I think that's how the community was helpful.

Participant 7 found that the vCoP affected them in a positive manner and stated, "it made me feel that this [teaching] is where I belong." Satisfaction as a new teacher was also influenced by the vCoP. For example, Participant 8 reflected that the vCoP improved their professional satisfaction "because there was a wide variety of ages," and it was "refreshing" to see other eager young

teachers. Another ideal expressed related to the vCoP and satisfaction came from Participant 9, who stated:

I feel like we're all still learning. Because sometimes, I sit there and I listen to other teachers, and I feel like I'm so behind. But I have to remember that I'm a first-year teacher, and it's learning, and it's with time, and all these other teachers have been teachers for five plus years, and I can't base my knowledge off of them. I have to base it off of people that I was with in the community, and we're all in the same place. So, it definitely made me feel better about it.

Additional Theme

New Teacher Challenges

Participant interviews revealed an additional theme related to new teacher challenges. Participants described various obstacles and difficulties teachers faced during their initial teaching years. The additional theme was not directly aligned with any of the research questions but was related to the topic of investigation. The theme, *New teacher challenges*, provided additional context valuable to the study. The three categories that participants mentioned related to new teacher challenges included a lack of support for curriculum and instruction, professional and personal demands and expectations, and classroom management challenges. Each category emerged as a subtheme and is discussed as follows.

Lack of Support for Curriculum and Instruction. A lack of resources and curriculum as a new teacher was a common theme amongst participants. Participant 10 described the experience as “they buy the books, but they don’t give you the pencils,” and as new teachers, “obviously, we have nothing, and they give you very minimal... things.” Related, two participants discussed not having a curriculum provided as a significant challenge. Participant 1

explained, “and my first year, I did not have any curriculum to follow. So, it was very challenging to find good material...for what I was teaching, and that the administration will be happy with.”

Additionally, Participant 3 mentioned, “so, I don't currently have an English curriculum.” Along those same lines, three participants mentioned the challenges with a lack of curriculum related to pacing. Participant 1 reiterated, “it was hard because, you know, having the curriculum, you kind of have like a pacing guide, you know what's going to come after the lesson, and not having the curriculum, it was hard.” Participant 7 also indicated that figuring out the curriculum was a challenge which also affected the understanding of appropriate pacing. Participant 4 said a lack of instructional support from within the school was a challenge and concluded, “we need support groups.”

Professional and Personal Demands and Expectations. Five participants discussed their experience as new teachers in relation to professional demands being more than expected. Participant 10 described the experience of being a new teacher as “mentally exhausting.” While Participant 11 stated, “and then I realized that there's a whole ‘nother [side], and I call it the dark side, a whole ‘nother business side to the teaching, that can consume a lot of my time.” Participant 5 affirmed, “I absolutely love teaching, [but] all the extra stuff is a bit much.” Finding a balance between home and work was also discussed. For example, Participant 6 relayed,

I think the first would be being able to draw the boundary or being able to have that ...work-home life balance and being able to acknowledge or say, you know, okay, “this is where it stops today, there will be more work tomorrow, and it'll be okay.”

Comparably, Participant 11 described challenges with having to stay late for parent-teacher conferences and lesson planning: “I'm going to have to remember that this is the reason why I

started teaching, you know, and it might not be that we've got to stay till 7:30, that we can't leave any earlier." Participant 8 described the most significant challenge as adapting to the constant changes in education, including protocols within the district. Related to the professional demands as a new teacher, Participant 6 added, "I always felt like maybe I was unprepared in one area of my life, like, sometimes it was either the teaching or being a mom."

Classroom Management Challenges. Seven participants relayed challenges related to classroom management as a new teacher. Participant 5 recalled, "Classroom management is, by far, the hardest thing," and "I just feel like I've tried so many things, and just really tried to be consistent with them. But it's hard figuring out what works." Moreover, Participant 11 realized a structured classroom was a prerequisite for effective content teaching. Relatedly, Participant 10 stated,

It was a very hard first year; it was kind of, like, the first time in school I'd ever seen a [difficult student] situation that big in a long time. So, it was everybody trying to figure out what to do. There was a lot of tears and crying not much teaching.

Participant 1 recalled having many behavior problems in the first year and not knowing how to handle them. Participant 4 explained the necessity of knowing expectations and being able to relay those to the students. Identifying desired behaviors and expectations from the very beginning of the year was described as important.

Summary

The purpose of this phenomenological study was to explore new teachers' experiences in a virtual community of practice (vCoP) designed and administered by an EPP. The aim of the vCoP was to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers. Data for this investigation were collected via semi-structured interviews

with 11 participants. This chapter provided a summary of the results. For the first research question, the participants reported ways in which the vCoP impacted their sense of preparedness. Four themes emerged in relation to RQ1 and included *The vCoP helped improve teachers' preparedness*, *Intention to implement things learned*, *Impact of vCoP was influenced by previous classroom experience*, and *vCoP did not influence teachers*. For the second research question, the participants described what improvements could be made to better prepare new teachers for the classroom through the use of a vCoP. The participants identified effective aspects of the vCoP and ways the vCoP could be improved. The third research question examined the participants' experiences in the vCoP and how their participation influenced their commitment to remain in the profession. The participants identified how the vCoP influenced their intent to persist as teachers. Lastly, an additional theme emerged related to new teacher challenges. Three subthemes emerged, including *lack of support for curriculum and instruction*, *professional and personal demands and expectations*, and *classroom management challenges*. Chapter 5 provides an interpretation of the findings and recommendations for future research.

Chapter 5

Interpretation and Recommendations

New teacher attrition has been a persistent problem for the last 2 decades (Carver-Thomas & Darling-Hammond, 2017). Attrition among new teachers is associated with a number of factors, such as stress (Liu & Onwuegbuzie, 2012), lack of support (Harris et al., 2019), classroom management and student behavior issues (Harris et al., 2019), lack of self-efficacy (Sokmen & Kilic, 2019), and difficulties coping with professional demands (Lindqvist et al., 2021; Skaalvik, & Skaalvik, 2015). New teachers often enter the classroom without ongoing support, which may be essential to long-term retention (Olson et al., 2021). One way to address this lack of support may be virtual communities of practice (vCoPs) facilitated by educator preparation providers (EPPs). Accordingly, the purpose of this phenomenological study was to explore new teachers' experiences in a virtual community of practice (vCoP) designed and administered by an EPP. The aim of the vCoP was to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers. This study focused on: (a) teachers' perceptions of any ways the vCoP improved sense of preparedness and (b) any ways teachers believe the vCoP could be improved.

This chapter expands upon the findings presented in Chapter 4. First, a summary of the research is provided, followed by a discussion of the findings within the context of previously published scholarship. This section includes a review of how findings from the current study extended and built upon the existing literature. Finally, the chapter concludes with a summary of the key findings and their implications for new teachers. Recommendations for future research are provided, followed by the researcher's concluding remarks.

Study Summary

Overview of the Problem

The high attrition rate among new teachers is an issue in education. Numerous studies have been conducted to predict the causes of this phenomenon. One crucial factor contributing to this phenomenon is a lack of support. Even though many studies show the effect of CoPs, no research on vCoPs exists. According to Podolsky et al. (2016), 200,000 K-12 teachers leave the profession each year. Ingersoll et al. (2018) reported 44% of new teachers left the profession within the first 5 years. The causes of attrition among new teachers are well-established. Research indicates new teacher attrition is associated with a number of factors, such as stress (Liu & Onwuegbuzie, 2012), lack of support (Harris et al., 2019), classroom management and student behavior issues (Harris et al., 2019), lack of self-efficacy (Sokmen & Kilic, 2019), and difficulties coping with professional demands (Lindqvist et al., 2021; Skaalvik, & Skaalvik, 2015). Common among these factors is a general lack of preparedness. New teachers often enter the classroom without ongoing support that may be essential to long-term retention (Olson et al., 2021). One way to address this lack of support may be virtual communities of practice (vCoPs) facilitated by educator preparation providers (EPPs).

