

Professional Development in Early Childhood Education:
Effects of a Virtual Community of Practice on Implementing Best Practices

by

Ariana Colleen Lopez

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Approved November 2018 by the
Graduate Supervisory Committee

Sherman Dorn, Chair
Shelley Gray
Lauren Zbyszinski

ARIZONA STATE UNIVERSITY
December 2018

ABSTRACT

This mixed methods study examined whether participation in a virtual community of practice (vCoP) could impact the implementation of new skills learned in a professional development session and help to close the research to implementation gap.

Six participants attended a common professional development session and completed pre- , mid- , and post-intervention surveys regarding their implementation of social emotional teaching strategies as well as face-to-face interviews.

Both quantitative and qualitative data was examined to determine if participation in the vCoP impacted implementation of skills learned in the PD session. Quantitative data was inconclusive but qualitative data showed an appreciation for participation in the vCoP and access to the resources shared by the participants. Limitations and implications for future cycles of research are discussed.

DEDICATION

This paper is dedicated first to my husband Troy. I couldn't have made it without you. Your unwavering support helped me stay the course. There were many times I wanted to give up and you helped me to push through. I can never repay all the meals you cooked and ate alone, the cleaning you got done, the adventures we had to put off until I was done. I love you.

This is also for my boys; Daniel and Kade. If I could do it, you can too. You can accomplish anything you set your mind to. Thank you for your understanding when I couldn't hang out because I had homework.

Mom and Steve, your prayers and support in my endeavors have meant the world to me.

Dad, I know you aren't here anymore, but I know you see me. This is for you.

ACKNOWLEDGMENTS

I want to acknowledge the support, advice, and feedback from my chair, Dr. Sherman Dorn. All the times I felt like I was so far behind everyone else and would never get done, your reassurances kept me on track. Thank you.

I also want to acknowledge Dr. Gray and Dr. Zbyszinski for agreeing to be part of my committee. I know how busy you both are and being willing to take the time to help me on this journey means a lot. Thank you both.

Last, I want to acknowledge the members of my LSC cohort; Liz, James, Sean Michelle and Kevin. Many times, it didn't seem like we would ever finish, but here we are, still together! Congratulations and thank you. We made it!

TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
LIST OF FIGURES	viii
CHAPTER	
1 INTRODUCTION AND PURPOSE OF THE STUDY	1
National Context	1
Situational Context.....	3
Purpose of the Study	6
Innovation	7
Summary of Study and Purpose of the Study	7
Research Questions	7
Organization of the Dissertation	8
2 THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT.....	9
Theoretical Perspectives	9
Related Research.....	12
Professional Development Effectiveness.....	16
Prior Cycles of Research.....	19

CHAPTER	Page
Previous Cycle of Action Research; Pilot Study	21
Implications of Previous Cycles of Research	23
Rationale for the Study	24
3 METHOD	26
Setting and Participants.....	27
Procedure	30
Timeline	35
Instruments and Data Sources.....	36
Data Analysis	40
Trust of Data and Analysis	41
4 RESULTS	46
Research Question One.....	47
Research Question Two	50
Summary of Data Analysis and Results.....	60
5 DISCUSSION	62
Limitations	63
Relationship to Problem of Practice	66
Outcomes Related to Theoretical Perspectives and Related Research	68
Implications for Future Research.....	72

CHAPTER	Page
Conclusion	74
REFERENCES	75

APPENDIX	Page
A ORGANIZATIONAL PARTNER APPROVALS.....	81
B SOCIAL EMOTIONAL DEVELOPMENT MODULE FIDELITY CHECK .	85
C CONSENT LETTER.....	89
D SEMI-STRUCTURED INTERVIEW QUESTIONS	93
E SOCIAL EMOTIONAL DEVELOPMENT IMPLEMENTATION SURVEY	95

LIST OF TABLES

Table	Page
1. Timeline of Research Activities.....	35
2. Timeline of Data Collection Methods.....	36
3. Participant Pseudonym and Phase of Participation.....	39
4. Timeline of vCoP Activities	40
5. Social Emotional Development Implementation Survey Estimates of Internal Reliability.....	42
6. Pilot Survey Mean Scores	43
7. Researcher Time Spent in Classrooms and Topics Covered	44
8. Mean Scores Across Constructs.....	48
9. Initial Codes and Consolidated Codes	52

LIST OF FIGURES

Figure	Page
1. Stepped Wedge Design Used in the Current Study	27

CHAPTER 1

INTRODUCTION AND PURPOSE OF THE STUDY

Attending a quality preschool can be a game changer for many children, especially those who are at risk (Pianta, Barnett, Burchinal & Thornburg, 2009; Pianta, Mashburn, Downer, Hamre, & Justice, 2008; Sheridan, Edwards, Marvin, & Knoche, 2009). Quality early experiences can set children on the road toward kindergarten readiness and later school success. An essential component of a quality preschool is well trained teachers who understand and implement best practices for young children. Part of my role with the City of Tempe's free preschool program, Tempe PRE, is to ensure that the classrooms are high-quality by looking at the professional development needs of teaching staff and ensuring they are implementing what they learn in these sessions. Supporting teachers in their implementation of best practices will help to ensure that participating children's outcomes at the end of preschool are such that they are fully prepared to be successful in kindergarten and beyond.