Purpose Statement and Research Questions

The purpose of this phenomenological study was to explore new teachers' experiences in a virtual community of practice (vCoP) designed and administered by an EPP. The aim of the vCoP was to improve new teachers' sense of preparedness, with the goal of reducing attrition among novice teachers. The researcher investigated (a) teachers' perceptions of any ways the vCoP improved their sense of preparedness and (b) any ways teachers believe the vCoP could be improved. The study was guided by the following research questions:

1. Based on their experiences in a virtual community of practice, how did participation affect new teachers' sense of classroom preparedness?

2. Based on their experiences in a virtual community of practice, what improvements could be made to better prepare new teachers for the classroom?

3. Based on their experiences in a virtual community of practice, how did participation influence new teachers' commitment to remain in the profession?

Review of the Methodology

The nature of this study was qualitative, and it followed a phenomenological design. Data were collected via semi-structured interviews with 11 individuals who participated in the vCoP. To be eligible, all participants had to meet the following inclusion criteria: (a) new K-12 teacher, (b) currently working in a public or private school in one of the selected rural Kansas districts, (c) in their first year of teaching, (d) graduated from a small, private, Catholic institution, and (e) graduated between December 2021 and May 2022.

A protocol was developed to guide the vCoP discussion of best practices in three areas: domain, community, and practice. The domain for the vCoP was the area of focus, which included topics to support new teachers. Each session had a selected topic at the center of the discussion. The community included the new teachers who were identified as viable participants and who volunteered to be part of the study. Members of the community had a common interest around being a new teacher. The practice of the community included meeting for five different sessions over a period of 5 weeks. The practice included sharing resources, experiences, and discussions of common problems (Bond, 2013).

Interviews were conducted online via Zoom. Audio from the interviews was transcribed for analysis. Data were then analyzed using Braun and Clarke's (2006) six steps of thematic

analysis, which included becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes, and developing a narrative of the results. Once the researcher became immersed in the data, the researcher coded the data and began to identify themes. Initial themes were reviewed, defined, and put into larger themes and subthemes. Step 4 of the thematic analysis involved revising themes and creating a thematic map. The thematic map was completed prior to moving to Step 5 of the thematic analysis. During Step 5, the researcher defined each theme to make sense of what each theme was about. The researcher then moved into Step 6 and developed the narrative report of the results of the data findings.

Major Findings

In total, 88 codes were identified during the open coding process, with 338 coded passages. Four themes emerged in relation to RQ1 and included *the vCoP helped improve teachers' preparedness*, *Intention to implement things learned*, *Impact of vCoP was influenced by previous classroom experience*, and *vCoP did not influence teachers*. The first theme, *the vCoP helped improve teachers' preparedness*, highlighted the ways participation helped build the teachers' confidence, skills, and abilities. Within this theme, three subthemes emerged, including (a) classroom management, (b) lesson planning and instruction, and (c) opportunity to reflect and share. The second theme, *Intention to implement things learned*, referred to participants' expressed commitment and motivation to apply the knowledge, materials, and strategies shared and learned during the vCoP sessions. This theme was supported by codes related to participants' intention to share strategies and materials learned through the vCoP. The third theme for the first research question was *Impact of vCoP was influenced by previous classroom experience*. This theme centered on how participants' previous experiences in the classroom affected the impact of the vCoP. The final theme for the first research question was *vCoP did not influence teachers*.

This theme highlighted ways some participants felt the vCoP did not have a significant impact on them in terms of their teaching practices, classroom management, teaching strategies, satisfaction as a new teacher, ability to engage students, and self-efficacy.

For the second research question, the participants described what improvements could be made to better prepare new teachers for the classroom using a vCoP. The participants identified some aspects of the vCoP as effective, as well as ways the vCoP could be improved. Participants indicated that the vCoP effectively created a sense of community and provided support. Furthermore, participants felt the virtual (Zoom) platform was effective. As for improvements to be made to the vCoP, time, content, and delivery/facilitation were acknowledged. Participants indicated that additional sessions or longer sessions would have been beneficial. Related to content, participants noted that additional information related to specific student behaviors and management would have been helpful. While others noted that some of the content was repetitive to their teacher preparation program. The last subtheme for the second research question was delivery and facilitation. One improvement identified by participants involved the actual participants and the districts in which they taught. Some participants thought it would be best if the participants were all from the same district.

The third research question examined the participants' experiences in the vCoP and how their participation influenced their commitment to remain in the profession. The participants identified how the vCoP influenced their intent to persist as teachers. The vCoP positively impacted the participants' commitment to remain in the profession and encouraged their intent to remain a teacher.

Lastly, an additional theme emerged related to new teacher challenges. Three subthemes emerged, including *lack of support for curriculum and instruction, professional and personal*

demands and expectations, and classroom management challenges. Analysis revealed that new teachers faced several challenges, including a lack of resources and curriculum, professional demands and expectations, and classroom management difficulties. Participants reported not having sufficient resources and curriculum, which made lesson planning and instruction challenging. Professional demands were more than expected, and finding a balance between home and work was difficult.

Findings Related to the Literature

Emerging Themes from Research Question

The first research question asked: Based on their experiences in a virtual community of practice, how did participation affect new teachers' sense of classroom preparedness? Four main themes emerged in relation to this question, along with three subthemes. The first theme highlighted the ways participation in the vCoP improved participants' classroom management and instructional skills. The first subtheme focused on the ways classroom management was improved through participation, such as promoting increased self-efficacy, helping teachers understand how to set expectations and time limits, fostering better student engagement, and highlighting the value of building student-teacher relationships.

The benefits of vCoP participation described by teachers in this study have been previously reported by other scholars. For example, Schwarzhaupt et al. (2021) examined the effects of a vCoP on PK-12 computer science teachers and found participation was linked with improved teaching self-efficacy. The researcher reported that increased self-efficacy was the result of personalized content that was relevant to teachers' individual teaching experiences and grade levels taught (Schwarzhaupt et al., 2021).

Researchers have also reported on the benefits of professional learning, though not specific to vCoPs, in terms of improvements to new teachers' classroom management skills. Marquez et al. (2016) found that classroom management professional development has been shown to increase teacher self-efficacy. Flynn et al. (2016) investigated the relationship between classroom management professional development and changes in behavior and found it to be an effective tool in reducing school-wide behaviors.

Although research is lacking on the relationship between teachers' participation in vCoPs and changes to student engagement, previous scholars have reported on the ways other types of professional development have resulted in increased engagement. More recently, Al Hashlamoun and Daouk (2020) examined how teachers experienced an online community of practice in a postsecondary setting. Findings revealed that learning new student engagement strategies was a primary benefit reported by participants (Al Hashlamoun & Daouk, 2020).

Participants in the current study also discussed how the vCoP helped improve their lesson planning skills. Teachers mentioned pedagogical strategies they learned, which were related to curriculum design and lesson planning. This finding echoed those from previous investigators regarding how professional learning communities can help improve teachers' pedagogical skills. For example, Zepeda (2012) claimed that engaging in professional development activities within communities of practice offered valuable content, focused learning, and active engagement. Hill and Papay (2022) found that professional development focused on instructional practices such as teaching strategies was more effective for improving student outcomes. Similarly related to a vCoP is an online professional learning network. Kearney et al. (2019) investigated how pre-service teachers informally developed online professional learning networks and found

participants perceived benefits of the professional learning network enhanced their teaching strategies.

Finally, participants in the current study emphasized the benefits of the community in terms of providing opportunities to reflect on information and share their experiences with other members of the community. This finding was also supported by previous researchers who have studied other types of professional learning communities. For example, Antinluoma et al. (2021) noted that the interaction between individuals, communities of educators, and unique content results in the formation of communities and drives changes in teaching practices. Furthermore, learning is no longer solely an individual responsibility but a collective and continuous effort.

Emerging Themes from Research Question 2

The second research question asked: Based on their experiences in a virtual community of practice, what improvements could be made to better prepare new teachers for the classroom? Two main themes and five subthemes emerged for this question. The themes included *Effective aspects of the vCoP* and *Recommendations for improvements to be made to the vCoP*. The subthemes included *vCoP fostered sense of community*, *vCoP fostered sense of support*, *Time*, *Content*, and *Delivery and facilitation*.

The first theme emphasized how the vCoP created a sense of community and fostered support among the group. Participants indicated the value of networking and sharing ideas through the vCoP experience. Other researchers also noted this finding. Within different types of group and community professional development contexts, including vCoPs, participation can provide individuals with a sense of support, camaraderie, and encouragement. For example, according to McLaughlan (2021), individuals participate in these communities with the main

intention of both offering and receiving assistance from fellow professionals who work in the same field.

Additionally, participants in the current study noted the value of being able to meet virtually. The flexibility of being able to meet from any location was viewed as a positive feature of the vCoP. This benefit was also reported in the previous research. Especially in the wake of the COVID-19 pandemic, professional development across contexts and industries has shifted to online settings, which participants often prefer. Ghamrawi (2022) studied the use of vCoPs during the pandemic, and the results indicated that vCoPs were perceived as useful means for professional development in the digital realm, both in general and especially during times of crisis. Online teacher professional development is becoming more commonly used as a flexible, cost-effective approach to address various constraints with traditional, face-to-face professional development (Powell & Bodur, 2019).

Other findings indicated improvements could be made to the vCoP. The categories for improvement were time, content, delivery, and facilitation. The majority of participants believed additional time would have allowed for deeper discussions. Other research supports this finding in a variety of professional learning contexts. Research indicates that increased time spent in professional learning communities provides teachers with more benefits. For example, Akinyenmi et al. (2019) stated,

In addition, allocation of time in communities of practice has to do with the number of hours' teachers spend in the learning, in the professional development, and over what span of time the activity takes place, needs to be considered.

Also noted by Akinyenmi et al., teacher professional development should be spread over time so that teachers can develop their pedagogical skills.

The second subtheme to emerge was related to improvements to content. While findings for this topic varied from participant to participant, it was evident that participants had specific needs they wanted addressed. Those needs ranged from specific classroom management issues to professional demands, such as state testing concerns and administration challenges. Past researchers have reported on teachers' concerns and criticisms of standardized testing, disengagement, and isolation. New teachers' needs for classroom management preparation is well established. For example, Simonsen et al., 2020, found a focused approach to professional development, known as targeted professional development (TPD), which specifically addresses essential classroom management skills and emphasizes self-management, could be a practical, efficient, and potentially effective way to promote the adoption of evidence-based practices in the classroom by supporting teachers' implementation of these practices.

The third subtheme to emerge under the theme of improvements to be made was delivery and facilitation. Participants in the study discussed ways in which improvements to the vCoP were linked to facilitation. Some participants mentioned feeling shut down when sharing ideas and perceived other members as dominating the discussions. Overall, participants recognized the role of facilitation in promoting an inclusive and collaborative environment for all members of the vCoP. This finding echoed that reported by Perry and Booth (2021), who found effective facilitation was critical to creating supportive and collaborative professional learning environments. Darling-Hammond et al. (2017) also reiterated the role of the facilitator in relation to professional development. Facilitators play a crucial role by utilizing professional development strategies such as effectively facilitating group discussions.

Emerging Themes from Research Question 3

Research question 3 asked: Based on their experiences in a virtual community of practice, how did participation influence new teachers' commitment to remain in the profession? Findings from the current study revealed that participants perceived their experiences with the vCoP to impact their intent to remain in the profession. Five participants stated that the vCoP positively impacted their commitment to the profession. The most frequently mentioned ways participation improved professional commitment was participants' realization that they were not alone and remembering their purpose or "why" for going into teaching. Similarly, Garcia and Weiss (2019) found that new teachers who participated in professional learning communities reported higher levels of job satisfaction and intention to remain in the profession. Additionally, Garcia and Weiss noted engagement in continuous professional development enabled teachers to enhance their job performance, effectiveness, and efficiency, which fostered a greater sense of dedication, purpose, and satisfaction.

Additional Emerging Theme

An additional theme emerged through the interviews, which was salient to the investigation although not directly related to the research questions. Participants provided information related to the obstacles and difficulties they faced as new teachers. The theme, New teacher challenges, provided additional context valuable to the study. The three categories that participants mentioned, in terms of challenges related to being a new teacher, included a lack of support for curriculum and instruction, professional and personal demands and expectations, and classroom management challenges. The first subtheme, lack of support for curriculum and instruction, was described as a major challenge. Participants in this study discussed the challenges of not having access to adequate resources or curriculum. Past scholars have reported

similar findings. Factors such as poor working conditions, lack of support, and life situations led to higher stress levels and lower levels of job satisfaction (Seelig & McCabe, 2021), which are known causes of teacher attrition (Newberry & Allsop, 2017; Skaalvik & Skaalvik, 2015). Additionally, essential to administrative support is administrators having a deep understanding of new teachers' needs and expectations of administration (Shuls & Flores, 2020).

The second subtheme to emerge was related to professional and personal demands and expectations. In this study, five participants shared their experience as new teachers and discussed how the professional demands were more than what they had expected. The participants described their experiences as mentally exhausting and stated that there was a business side to teaching that could consume much of their time. They also discussed the challenge of finding a balance between home and work. Other researchers have found similar results. For example, a predictive relationship between high work demands, limited classroom resources, and poor job satisfaction was noted by McCarthy et al. (2015). Shuls and Flores (2020) found that additional factors impacting new teacher attrition included feelings of solitude, lack of professional development or growth, poor work-life balance, and a lack of educator preparation prior to teaching.

The third subtheme was classroom management. Seven participants discussed the difficulties they experienced with classroom management as new teachers. Management was described as the hardest part of the job and caused significant frustration among study participants. Other researchers noted similar findings. In a study by Thibodeaux et al. (2015), disciplinary issues were the number one reason teachers left the profession.

Conclusions

Overall, results from this study revealed the vCoP provided participants with a number of benefits, including an improved sense of classroom preparedness. Increased preparedness emerged through improved classroom management and instructional skills, improved lesson planning skills, increased student engagement, and reflective practices. The findings indicated that the vCoP provided a supportive and collaborative environment for new teachers to reflect on their experiences, share their knowledge and resources, and learn effective pedagogical strategies. Networking and idea sharing were found to be valuable features of the vCoP experience.

The participants in the study expressed their intentions to apply the knowledge and strategies they learned from the vCoP sessions in their classrooms. They conveyed their commitment and motivation to use the materials shared during the virtual sessions. This finding highlighted the importance of practical application and its potential impact on classroom practices and student learning outcomes. The participants' willingness to use what they learned also revealed the value of the vCoP experience in providing relevant and applicable professional development. This study demonstrated the potential of vCoPs to enhance teachers' pedagogical knowledge and classroom practices.

Participants also described ways the vCoP could be improved to better prepare teachers for the classroom. The areas for improvement in the vCoP included time, content, delivery, and facilitation. The need for deeper discussions and content that addressed specific needs, such as classroom management and professional demands, were noted. Participants also recognized the importance of facilitation in promoting an inclusive and collaborative environment for all members of the vCoP.

If the ultimate goal is to improve the retention of new teachers via increased preparedness with classroom management and instruction, vCoPs may be a viable, efficient, and low-cost solution. Research indicated that teacher attrition is often due to a lack of support, guidance, and professional development opportunities (Lindqvist et al., 2021; Skaalvik & Skaalvik, 2015; Harris et al., 2019). The use of vCoPs may be one way to provide a supportive environment for teachers to learn, collaborate, and share ideas. Additionally, vCoPs are cost-effective and efficient, as they can be accessed from anywhere at any time and require minimal resources.