National Context

Research over the last several years has shown that participating in a high-quality early childhood program can have long-lasting and positive impacts on children's outcomes and school readiness, especially for those who come from low-income or disadvantaged backgrounds or those who are most at risk of experiencing school difficulties (Pianta et al., 2009; Pianta et al., 2008; Sheridan et al., 2009). These studies and their positive results have impacted national calls for universal preschool such as that spear headed by former President Barack Obama (The White House, 2013). In his State

of the Union address in 2013, Obama called for state and federal partnerships that would expand existing programs to increase preschool access and services to children living at or below 200% of the federal poverty level (The White House, 2013). This call for access to high-quality preschool was echoed by Brown, Cooper, Herman, Lazarin, Linden, Post, and Tanden from the Center for American Progress (2013) who called for “a proposal that would enable every child in the United States to attend two years of high-quality public preschool” (“CAP’s preschool-to-third grade proposal”, para. 1).

These positive research results have been shown when young children participate in *high-quality* early childhood programs. A core component of a high-quality program is a highly skilled, well-trained work force who can implement best practices which have been shown to improve children’s outcomes (Pianta et al., 2009; Pianta et al., 2008; Sheridan et al., 2009). In fact, Mizell (2010) tells us that, “In education, research has shown that *teaching quality* and school leadership are the most important factors in raising student achievement” (p. 3, emphasis added).

Professional development (PD) comes in many forms. PD can be; pre-service workshops that all staff are required to attend; on-going trainings that teachers participate in over time; college courses that teachers enroll in that are designed to either lead to a degree or enrich a teacher’s professional knowledge; or one-time workshops that last a few hours and are done (Sheridan et al., 2009). This last form of PD is often the most common way teachers maintain their professional knowledge as well as meet training requirements that are set by regulatory bodies or organizations that make recommendations regarding best practices in early childhood education such as the

National Association for the Education of Young Children (NAEYC). A challenge that comes with relying on PD to improve teacher's practices is that they make the decisions regarding how to teach content in their classrooms. Curriculum and state standards can provide guidance to teachers on what to teach, but ultimately it is up to the teacher to decide how to get content across to children.

Situational Context

Despite the evidence showing the importance of investing in high-quality early childhood programs, there are still many states who do not fund it (Barnett, Friedman-Krauss, Weisenfeld, Horowitz, Kasmin, & Squires, 2017), and as a result, several cities across the nation have answered the call and are now funding pre-k (Carolan, 2013; Muenchow & Weinberg, 2016). There are currently approximately ten cities that fund universal pre-k through various funding sources (Muenchow & Weinberg, 2016). In New York City, current Mayor Bill de Blasio has supported expanding free, universal preschool and even hosted a learning lab for other cities who are already providing universal pre-k or those who are interested in potentially implementing this type of initiative. In announcing the learning lab, Mayor de Blasio said, "Free, full-day, high-quality pre-K is a game-changer for more than 70,400 four-year-olds in New York City" (New York City, 2016, para. 3).

Arizona is one state that does not currently fund preschool (Barnett et al., 2017) except for on a very small scale. The Arizona Department of Education (ADE) early childhood unit is administering a Preschool Development Grant (PDG) that allows four-year-old children living at or below 200% of the Federal Poverty Level to attend one year

of preschool at no cost (Arizona Department of Education Early Childhood Education, 2017). There are also Quality First scholarships available to low-income families attending participating childcare and preschool programs (Quality First Arizona, 2015). These two programs account for the only state funded free preschool currently offered in Arizona (Barnett et al., 2017). This lack of state funding for preschool children led the City of Tempe to begin a work study group which examined the feasibility of providing free preschool to three- and four-year-old children within the city.

In 2016, Tempe City Council Member David Schapira began spearheading this work study group which supported the feasibility study. This study examined data on poverty, the rates of children attending preschool in the city, the number of high-quality preschool programs in the city based on Quality First ratings, how many children were not being served in a preschool program, as well as how many children were not being served in a high-quality preschool program. This feasibility study was conducted in an effort to qualify for Pay for Success funding; an “approach to contracting that ties payment for service delivery to the achievement of measurable outcomes” (Pay for Success, 2017, “What is Pay for Success?”, para. 1). While the results of the study found that the city could not qualify for Pay for Success funding due to the lack of existing longitudinal data, a technical assistance provider, the Institute for Child Success, recommended that to obtain this data, the city fund a pilot of the program. Their recommendations included a 60% take-up rate which would amount to 270 preschool spots being opened (M. Raymond, personal communication, September 26, 2017).