Implications for Action

The current study highlighted the potential benefits of a vCoP in improving new teachers' classroom management, lesson planning, instruction, and reflection. The findings suggested that the vCoP helped participants improve in these areas, as evidenced by their expressed intention to apply the knowledge, materials, and strategies shared during the vCoP sessions. As such, there is a need to build upon these successes and further promote the use of vCoPs as viable and efficient solutions for teacher preparation and professional development. To achieve this, educator preparation programs and administrators should invest in the necessary resources to support the implementation of vCoPs, while also considering recommendations for improvement that were offered by participants in the current study, particularly those related to time, content, and delivery. By doing so, it may be possible to create a more effective and impactful vCoP experience that better prepares new teachers for the classroom.

Recommendations for Future Research

Based on the current study's findings, several recommendations for future research can be made to explore further the potential of vCoPs for new teachers. One important area for future research is to collect quantifiable data that measures the effects of vCoP participation across

different areas, such as classroom management skills and instructional skills. This could be done through pre/post-participation assessment data, which would provide more concrete evidence of the actual effectiveness of vCoPs.

Another research recommendation is to replicate the current study with teachers of other grade levels and in different areas of the country. This could help to determine whether the findings are generalizable to other contexts. Additionally, future research could replicate the study with more experienced teachers or with teachers in other education programs, such as those with a master's in education versus a bachelor's in education.

A longer vCoP that covers more topics could also be conducted to see how new teachers respond to a more extended program. Additionally, future researchers could examine how integrating the discussion board function could facilitate more engagement and interaction among participants. Finally, conducting focus groups instead of one-on-one interviews could provide a more in-depth understanding of the experiences and perceptions of vCoP participants. These recommendations for future research could help to explore further the potential of vCoPs for new teachers and improve the understanding of how they can be effectively implemented and utilized.

Concluding Remarks

Turnover among new teachers has been an ongoing problem in U.S. schools for decades (Carver-Thomas & Darling-Hammond, 2017). Previous researchers have reported that new teacher attrition is associated with factors such as poor support, stress, and classroom management issues (Harris et al., 2019; Liu & Onwuegbuzie, 2012). Considering the budgetary constraints of many public schools, especially those serving underprivileged and high-needs students, finding ways to address new teachers' needs has been an ongoing challenge for many

school leaders. This study explored new teachers' experiences in a vCoP to examine the potential effectiveness of this professional development strategy to help provide new teachers with the support and skills needed to feel more prepared in the classroom. Findings from interviews with 11 teachers who participated in the vCoP conducted for this investigation were promising in terms of the utility of vCoPs for addressing new teachers' challenges. Analysis revealed eight main themes, including the vCoP helped improve teachers' preparedness, intention to implement things learned, impact of vCoP was influenced by previous classroom experience, vCoP did not influence teachers, the vCoP influenced teachers' intention to remain in the profession, effective aspects of vCoP, recommendations for improvements to the vCoP, and new teacher challenges. Ten subthemes emerged, including classroom management, lesson planning/instruction, opportunity to reflect/share, vCoP fostered sense of community and support, participants appreciated the virtual platform, time, content, delivery and facilitation, lack of support for curriculum and instruction, professional and personal demands and expectations, and classroom management challenges. Overall, findings suggested that vCoPs may be an economical and viable tool for supporting new teachers. Educational leaders, educator preparation programs, school administrators, and policymakers may consider providing new teachers with access to vCoPs. These virtual professional communities may foster a sense of community and support while also providing new teachers access to resources and skills needed to increase their classroom management and instructional skills.

References

- Abitabile, A. (2020). How school leadership affects retention. *Principal Leadership*, 20. NASSP.
<https://www.nassp.org/publication/principal-leadership/volume-20/principal-leadership-january-2020/making-teachers-stick-january-2020/>
- Akinyemi, A. F., Rembe, S., Shumba, J., & Adewumi, T. M. (2019). Allocation of time in communities of practice: A strategy to enhance continuing professional teachers' development of high schools teachers'. *Cogent Social Sciences* 5(1).
<https://doi.org/10.1080/23311886.2019>.
- Al Hashlamoun, N., & Daouk, L. (2020). Information technology teachers' perceptions of the benefits and efficacy of using online communities of practice when teaching computer skills classes. *Education and Information Technologies*, 25(6), 5753–5770.
<https://doi.org/10.1007/s10639-020-10242-z>
- Antinluoma, M., Ilomäki, L., & Toom, A. (2021). Practices of professional learning communities. *Frontiers in Education*, 6. <https://doi.org/10.3389/educ.2021.617613>
- Austin, Z., & Sutton, J. (2014). Qualitative research: Getting started. *The Canadian Journal of Hospital Pharmacy*, 67(6), 436–440. <https://doi.org/10.4212/cjhp.v67i6.1406>
- Azukas, M. E. (2019). Cultivating a blended community of practice to promote personalized learning. *Journal of Online Learning Research*, 5(3), 275–309.
<https://files.eric.ed.gov/fulltext/EJ1241727.pdf>
- Balow, C. (2021). *Teacher attrition: A critical problem for America's schools*. School Mint.
<https://blog.schoolmint.com/teacher-attrition-a-critical-problem-for-americas-schools>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.

- Bonato, J. (2019). The seven practical ways: How education leaders can help prevent new teacher attrition. *Leadership Magazine*. <https://leadership.acsa.org/the-seven-practical-ways>
- Bond, M. (2013). *Constructing guidelines for building communities of practice for supporting faculty professional development in electronic environments*. [Unpublished doctoral dissertation]. Virginia Polytechnic Institute and State University. https://vtechworks.lib.vt.edu/bitstream/handle/10919/50569/Bond_MA_D_2013.pdf?isAllowed=y&sequence=1
- Bond, M., & Lockee, B. (2018). Evaluating the effectiveness of faculty inquiry groups as communities of practice for faculty professional development. *Journal of Formative Design in Learning*, 2(1), 1–7. <https://doi.org/10.1007/s41686-018-0015-7>
- Boyd, D., Grossman, P., Ing, M., Lankford, H., Loeb, S., & Wyckoff, J. (2011). The influence of school administrators on teacher retention decisions. *American Educational Research Journal*, 48(2), 303–333. <https://www.jstor.org/stable/27975291>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Buchanan, J., Prescott, A., Schuck, S., Aubusson, P., Burke, P., & Louviere, J. (2013). Teacher retention and attrition: Views of early career teachers. *Australian Journal of Teacher Education*, 38(3). <https://doi.org/10.14221/ajte.2013v38n3.9>
- Burroughs, N., Gardner, J., Lee, Y., Guo, S., Touitou, I., Jansen, K., & Schmidt, W. (2019). A review of the literature on teacher effectiveness and student outcomes. In S. Hegarty & L. Rutkowski (Eds.), *Teaching for excellence and equity: Analyzing teacher characteristics*,

behaviors, and student outcomes with TIMSS, (vol. 6, pp. 7–17). Springer Open.

https://doi.org/10.1007/978-3-030-16151-4_2

Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it* [Report]. Learning Policy Institute. <https://doi.org/10.54300/454.278>

Carver-Thomas, D., & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. *Education Policy Analysis Archives*, 27(36). <https://doi.org/10.14507/epaa.27.3699>

Chelsey, G., & Jordan, J. (2012). What's missing from teacher prep. *Educational Leadership*, 69(8), 41–45.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications, Inc.

Darling-Hammond, L., Sutchter, L., & Carver-Thomas, D. (2018). *Teacher shortages in California: Status, sources, and potential solutions* [Research Brief]. Learning Policy Institute. <https://learningpolicyinstitute.org/product/teacher-shortages-ca-solutions-brief>

de Carvalho-Filho, M. A., Tio, R. A., & Steinert, Y. (2020). Twelve tips for implementing a community of practice for faculty development. *Medical Teacher*, 42(2), 143–149. <https://doi.org/10.1080/0142159X.2018.1552782>

Denzin, N., & Lincoln, Y (Eds.). (2011). *The SAGE handbook of qualitative research*. SAGE.

Diab-Bahman, R., & Al-Enzi, A. (2020). The impact of COVID-19 pandemic on conventional work settings. *International Journal of Sociology and Social Policy*, 40(9/10) 909–927. <https://doi.org/10.1108/IJSSP-07-2020-0262>

- Diliberti, M. K., Schwartz, H. L., & Grant D. M. (2021). *Stress topped the reasons why public school teachers quit, even before COVID-19* [Research report]. Rand Corporation.
https://www.rand.org/pubs/research_reports/RRA1121-2.html
- Donnelly, R., & Patrinos, H. A. (2022). Learning loss during Covid-19: An early systematic review. *Prospects*, 51(4), 601–609. <https://doi.org/10.1007/s11125-021-09582-6>
- DuFour, R., & DuFour, R. (2012). *The school leader's guide to professional learning communities at work*. Solution Tree Press.
- du Plessis, A. E., Cullinan, M., Gramotnev, G., Gramotnev, D. K., Hoang, N. T., Mertens, L., Roy, K., & Schmidt, A. (2020). The multilayered effects of initial teacher education programs on the beginning teacher workforce and workplace: Perceptions of beginning teachers and their school leaders. *International Journal of Educational Research*, 99, 101488. <https://doi.org/10.1016/j.ijer.2019.09.010>
- Dyack, A. (2020). *E-learning essentials 2020*. OER Commons.
<https://elearning2020.pressbooks.com/chapter/situated-learning-theory/>
- Fait, M., Scorrano, P., Iaia, L., Cavallo, F., & Maizza, A. (2020). Communities of practice and value co-creation: the motivational engagement system of the Italian consortia. *Journal for Global Business Advancement*, 13(2), 141–161.
<https://doi.org/10.1504/JGBA.2020.110616>
- Flynn, R. M., Lissy, R., Alicea, S., Tazartes, L., & McKay, M. M. (2016). Professional development for teachers plus coaching related to school-wide suspension for a large urban school system. *Children and Youth Services Review*, 62, 29–39.
<https://doi.org/10.1016/j.childyouth.2016.01.015>

- Francis, J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalizing data saturation for theory-based interview studies. *Psychology & Health, 25*(10), 1229–1245. <https://doi.org/10.1080/08870440903194015>
- Fuller, B., Waite, A., & Irribarra, D. T. (2016). Explaining teacher turnover: School cohesion and intrinsic motivation in Los Angeles. *American Journal of Education, 122*(4), 537–567. <https://www.jstor.org/stable/26544509>
- García, E., & Weiss, E. (2019). *The teacher shortage is real, large and growing, and worse than we thought* [Report]. Economic Policy Institute. <https://www.epi.org/publication/the-teacher-shortage-is-real-large-and-growing-and-worse-than-we-thought-the-first-report-in-the-perfect-storm-in-the-teacher-labor-market-series/>
- Gardner, S. J. (2020). *A multiple case study exploring communities of practice led by rural secondary school science teachers to overcome community isolation in a research-science, dually-enrolled, program of studies* [Unpublished doctoral dissertation]. Concordia University, St. Paul. https://digitalcommons.csp.edu/cup_commons_grad_edd/448
- Ghamrawi, N. (2022). Teachers' virtual communities of practice: A strong response in times of crisis or just another fad? *Education and Information Technologies, 27*, 5889–5915. <https://doi.org/10.1007/s10639-021-10857-w>
- Gilmour, A. F., & Wehby, J. H. (2020). The association between teaching students with disabilities and teacher turnover. *Journal of Educational Psychology, 112*(5), 1042–1060.

- Gholam, A. (2018). A mentoring experience: From the perspective of a novice teacher. *International Journal of Progressive Education, 14*(2), 1–12.
<https://doi.org/10.29329/ijpe.2018.139.1>
- Gray, L., & Taie, S. (2015). *Public school teacher attrition and mobility in the first five years: Results from the first through fifth waves of the 2007–08 Beginning Teacher Longitudinal Study* [Report]. U.S. Department of Education. National Center for Education Statistics.
<https://nces.ed.gov/pubs2015/2015337.pdf>
- Gunn, T. M., & McRae, P. A. (2021). Better understanding the professional and personal factors that influence beginning teacher retention in one Canadian province. *International Journal of Educational Research Open, 2*, 100073. <http://dx.doi.org/10.1016/j.ijedro.2021.100073>
- Haas, A., Abonneau, D., Borzillo, S., & Guillaume, L. P. (2020). Afraid of engagement? Towards an understanding of engagement in virtual communities of practice. *Knowledge Management Research & Practice, 1*–12. <https://doi.org/10.1080/14778238.2020.1745704>
- Hanewald, R. (2013, Nov. 29–Dec. 1). *Teachers' learning in online communities of practice: Two case studies from Australia* [Conference session]. International Association for the Development of the Information Society, International Conference on Educational Technologies, Kuala Lumpur, Malaysia. <https://eric.ed.gov/?id=ED557178>
- Hanson, K. (2013). Turnover in teachers: Stress, burnout, and fixing the problem. *BU Journal of Graduate Studies in Education, 5*(2), 50–54.
<https://www.brandonu.ca/master-education/journal/>
- Harris, S. P., Davies, R. S., Christensen, S. S., Hanks, J., & Bowles, B. (2019). Teacher attrition: Differences in stakeholder perceptions of teacher work conditions. *Education Sciences, 9*(4), 300. <https://doi.org/10.3390/educsci9040300>

Hill, H. C., & Papay, J. P. (2022). *Building better PL: How to strengthen teacher learning.*

Determining what works in teacher professional learning [Research brief]. Research for

Partnerships in Professional Learning. <https://annenbergbrown.edu/rppl/publications>

Hughes, A. L., Matt, J. J., & O'Reilly, F. L. (2015). Principal support is imperative to the

retention of teachers in hard-to-staff schools. *Journal of Education and Training Studies,*

3(1). doi:10.11114/jets.v3i1.622

Hunuk, D., Tannehill, D., & Ince, M. (2019). Interaction patterns of physical education teachers

in a professional learning community. *Physical Education and Sport Pedagogy, 24*(3),

301–317. <https://doi.org/10.1080/17408989.2019.1576862>

Ingersoll, R. (2012). *Beginning teacher induction: What the data tell us.* University of

Pennsylvania Scholarly Commons. https://repository.upenn.edu/gse_pubs/234

Ingersoll, R., Merrill, L., & May, H. (2014). *What are the effects of teacher education and*

preparation on beginning teacher attrition? [Research report (#RR-82)]. Consortium for

Policy Research in Education, University of Pennsylvania.

https://www.cpre.org/sites/default/files/researchreport/2018_prepeffects2014.pdf

Ingersoll, R. M., Merrill, E., Stuckey, D., & Collins, G. (2018). *Seven trends: The transformation*

of the teaching force. [Research report]. Consortium for Policy Research in Education.

University of Pennsylvania. https://repository.upenn.edu/cpre_researchreports/108/

Ingusci, E., Callea, A., Chirumbolo, A., & Urbini, F. (2016). Job crafting and job satisfaction in a

sample of Italian teachers: The mediating role of perceived organizational support.

Electronic Journal of Applied Statistical Analysis, 9(4), 675–687.