In March 2017, the city council work study group voted to fund the opening of 20 preschool classrooms located in local elementary schools within both the Tempe Elementary and Kyrene School Districts and launched Tempe PRE (Preschool Resource Expansion), a two-year pilot program. These classrooms would be funded by “revenue from developers who have purchased or leased land from the city” (MacDonald-Evoy, 2017, para. 2). The current pilot provides three million dollars a year for two years for a total of six million dollars to create high-quality preschool classrooms in the City of Tempe.

The program has defined high-quality as attaining a four or five-star rating on the Quality First rating scale. Quality First is the Quality Improvement Rating System (QIRS) for Arizona which rates early childhood programs on universally accepted quality indicators from the Early Childhood Environmental Rating Scale - Revised (ECERS-R), the Classroom Assessment Scoring System (CLASS), and the Points Scale which looks at administrative practices such as staff qualifications, ratios, and curriculum (Quality First Arizona, 2011).

To obtain these high-quality ratings, the program has adopted the HighScope Preschool Curriculum, ensured all lead teachers have a teaching certificate or endorsement in early childhood education, set ratios of 1:9 with a maximum of 18 children in a classroom, and adopted the state’s ongoing assessment tool for preschool children, My Teaching Strategies. While the teaching staff are employees of the local elementary school districts, my position as the Tempe PRE Supervisor is with the City of Tempe. A large part of my position is supporting teachers’ attainment of high-quality

through supporting their professional development, providing classroom support regarding the environment and materials in classrooms, and coaching on instructional practices.

Lead teachers participated in professional development for the HighScope Preschool curriculum and My Teaching Strategies within the fall semester of the 2017-2018 school year. All staff, lead teachers and full-time instructional assistants, were invited to participate in two Arizona Early Learning Standards (AzELS) modules; the Language and Literacy module and the Social Emotional Development module.

Purpose of the Study

The purpose of my innovation was to use a virtual community of practice (vCoP) as a means to provide the follow-up necessary for teachers to bridge the research to implementation gap that research has shown exists (Carnine, 1997; Hall & Hord, 2011; Mizell, 2010; Pianta et al., 2008). Communities of practice (CoPs) are groups of people who “share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger, McDermott, & Snyder, 2002, p. 4). But finding time for teachers who are with children all day, five days a week is a challenge for forming in-person communities of practice. To address this challenge, I created an online, or virtual, community of practice that used a social media platform as a way to connect teachers who do not share a physical space and who have limited time to connect and collaborate with others.

The purpose of this innovation was to provide a means for teachers in the Tempe PRE program to connect with each other and share ideas, resources, and even struggles

they are experiencing around implementing what they have learned in a PD session. Bridging this research to implementation gap is a way to improve outcomes for children in the Tempe PRE program and ensure that the teachers are implementing best practices.

Innovation

A virtual community of practice set up in the form of a closed Facebook group was the innovation designed to address the research to implementation gap for early childhood teachers participating in the Tempe PRE program. This vCoP was designed to provide a platform for teachers in building peer-to-peer support while implementing skills learned in a shared PD session regarding social emotional development.

Summary of Study and Purpose of the Study

Most early childhood programs use professional development as a way to build the skills of their teachers with the goal of increasing children's outcomes. Despite this goal, a research to implementation gap exists that shows there is a disconnect between what teachers learn in PD and what they implement in their classrooms. The innovation in this study was used to address this research to implementation gap through social constructivism and the use of communities of practice.

Research Questions

This study was conducted to answer the following two research questions:

1. For early childhood educators in the Tempe PRE program, to what extent can participation in a virtual community of practice influence implementation of new skills learned in professional development?

2. For early childhood educators in the Tempe PRE program, how can participation in a virtual community of practice be a means to build peer-to-peer support for implementation of skills learned in professional development?

Organization of the Dissertation

The following chapters in this dissertation are organized to describe the theoretical perspectives, prior research, and related literature that helped to guide the study. Chapter 3 describes the methods and procedures used to conduct this mixed methods, stepped wedge design study. Chapter 4 describes the results of the data analysis for both the qualitative and quantitative data. Chapter 5 describes the limitations to the study and includes a discussion of the results along with recommendations for future research.

CHAPTER 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

This chapter discusses the theoretical perspectives and the research that provided the framework for this study. The theoretical perspectives are discussed along with related research in the areas of communities of practice and virtual communities of practice. Prior cycles of action research that helped to shape the final study are also discussed.

Theoretical Perspectives

The theoretical perspectives guiding this study are communities of practice as defined by Wenger (1998) and social constructivism. These two perspectives support the idea of teachers building peer-to-peer support amongst themselves as a way to implement new skills and bridge the research to practice gap (Carnine, 1997; Hall & Hord, 2011; Mizell, 2010; Pianta et al., 2008).