- Jacobson, E., Leibel, M., Pitkin, R., & Clifton, H. (2020). Strengthening all educators through mentoring and coaching. *Journal of Higher Education Theory & Practice*, 20(2), 43–54. <https://doi.org/10.33423/jhetp.v20i2.2838>
- Jotkoff, E. (2022). *NEA survey: Massive staff shortages in schools leading to educator burnout; alarming number of educators indicating they plan to leave the profession* [Press release]. National Education Association. <https://www.nea.org/about-nea/media-center/press-releases/nea-survey-massive-staff-shortages-schools-leading-educator>
- Kapucu, N. (2012) Classrooms as communities of practice: Designing and facilitating learning in a networked environment. *Journal of Public Affairs Education*, 18(3), 585–610. <https://doi.org/10.1080/15236803.2012.12001701>
- Kearney, M., Maher, D., & Pham, L. (2019). Investigating pre-service teachers' informally-developed online professional learning networks. *Australasian Journal of Educational Technology*, 36(1), 21–36. <https://doi.org/10.14742/ajet.4766>
- Kutsyruba, B., Walker, K., & Godden, L. (2017). Creating supportive school cultures for beginning teachers: Mitigating the cultural contextual factors. *International Journal of Educational Organization & Leadership*, 24(2), 1–18. <https://doi.org/10.18848/2329-1656/cgp/v24i02/1-18>
- Ladd, H. F. (2011). Teachers' perceptions of their working conditions: How predictive of planned and actual teacher movement? *Educational Evaluation and Policy Analysis*, 33(2), 235–261. <http://www.jstor.org/stable/41238549>
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

- Lawson, H. A., & Lawson, M. A. (2020). Student engagement and disengagement as a collective action problem. *Education Sciences, 10*(8). <https://doi.org/10.3390/educsci10080212>.
- Learning Policy Institute. (2017). *The role of principals in addressing teacher shortages* [Research brief]. Learning Policy Institute. <https://learningpolicyinstitute.org/product/role-principals-addressing-teacher-shortages-brief>
- Lee, A. N., & Nie, Y. (2014). Understanding teacher empowerment: Teachers' perceptions of principal's and immediate supervisor's empowering behaviours, psychological empowerment and work-related outcomes. *Teaching and Teacher Education, 41*, 67–79. <https://doi.org/10.1016/j.tate.2014.03.006>
- Lewis, B., & Rush, D. (2013). Experience of developing Twitter-based communities of practice in higher education. *Research in Learning Technology, 21*, 1–13. <https://doi.org/10.3402/rlt.v21i0.18598>
- Li, L. C., Grimshaw, J. M., Nielsen, C., Judd, M., Coyte, P. C., & Graham, I. D. (2009). Use of communities of practice in business and health care sectors: a systematic review. *Implementation Science, 4* (27). <https://doi.org/10.1186/1748-5908-4-27>.
- Lindqvist H., Thornberg R., Weurlander M., & Wernerson A. (2021). Change advocacy as coping strategy: How beginning teachers cope with emotionally challenging situations. *Teachers and Teaching, 27*(6), 474–487. <https://doi.org/10.1080/13540602.2021.1889496>
- Liu, S., & Onwuegbuzie, A. J. (2012). Chinese teachers' work stress and their turnover intention. *International Journal of Educational Research, 53*, 160–170. <https://doi.org/10.1016/j.ijer.2012.03.006>

- Madden-Dent, T., & Oliver, D. (Eds.). (2021). *Leading schools with social, emotional, and academic development (SEAD)*. IGI Global. <https://doi.org/10.4018/978-1-7998-6728-9>
- Marquez, B., Vincent, C., Marquez, J., Pennefather, J., Smolkowski, K., & Sprague, J. (2016). Opportunities and challenges in training elementary school teachers in classroom management: Initial results from classroom management in action, an online professional development program. *Journal of Technology and Teacher Education*, 24(1), 87–109. <https://www.learntechlib.org /p/150825/>
- Marx, S., Flynn, S., & Kylänen, M. (2021). Digital transformation in tourism: Modes for continuing professional development in a virtual community of practice. *Project Leadership and Society*, 2, 100034. <https://doi.org/10.1016/j.plas.2021.100034>
- Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research*, 11(3). <http://www.qualitative-research.net>
- McCarthy, C. J., Lambert, R. G., Lineback, S., Fitchett, P., & Baddouh, P. G. (2015). Assessing teacher appraisals and stress in the classroom: Review of the classroom appraisal of resources and demands. *Educational Psychology Review*, 28(3), 577–603. <http://dx.doi.org/10.1007/s10648-015-9322-6>
- McDonald, J., & Mercieca, B. M. (2021). *Sustaining communities of practice with early career teachers*. Springer.
- McLaughlan, T. (2021). Facilitating factors in cultivating diverse online communities of practice: A case of international teaching assistants during the COVID-19 crisis. *The International Journal of Information and Learning Technology*, 38(2), 177–195. <https://doi.org/10.1108/IJILT-05-2020-0074>

- McLeod, S. (2023). *Vygotsky's sociocultural theory of cognitive development*. Retrieved April 29, 2023 from <https://www.simplypsychology.org/vygotsky.html>
- Merriam, S. B. (2008). *Qualitative research and case study applications in education*. Jossey-Bass.
- Moodley, M. (2019). WhatsApp: Creating a virtual teacher community for supporting and monitoring after a professional development programme. *South African Journal of Education*, 39(2), 1–10. <https://doi.org/10.15700/saje.v39n2a1323>
- Morris, D. B., Usher, E. L., & Chen, J. A. (2017). Reconceptualizing the sources of teaching self-efficacy: A critical review of emerging literature. *Educational Psychology Review*, 29(4), 795–833. <https://www.jstor.org/stable/44955414>
- Morse, J. M. (1994). *Designing funded qualitative research*. Sage.
- National Center for Education Statistics (2019). *Public and private elementary and secondary teachers, enrollment, pupil/teacher ratios, and new teacher hires: Selected years, fall 1955 through fall 2029* (Table 208.20) [Data set]. https://nces.ed.gov/programs/digest/d19/tables/dt19_208.20.asp
- National Center for Education Statistics. (2013). *Projections of education statistics to 2021*. (40th ed.) [Report]. U.S. Department of Education. <https://nces.ed.gov/pubs2013/2013008.pdf>
- Newberry, M., & Allsop, Y. (2017). Teacher attrition in the USA: The relational elements in a Utah case study. *Teachers & Teaching*, 23(8), 863–880. <https://doi.org/10.1080/13540602.2017.1358705>
- Olson Stewart, K., Rotheram-Fuller, E., & Liou, D. D. (2021). Beginning teacher support model: Elementary teachers' resilience and retention in Arizona. *International Journal of Modern Education Studies*, 5(1), 4–73. <http://dx.doi.org/10.51383/ijonmes.2021.75>

- Perry E., Booth, J. (2021). The practices of professional development facilitators. *Professional Development in Education*, 1–13. <https://doi.org/10.1080/19415257.2021.1973073>
- Petrou, P., Demerouti, E., & Schaufeli, W. B. (2015). Job crafting in changing organizations: Antecedents and implications for exhaustion and performance. *Journal of Occupational Health Psychology* 20(4), 470–480. <https://psycnet.apa.org/doi/10.1037/a0039003>
- Petty, T., Good, A., & Putman, S. M. (Eds.). (2016). *Handbook of research on professional development for quality teaching and learning*. IGI Global. <https://doi.org/10.4018/978-1-5225-0204-3>
- Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the teacher shortage: How to attract and retain excellent educators* [Report]. Learning Policy Institute. <https://learningpolicyinstitute.org/product/solving-teacher-shortage>
- Powell, C. G., & Bodur, Y. (2019). Teachers' perceptions of an online professional development experience: Implications for a design and implementation framework. *Teaching and Teacher Education*, 77, 19–30. <https://doi.org/10.1016/j.tate.2018.09.004>
- Pyрко, I., Dörfler, V., & Eden, C. (2019). Communities of practice in landscapes of practice. *Management Learning*, 50(4), 482–499. <https://doi.org/10.1177/1350507619860854>
- Reichardt, R., Klute, M., Stewart, J., & Meyer, S. (2020). *An approach to using student and teacher data to understand and predict teacher shortages* (REL 2021–052). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central. <https://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=REL2021052>
- Renbarger, R., & Davis, K. B. (2019). Mentors, self-efficacy, or professional development: Which mediate job satisfaction for new teachers? A regression examination. *Journal of*

Teacher Education and Educators, 8(1), 21–34.

<https://files.eric.ed.gov/fulltext/EJ1214939.pdf>

Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement.

American Educational Research Journal, 50(1), 4–36.

<https://doi.org/10.3102/0002831212463813>

Ronfeldt, M., & McQueen, K. (2017). Does new teacher induction really improve

retention? *Journal of Teacher Education*, 68(4), 394.

<https://doi.org/10.1177/0022487117702583>

Rothaermel, F., & Sugiyama, S. (2001). Virtual internet communities and commercial success:

Individual and community-level theory grounded in the atypical case of

TimeZone.com. *Journal of Management*, 27(3), 297–312.

<https://doi.org/10.1177/014920630102700305>

Sayavaranont P., & PiriyaSurawong, P. (2019). Virtual community of practice using human

performance technology to enhance innovation competency and innovation for high

performance organization. *TEM Journal*, 8(4), 1461–1468.

<https://doi.org/10.18421/TEM84-51>

Schwarzhaupt, R., Liu, F., Wilson, J., Lee, F., & Raspberry, M. (2021). Teachers' engagement

and self-efficacy in a PK–12 computer science teacher virtual community of practice.

Journal of Computer Science Integration, 4(1), 1–14.

<https://doi.org/10.26716/jcsi.2021.10.8.34>

Seelig, J. L., & McCabe, K. M. (2021). Why teachers stay: Shaping a new narrative on rural

teacher retention. *Journal of Research in Rural Education*, 37(8).

<https://doi.org/10.26209/jrre3708>

- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63–75. 10.3233/EFI-2004-22201
- Shuls, J. V., & Flores, J. M. (2020). Improving teacher retention through support and development. *Journal of Educational Leadership and Policy Studies, 4*(1).
<https://go.southernct.edu/jelaps/>
- Simonsen, B., Freeman, J., Myers, D., Dooley, K., Maddock, E., Kern, L., & Byun, S. (2020). The effects of targeted professional development on teachers' use of empirically supported classroom management practices. *Journal of Positive Behavior Interventions, 22*(1), 3–14. <https://doi.org/10.1177/1098300719859615>
- Skaalvik, E. M., & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. *Teaching and Teacher Education, 27*(6), 1029–1038.
<http://dx.doi.org/10.1016/j.tate.2011.04.001>
- Skaalvik, E. M., & Skaalvik, S. (2015). Job satisfaction, stress, and coping strategies in the teaching profession. What do the teachers say? *International Education Studies, 8*(3), 181–192. <https://doi.org/10.5539/ies.v8n3p181>
- Skaalvik, E. M., & Skaalvik, S. (2018). Job demands and job resources as predictors of teacher motivation and well-being. *Social Psychology of Education, 21*, 1251–1275.
<https://doi.org/10.1007/s11218-018-9464-8>
- Sokmen, Y., & Kilic, D. (2019). The relationship between primary school teachers' self-efficacy, autonomy, job satisfaction, teacher engagement and burnout: A model development study. *International Journal of Research in Education and Science (IJRES), 5*(2), 709–721. <https://eric.ed.gov/?id=EJ1223635>

- Sorensen, L. C., & Ladd, H. F. (2020). The hidden costs of teacher turnover. *AERA Open*. <https://doi.org/10.1177/2332858420905812>
- Sparks, J., Tsemenhu, R., Green, R., Truby, W., Brockmeier, L. L., & Noble, K. D. (2017). Investigating new teacher mentoring practices. *National Teacher Education Journal*, 10(1), 59–65. https://www.researchgate.net/publication/235005820_National_Teacher_Education_Journal
- Steiner, E. D., & Woo, E. (2021). *Job-related stress threatens the teacher supply* [Research report]. Rand Corporation. https://www.rand.org/pubs/research_reports/RRA1108-1.html
- Sutcher L., Darling-Hammond L., & Carver-Thomas D. (2016). *A coming crisis in teaching? Teacher shortages in the U.S.* [Report]. Learning Policy Institute. <https://learningpolicyinstitute.org/product/coming-crisis-teaching>
- Sutcher L., Darling-Hammond L., & Carver-Thomas D. (2019). Understanding teacher shortages: An analysis of teacher supply and demand in the United States. *Education Policy Analysis Archives* 27(35). <https://doi.org/10.14507/epaa.27.3696>
- Thibodeaux, A., Labbat, M., Lee, D., & Labbat, C. (2015). The effects of leadership and high-stakes testing on teacher retention. *Academy of Educational Leadership*, 19(1), 227–249. <https://www.abacademies.org/journals/academy-of-educational-leadership-journal-home.html>
- Tinnell, T., Ralston, P., Tretter, T., & Mills, M. (2019). Sustaining pedagogical change via faculty learning community. *International Journal of STEM Education*, 6. <https://doi.org/10.1186/s40594-019-0180-5>

- United Nations Children’s Fund. (2015). *The investment case for education and equity. Executive summary* [Report]. UNICEF.
<https://www.unicef.org/reports/investment-case-education-and-equity>
- Visser, R. D., Evering, L. C., & Barrett, D. E. (2014). #TwitterforTeachers: The implications of Twitter as a self-directed professional development tool for K-12 teachers. *Journal of Research on Technology in Education*, 46(4), 396–413.
<https://doi.org/10.1080/15391523.2014.925694>
- Voskoglou, M. (2019). Communities of practice for teaching and learning mathematics. *American Journal of Educational Research*, 7(6), 386–391. doi:10.12691/education-7-6-2
- Wenger, E., Trayner, B., & De Laat, M. (2011). Promoting and assessing value creation in communities and networks: A conceptual framework, 18. Open University of the Netherlands, –13 Rapport 18, Ruud de Moor Centrum.
- Wenger, E., McDermott, R., & Snyder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge-seven principles for cultivating communities of practice*. Harvard Business School Press.
- Wenger, E., & Snyder, W. M. (2000). Communities of practice: The organizational frontier. *Harvard Business Review*, 78, 139–145.
- Wenger-Trayner, E., & Wenger-Trayner, B. (2015). Communities of practice: A brief introduction. <https://scholarsbank.uoregon.edu/xmlui/handle/1794/11736>
- Wellner, L., & Pierce-Friedman, K. (Eds.). (2021). *Supporting early career teachers with research-based practices*. IGI Global. <https://doi.org/10.4018/978-1-7998-6803-3>

- Willet, B., & Reimer, P. (2018, March 26–30). The career you save may be your own: Exploring the mathtwitterblogosphere as a community of practice [Paper presentation]. SITE 2018: Washington, D.C., United States.
- Yarris, L. M., Chan, T. M., Gottlieb, M., & Juve, A. M. (2019). Finding your people in the digital age: Virtual communities of practice to promote education scholarship. *Journal of Graduate Medical Education, 11*(1), 1–5. <https://doi.org/10.4300/JGME-D-18-01093.1>
- Zakrajsek, A., & Schuster, E. (2018). Situated learning and interprofessional education: An educational strategy using an apprenticeship model to develop research skills for practice. *Health & Interprofessional Practice, 3*(3). <https://doi.org/10.7710/2159-1253.1147>
- Zepeda, S. J. (2012). *Professional development: What works* (2nd ed.). Routledge.

Appendices

Appendix A: Interview Questions

Research Question alignment/Rationale	Interview Question	Probes/Follow-up Questions
Establish Rapport, answer RQ1	<p>Thank you for taking the time to participate in this interview. I'm going to be asking a series of questions about your experience with the new teacher vCoP that you participated in over the last few weeks. Please feel free to share as little or as much as you are comfortable with. If there are any questions you would rather not answer, you are free to skip. Do you have any questions for me before we begin? (if yes, answer those questions, if no, continue to the following). I will now turn on the recording so the audio can be captured for transcription and data analysis.</p> <p>I'd like to begin by inviting you to share about your experiences, so far, with classroom teaching and management</p>	<ul style="list-style-type: none"> - Please tell me more about _____ - You mentioned _____, can you please elaborate? - Are there any specific situations about your classroom management experience you can share?
Answer RQ1	After graduating from your teaching program, how prepared did you feel to enter the classroom?	<ul style="list-style-type: none"> - How so? - Were there any specific experiences that influenced this sense of preparedness?
Answer RQ1	Please describe any significant challenges you've faced in the classroom as a new teacher.	<ul style="list-style-type: none"> - Please tell me more about that situation. - Have you experienced any challenges with instruction that you can elaborate on? - Have you experienced any challenges with classroom management that you can elaborate on? - Have you experienced any challenges with administrative tasks that you can elaborate on?