Social constructivism. There are many theories of learning that argue for how children and adults gain and apply learning to their lives. Green and Gredler (as cited in O'Donnell, 2012) state, "The goal of learning from a social constructivist perspective is to construct and reconstruct meaning, knowledge, and context through discourse communities" (p. 63). Building knowledge and meaning is constructed through the social interactions we have with others around us, both for good and for bad. Learners participate in an emergent co-construction of knowledge that evolves from initial psychological constructivism that involves social norms and practices within a community. The individual participates and interacts with members of a community in a

social context, is influenced by that interaction, and in turn acts to change that context (O'Donnell, 2012).

Baviskar, Hartle, and Whitney (as cited in Schrader, 2015) identify four essential features of constructivism which they based on a review of the existing literature. These are eliciting prior knowledge to decide what is known and not known; creating cognitive dissonance to be aware of the difference between old and new knowledge; applying new knowledge into new contexts with feedback from peers and more expert others; and reflecting on learning to express, explain, and evaluate what was learned (Schrader, 2015). Using a vCoP can be a method to support teachers in participating in these components of constructivism and applying new learning into their everyday teaching practices.

Communities of practice. Wenger et al., (2002) define communities of practice as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (p. 4). While they share that CoPs evolve naturally through people organically coming together to solve problems and address issues, often at a workplace, CoPs are more often being formed intentionally with a set purpose in mind in order to improve a practice or set of practices. Within the realm of early childhood, CoPs are being used more frequently as a means to help teachers come together to build their capacity around specific topics such as early literacy skills (Sheridan et al., 2009).

Wenger (1998) explains how CoPs can be a means to explore the practices of our work in many different contexts. He delineates practice within a community of practice

by breaking it down in to practice as meaning; practice as community; practice as learning; practice as boundary; practice as locality; and knowing in practice (pp. 50-51). Practice, according to Wenger (1998), is a process by which we can experience the world and our engagement with it. Within a community there has to be mutual engagement around what all the members are there to do. It is also defined by the shared histories of those who make up its membership and create its learning. The members that make up a CoP are also connected to other parts of the world and bring those experiences and boundaries with them into the CoP. Not everyone who is part of a program or location are necessarily members of a CoP; it is something that members have to become a part of, share in, and contribute to as a way to build knowledge and move learning forward. Wenger (1998) wraps up what CoPs consist of by stating, “They are about know, but also about being together, living meaningfully, developing a satisfying identity, and altogether being human” (p. 134).

Related research on social constructivism. The idea that those who are trying to acquire and implement new learning can learn better from each other in a social context is supported by Thomas, Menon, Boruff, Rodriguez, and Ahmed (2014). They examined a social constructivist learning theory for healthcare professionals to bridge the research to practice gap in the healthcare field and said that “knowledge is not an inert object to be ‘sent’ and ‘received’, but a fluid set of understandings shaped by those who produce it and those who use it” (p. 2). Schrader (2015) states that, “Constructivism traditionally is considered to focus on how people make meaning of or construct knowledge when interacting with content knowledge and the active processes of this

interaction” (p. 32). He goes on to state that this process can happen individually or in a group of peers or more expert others (Schrader, 2015).

Related research on communities of practice. Within early childhood practices, CoPs have shown some promise as a means of increasing teacher efficacy and building teachers’ knowledge and skills (Christ & Wang, 2013). CoPs are another way that PD providers can ensure that what they are presenting has a chance to change behaviors and be implemented into classroom practices. They can also be a vehicle for addressing the core principles of adult learning theory (Knowles, Holton & Swanson, 2015) by providing a forum for discussing problems and how new skills or techniques can address them, giving teachers a platform to share and discuss their knowledge, skills, and experiences, and providing them with the motivation to continue learning and sharing with other who share the common experience of teaching.

Related Research

Research related to the theoretical perspectives as well as professional development was reviewed for promising practices and to assist in the design of my study. The following section highlights research related to virtual communities of practice and professional development.

Related research on virtual communities of practice. Communities of practice can be one of the ways to assist teachers with implementing new skills and learning to close the research to practice gap (Sheridan et al., 2009). Using virtual communities of practice are a way to provide access to teachers who may not have the time to meet in person or who are not housed in a location with other like-minded professionals they can

dialogue and build support with. Several studies in education and other social service fields looked at the use of vCoPs to build practitioner skills and assist them in implementing best practices in their field.

In a study that looked at how middle school teachers' professional development experiences were facilitated through participation in an online CoP, Vavasseur and MacGregor (2008) reported findings that "an online community of practice, added to existing face-to-face technology professional development, can be used to increase communication and collaboration among teachers" (p. 532). They also reported that by participating in the online platform, teachers who do not normally communicate with each other were able to engage in reflective practice and provide support to each other.

Another study examined whether an online CoP could be used to support collaborative mental health practices in rural communities (Cassidy, 2011). While this study did not examine education, the parallels to what the CoP was attempting to build was very similar to what would be expected of teachers. The researcher attempted to mitigate the isolation of mental health practitioners in rural areas, so they could benefit from the collaboration and sharing of knowledge that typically occurs in face-to-face interactions within the mental health field. The findings showed that the online CoP could provide opportunities for practitioners to construct collaborative practice environments, reduce their sense of isolation, provide resources, and help to "advance the use of evidence based practices" (Cassidy, 2011, p. 105).