Answer RQ1	Please describe your overall perceptions and experiences with the vCoP.	<ul style="list-style-type: none"> - Did you find it enjoyable? - Was the experience worthwhile? Why or why not?
Answer RQ1	Thinking about your participation in the vCoP, please describe how participation influenced your classroom management skills.	<ul style="list-style-type: none"> - Has it influenced your ability to manage student behaviors? - Has it influenced your classroom management style? - Has it affected the ways students behave in your classroom? If so, how?
Answer RQ1	Thinking about your participation in the vCoP, please describe how participation influenced your teaching strategies.	<ul style="list-style-type: none"> - Please tell me any changes you've made in your classroom instruction. - Has participation influenced your lesson planning strategies?
Answer RQ1	Thinking about your participation in the vCoP, please describe how participation influenced your ability to engage students.	<ul style="list-style-type: none"> - Are there any strategies you've now incorporated to facilitate better classroom engagement? - How have students responded?
Answer RQ2	Were there any ways that introductions and community building were helpful?	<ul style="list-style-type: none"> - Can you provide any specific examples? - You mentioned ____, can you tell me more about that?
Answer RQ3	Were there any ways that classroom management resources and discussions were helpful?	<ul style="list-style-type: none"> - Can you provide any specific examples? - You mentioned ____, can you tell me more about that?
Answer RQ2	Were there any ways that lesson planning resources and discussion were helpful?	<ul style="list-style-type: none"> - Can you provide any specific examples? - You mentioned ____, can you tell me more about that?
Answer RQ2	Were there any ways that engagement and teaching strategies resources and discussions were helpful?	<ul style="list-style-type: none"> - Can you provide any specific examples? - You mentioned ____, can you tell me more about that?
Answer RQ2	Were there any ways that resources and discussions regarding coping with professional demands were helpful?	<ul style="list-style-type: none"> - Can you provide any specific examples? - You mentioned ____, can you tell me more about that?
Answer RQ2	Were there any discussion topics you felt were missing?	<ul style="list-style-type: none"> - Please tell me more about how you think ____ was missing? - What would include about ____ that was not covered?
Answer RQ2	Considering the overall design and implementation of the vCoP, are there improvements you would recommend to the delivery of the vCoP?	<ul style="list-style-type: none"> - Please tell me more. - Can you give me an example? - How would you visualize this improvement taking place?

Answer RQ2	Considering the overall design and implementation of the vCoP, are there improvements you would recommend to the content of the vCoP?	<ul style="list-style-type: none"> - Please tell me more. - Can you give me an example? - How would you visualize this improvement taking place?
Answer RQ2	Considering the overall design and implementation of the vCoP, are there improvements you would recommend to increase engagement within the vCoP?	<ul style="list-style-type: none"> - Please tell me more. - Can you give me an example? - How would you visualize this improvement taking place?
Answer RQ3	A lack of classroom preparedness is a common cause of turnover among novice teachers. Based on your experiences in the vCoP, how do you think the community may have influenced your overall self-efficacy as a new teacher?	<ul style="list-style-type: none"> - Can you give me any examples of how your self-efficacy has changed? - You mentioned ____, can you please elaborate?
Answer RQ3	Based on your experiences in the vCoP, how do you think the community may have influenced your overall satisfaction as a new teacher?	<ul style="list-style-type: none"> - Can you give me any examples of how your satisfaction has changed? - You mentioned ____, can you please elaborate?
Answer RQ3	Based on your experiences in the vCoP, how do you think the community may have influenced your intent to remain a teacher?	<ul style="list-style-type: none"> - Can you give me any examples of how your intent to remain in the profession has changed? - Can you give me any examples of how your sense of self-efficacy has changed? - Can you give me any examples of how your professional satisfaction has changed? - You mentioned ____, can you please elaborate?
	Is there any other information, not yet covered, that you would like to share about your experiences?	

Appendix B: Informed Consent Form

Virtual Community of Practice Informed Consent Form

Thank you for considering participation in this survey. Please read the following consent information, and if you agree, click yes to advance to the survey questions.

Purpose: The purpose of this study is to explore new teachers' experiences in a vCoP designed and administered by an EPP, which will aim to improve new teachers' sense of preparedness.

Participant Selection: The inclusion criteria are as follows: (a) new K-12 teacher (b) currently working in a public or private school in one of the selected rural Kansas districts, (c) is in their first year of teaching, (d) graduated from a small, private, Catholic institution, and (e) graduated between December 2021 and May 2022.

Explanation of Procedures: If you decide to participate, you will participate in five sessions via Zoom, lasting approximately 1 hour over the course of five weeks. You will then participate in an interview with the researcher, and it is expected the interview will take you approximately 1 hour to complete.

Risks: There are no anticipated risks associated with participating in this study. However, if you feel uncomfortable with participation, you may withdraw at any time.

Benefits: The potential benefits include increased access to resources.

Compensation: none

Confidentiality: Any feedback you provide in the interview will be kept confidential. Your data will remain confidential. The researcher will have access to the interview responses and transcripts, and they will be kept in a secure digital file.

Voluntary Participation/Right to Withdraw: Participation in this study is completely voluntary. Refusal to participate will involve no penalty. You can decide not to answer any question you feel is too personal or sensitive. You have the right to withdraw from the study at any point without penalty or notice to the researcher. You are under no obligation to participate in this study.

Voluntary Consent: I have read the above statements and understand what is being asked of me. I also understand that my participation is completely voluntary and that I am free to withdraw my consent at any time, for any reason, without penalty. On these terms, I certify that I am willing to participate in this research project.

For questions about this study or if you would like to know the results of the study, please contact:

Principal Investigator:

Jessica E. Bird

jessicaebird@stu.bakeru.edu

Faculty sponsor/advisor:

Dr. Wendy Gentry

wendy.gentry@bakeru.edu

*I have read the above statement and consent to participating in this survey

Yes

No

Participant Signature _____

Date _____

Appendix C: Study Invitation

Greetings!

You are invited to participate in a study designed to explore new teachers' experiences in a virtual community of practice (vCoP) developed and administered by an EPP. The aim of the vCoP is to improve new teachers' sense of preparedness.

If you decide to participate, you will participate in five sessions via Zoom, lasting approximately 1 hour over the course of five weeks. You will then participate in an interview with the researcher, and it is expected the interview will take you approximately 1 hour to complete.

The inclusion criteria are as follows: (a) new K-12 teacher, (b) currently working in a public or private school in one of the selected rural Kansas districts, (c) is in their first year of teaching, (d) graduated from a small, private, Catholic institution, and (e) graduated between December 2021 and May 2022.

There are no anticipated risks associated with participating in this study. Your identity will remain confidential, and no personal or identifiable information will be published. However, if you feel uncomfortable with participation, you may withdraw at any time. The potential benefits include increased access to resources.

Participation in this study is completely voluntary. Refusal to participate will involve no penalty. You can decide not to answer any question you feel is too personal or sensitive. You have the right to withdraw from the study at any point without penalty or notice to the researcher. You are under no obligation to participate in this study.

If you are interested in participating in the vCoP and interview for this study, please email Jessica Bird, the Principal Investigator to enroll: jessicaebird@stu.bakeru.edu

Thank you for your consideration,

Jessica Bird

Appendix D: IRB Approval



Baker University Institutional Review Board

December 14th, 2022

Dear Jessica Bird and Wendy Gentry,

The Baker University IRB has reviewed your project application and approved this project under Expedited Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.
6. If this project is not completed within a year, you must renew IRB approval.

If you have any questions, please contact me at npoell@bakeru.edu or 785.594.4582.

Sincerely,

Nathan Poell, MLS
Chair, Baker University IRB

Baker University IRB Committee
Tim Buzzell, PhD
Nick Harris, MS
Scott Kimball, PhD
Susan Rogers, PhD