Baran and Cagiltay (2010) conducted a study with preservice teacher candidates at three universities in Turkey in order to examine "how well online communities of

practice (oCops) help teachers share explicit knowledge and bring their tacit knowledge to the surface” (p. 155). While they found that many of the preservice teachers benefited from participating in the oCoP, they recommended a combination of face-to-face and other social networking tools to increase the voluntary participation within the oCoP (Baran & Cagiltay, 2010).

Within the context of early childhood, researchers have been examining using technology as a means of supporting teachers’ professional growth and implementation of high-quality teaching practices (Pianta et al., 2008; Sheridan et al., 2009). As our society moves to relying more and more heavily on technology to conduct our daily lives, it only makes sense to incorporate this tool into all the other ways we are building capacity for our early childhood workforce. Building off these and other studies show that using an online platform can be a means to build a sense of community and provide a way for teachers or other professionals to share resources, expertise, challenges, best practices, and knowledge. Online CoPs can be a way to reduce a sense of isolation for teachers who work within their own classrooms every day and do not have the opportunities to collaborate and gain from others’ expertise through a social constructivist view of learning.

Related research on professional development. Coaching, mentoring, observations, and feedback have been shown by research to be effective ways to support teachers in implementing what they have learned in PD (Uttley & Horm, 2008). These methods provide teachers with someone who comes alongside them and helps them navigate the ways they can begin to implement new strategies within their own context

by providing them with specific feedback and examples of what has worked for them. A coaching or mentoring relationship is one that is supportive, providing a teacher with someone they can bounce ideas off of, share successes and failures, ask questions they may be afraid to ask a supervisor, and observe (Downer, Kraft-Sayre, & Pianta, 2009). While effective for implementation, this type of support can be both costly and time-consuming. A coach or mentor needs to have time to spend in individual teacher's classrooms to observe as well as meet with their mentees to provide feedback, both formal and informal. Many schools and other early childhood programs such as Head Start have begun investing in coaching and mentoring models as a way to begin improving children's outcomes; however, not all programs are able financially to do this, and many organizations or consultants who provide PD to the early childhood field do not have the capacity to provide this type of model. Programs then need other forms of support for their teachers in implementing what they have learned in PD sessions that is neither costly or time-consuming. Communities of practice are one method that has shown promise to support teachers in building their skills and supporting their implementation of new skills learned in PD (Sheridan et al., 2009).

There have been several studies that have looked at what shows promise in the area of PD in the early childhood field. Pianta et al., (2008) looked at the effects of web-mediated professional development to impact teacher-child interactions. They found that teachers who were engaged in regular cycles of observation and feedback on their interactions with children showed greater gains than those teachers who only watched 'exemplar' videos of these techniques in practice (Pianta et al., 2008). Uttley and Horm

(2008) evaluated a mentoring program for supporting professional development in Rhode Island. Their findings showed that apprentice-mentor relationships had promise as a professional development model when certain criteria were met (Uttley & Horm, 2008).

Professional Development Effectiveness

Professional development has long been a way for teachers, including early childhood teachers, to improve their practices (Ackerman, 2004; Mizell, 2010; Schachter, 2015). Fullan, Rincon-Gallardo, and Hargreaves (2015) write, “Constantly improving and refining instructional practice so that students can engage in deep learning tasks is perhaps the single most important responsibility of the teaching profession and educational systems as a whole” (p. 4). In the field of early childhood, there are many requirements regarding PD both at the national and state levels (National Association for the Education of Young Children, n.d.) that try to address the needs of improving teacher quality. These requirements can be met in many ways such as going to school and earning college credits or attending workshops and conferences. These forms of ongoing professional development are what the field of education relies upon to improve the quality of teaching in the classroom and therefore improve children’s outcomes. Professional development in early childhood education typically takes five forms: formal education; credentialing; specialized on-the-job or in-service training; coaching interactions; and communities of practice (Sheridan et al., 2009). Specialized training according to Sheridan et al. (2009) is composed of activities specific to early childhood programs and populations that take place outside of a formal education system and that

provide specific skill instruction or skill-building content for on-the-job application (Maxwell; Tout, Zaslow, & Berry, as cited in Sheridan et al., 2009).

Requirements for PD in early childhood vary from state to state as well as from one program to another. Teachers who work in a childcare center may not need a degree of any kind while those who teach early childhood special education need a bachelor's degree as well as a certificate in special education. NAEYC is a national association that provides guidance for quality in all early childhood programs as well as offers an accreditation for those programs who meet its high-quality guidelines. NAEYC states that 75% of the teachers in a program need to have a CDA (Child Development Associates), be working toward an associate degree in early childhood or a related field or have a degree in a non-related field and experience in the field of early childhood (National Association for the Education of Young Children, n.d.).

In Arizona, childcare licensing has ongoing requirements for any staff working in a licensed facility. These requirements state, "Each staff member who provides child care services completes 18 or more actual hours of training every 12 months after...the staff member's starting date of employment or volunteer service" (Arizona Department of Health Services, 2010, p. 28).

Programs involved in Quality First also have ongoing training hours that are required in order to be rated at a higher star level on their rating system. Programs striving to attain a star rating of 4 or higher need to have at least two of AzELS modules which are presented by program specialists. All programs at every star level must take the Introduction to the Arizona Early Learning Standards webinar and the Introduction to

Arizona's Infant Toddler Developmental Guidelines webinar (Quality First Arizona, 2011). All of these requirements result in early childhood staff spending many hours in PD, not only to improve their practices but also to meet program requirements.

While attending PD is intended to improve teachers' practices in the classroom, there is a problem with relying on PD sessions alone to ensure that we are doing this. One of the problems that exists is that there is little agreement on what makes up high-quality PD (Schachter, 2015; Sheridan et al., 2009) as well as what a common definition of PD even is. Buysse, Winton, and Rous (2009) used a qualitative process to create a definition of PD. They define it as "facilitated teaching and learning experiences that are transactional and designed to support the acquisition of professional knowledge, skills, and dispositions as well as the application of this knowledge in practice" (p. 239). Putting knowledge learned into practice is thus a key component of professional development for teachers; however, Hall and Hord (2011), Mizell (2010), and others have found there is a significant gap that exists between research and implementation. "The effectiveness of professional development depends on how carefully educators conceive, plan, and *implement* it" (Mizell, 2010, p. 10, emphasis added). This research to practice gap (Carnine, 1997) persists in education, hindering the implementation of best practices in classrooms that can effectively impact student outcomes.

Attending PD, sitting through a PD session and learning new techniques and strategies designed to improve teaching practices is one thing; implementing that learning in teaching practices is something else entirely. Mizell (2010) states, "Educators who participate in professional development then must put their new knowledge and skills to

work. Professional development is not effective unless it causes teachers to improve their instruction” (p. 10). Odom (2009) also states, “to be useful, the practices have to be used, and when the essential elements of the practices are employed, they will produce positive effects for children and families” (p. 54). This idea of taking what is known to be a best practice and then actually implementing that into practice is one of the biggest challenges facing those who provide PD in the field of education. We know many promising practices (Odom, 2009), but it is not being implemented.

While deliverers of PD may present knowledge based on research and what has been shown to be best practices in the field, what each participant does with the knowledge rests entirely upon the individual. Based on a person’s experiences, beliefs, upbringing, and the culture at the program where they work, each individual will make different meaning from the information presented. Jonassen and Land (2000) state that, “Learning...is conscious activity guided by intentions and reflections” (p. ix). Taking this knowledge back to an individual classroom and putting it into practice can be even more complex; however, it is also one of the critical elements in improving outcomes for children. Research has shown that implementing evidence-based practices with fidelity is what can make a program have a positive impact on outcomes (Franks & Schroeder, 2013); in other words, it is the implementation that really matters.

Prior Cycles of Research

In the spring of 2017, preliminary data related to how preschool teachers in Arizona view professional development was gathered. Within the data analysis of two qualitative interviews conducted with practicing Head Start teachers, several key topics

came up. One topic was the lack of resources that are provided to teachers both at PD sessions and after PD in order to implement what they have learned. One of the teachers, Iliana (not her real name), reported that when teachers attend a training, “If the resources were part of what you paid for and they were smaller trainings that had better resources and maybe more of them, then maybe teachers would do more with the information they get at these trainings” (personal communication, April 15, 2017). Another issue that came up for both teachers was the actual format of the trainings. Susan (not her real name) said, “Now, what would be very helpful would be even if they have training sessions among staff where they can exchange ideas and have hands-on activities for the teachers” (personal communication, April 17, 2017). This was a theme echoed by Iliana as she shared her frustration with the lack of individualization she found in current PD offerings. “I wish it [PD] was something that was meant for someone who has been in the field for a long time and designed to help them grow as well. It seems like most of it is just designed for beginners” (personal communication, April 15, 2017).

There was a general sense that both teachers understood and appreciated the purpose of PD in the field and took the initiative to seek out sessions that would help them to grow professionally, but they both felt a lack of follow-up that would help them to maintain the momentum and excitement they felt when they were at a training. Iliana said, “Like, when you’re there, you’re in the moment and you are excited and love the ideas, but then you get back and you’re in your class, or you’re in your job and you just lose the momentum of the training. So I think they need to figure out a way to not lose the momentum of the training that you get” (personal communication, April 15, 2017).

Susan echoed these feelings, sharing about her program specifically, “I think supports from the admin or higher ups that would support us in the implementing of what it is that we learned, observing us and giving us feedback would help” (personal communication, April 17, 2017).

This preliminary data helped to inform and shape my current research as well as narrow my focus on the supports that are provided after a professional development session has ended. The views expressed by these two participants echoed what the research says is lacking when it comes to PD and closing the research to practice gap; support and follow-up matters (Carnine, 1997; Hall & Hord, 2011; Mizell, 2010; Pianta et al., 2008).

Previous Cycle of Action Research; Pilot Study

In the fall semester of 2017, preschool teachers were recruited to pilot the use of a vCoP after attending the language and literacy module PD session from ADE. At the time I was a program specialist for ADE in the early childhood unit and presenting these modules was a regular part of my job. Prior to the start of the session, attendees were asked if they would be willing to participate along with a few attendees who had been targeted to participate prior to the PD session. These targeted participants were early childhood practitioners who attended several of my previous PD sessions and were vocal about their passion for early childhood and improving outcomes for children.

In total, five attendees agreed to participate, signed a consent form and completed a pre- language and literacy implementation survey before the session began. At the conclusion of the PD session, the five participants were shown a short YouTube video of

how to access and use Padlet, an online platform where users can create a Facebook-like “wall” where participants are free to post text, links, videos, pictures, etc. (What is PADLET?, n.d.). Each participant was also emailed a link to the video to refer back to if need be along with the link to the Padlet that I created to house the vCoP.

Over the next eight weeks new resources, links, questions, and pictures were posted onto Padlet to support the content presented in the language and literacy PD session. Some of the resources posted were videos of preschool teachers introducing and teaching new vocabulary words to their students, links to research discussed at the PD session, and pictures of classroom environments that support alphabet knowledge. As a moderator I also posed questions to the group such as, “How do you manage small reading groups within your classroom?” I also encouraged participants to share what they were doing in their own classrooms regarding the different topics. One prompt was, “What vocabulary are you teaching this week? Share one word you are teaching and how you are teaching it to children (remember from the training that we should be teaching Tier 2 words, or, words that are in the vocabularies of mature users and that take some instruction for children to master).”

There was little posted by participants over the course of the eight weeks (only two participants posted any information); however, in a follow-up interview, one participant, Lily (not her real name) reported that while she did not post anything on Padlet due to a lack of time, she did find the posted resources very helpful. She said what she found most helpful were, “A couple of the links you posted and how others used it in their classrooms” (personal communication, December 1, 2017).

At the end of eight weeks, I distributed a link to an electronic version of the post-survey to all five participants along with a request to contact me if they were willing to participate in a short phone interview. After a week a follow-up email was sent to each participant individually and two completed the survey. Phone calls were placed to two participants to see if they would be willing to complete phone interviews, one participant responded, and one phone interview was completed.

Implications of Previous Cycles of Research

While the results of the pilot did not show much growth due to the small number of post-surveys collected, it informed decisions regarding future cycles of this study. The first contribution was the decision to conduct the pre-survey at the conclusion of the PD session. After reviewing results from the pre-survey, I wondered if some of the high rates of implementation reported by the participants could be due to them having a misconception of the skills being described. For instance, if I think I am modeling high-level vocabulary in my teaching I will rate myself high on this item, but after going through the training and being taught what that really looks like in a classroom according to ADE's expectations, I might not be doing it to the level I had previously thought. This led me to decide that in the next cycle participants would take the pre-survey at the conclusion of the PD session so when they answer the instrument items, they all have the same understanding of what the items mean based on what the PD session defined it as. This strategy was designed to help with respondents over-inflating their implementation ratings on items and more accurately reflect what they learn and implement through the vCoP.

Another change based on low participation in the pilot was the use of a platform already familiar to educators in Tempe PRE; Facebook. I decided that it may be a good idea to use a platform that had the same utility as Padlet while being something participants already are familiar with and there is a high probability they already use. Since nearly 214 million people in the United States currently use Facebook (Statistica, 2017) and many of those have it as an app on a smartphone or tablet, the chances that the participants will be familiar with, and comfortable using, this platform should be high. As an informal way to check the usage of Facebook by the Tempe PRE teachers, I conducted a scavenger hunt ice breaker at one of the professional development sessions all of the teachers attended. One of the items on the scavenger hunt was who regularly uses Facebook or other social media sites. During the review of the activity, all but two of the teachers indicated they have Facebook accounts and regularly use them. The two teachers who reported that they do not regularly use Facebook did indicate they have accounts showing that all 15 of the current teachers have access to and are familiar with this platform. This informal activity provided verification that utilizing a platform such as Facebook would have a high degree of familiarity for the participants as well as a high chance that they would regularly access and utilize the platform.

Rationale for the Study

The previous cycles of research, theoretical perspectives, and supporting research supported the rationale for this study. Social constructivism is a theoretical lens that supports teachers building a network of peer-to-peer support where they can help each other implement new skills as they share ideas, struggles, best practices, and what has

worked for them. Communities of practice also support this innovation as they show how new or novice learners can learn from more expert others while they also bring their own experiences and learning to the community. Research regarding the use of virtual communities of practice have shown promise in fields other than education that there is promise for their use to help practitioners learn and implement new skills. This scholarly work along with the results of previous cycles of research support the rationale for this innovation.

CHAPTER 3

METHOD

This study is a mixed method, stepped wedge design where both quantitative and qualitative data was analyzed to answer both research questions. Mixed method study designs are ones in which both quantitative and qualitative data is gathered to better understand the phenomenon under investigation. Using a mixed methods research approach will allow me to “gain a more thorough understanding of the research problem under investigation and get more complete answers to the posed research questions” (Ivankova, 2015, p. 4). Within my study, once quantitative data was collected, qualitative interviews were conducted to help provide thick, rich explanations regarding participants views of their experience within the vCoP and how they felt it helped them implement the skills they learned in the professional development session.

A stepped wedge design is one that is often used in medical research. It is described by Brown and Lilford (2006) as a study where “an intervention is rolled-out sequentially to the trial participants (either as individuals or clusters of individuals) over a number of time periods. The order in which the different individuals or clusters receive the intervention is determined at random and, by the end of the random allocation, all individuals or groups will have received the intervention” (p. 2). Figure 1 shows how the stepped wedge design was implemented for the current study.

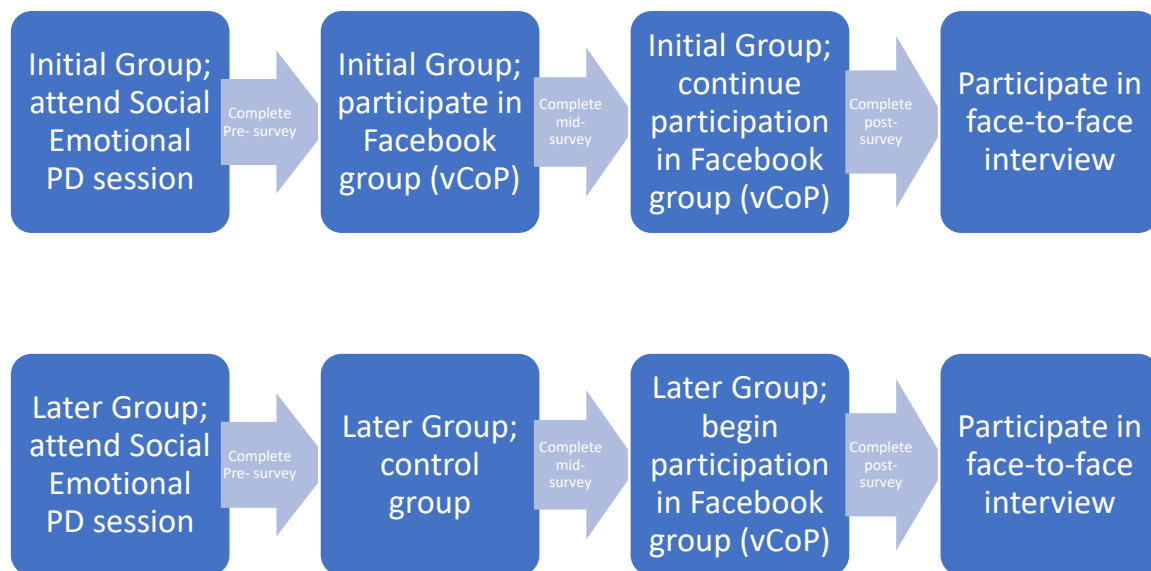


Figure 1. Stepped wedge design used in the current study.

When designing the study, I felt very strongly that all participants eventually have an opportunity to participate in the vCoP, but a control group was also needed to show that any changes in quantitative data was a result of the intervention and not random chance. The stepped wedge design allowed for a control group who was then also able to join the vCoP and benefit from the shared learning and support that was intended to be generated within the group.

Setting and Participants

Setting. The city of Tempe is a large, urban city in the Phoenix metropolitan area. As of the 2010 census, it had a population of 161,000 (City of Tempe, Community Profile, 2017) and is home to Arizona State University. The Tempe Elementary School District #3 is an elementary school district within the City of Tempe, the Town of

Guadalupe and the City of Phoenix that serves approximately 12,000 children preschool through eighth grade (Tempe Elementary School District, History & Information, 2017). The Kyrene School District covers portions of south Tempe, Chandler, and Ahwatukee and serves 17,297 children preschool through 12th grade (Kyrene Elementary School District, Annual Report, 2016-2017).

There are 18 Tempe PRE classrooms within the Tempe Elementary School District that serve 324 three- and four-year-old children while there are two Tempe PRE classrooms in the Kyrene School District serving 36 three- and four-year-old children for a total of 360 preschool children. Fifteen classrooms opened in August of 2017 and five more were added to the Tempe Elementary School District in January of 2018. All children participating in the Tempe PRE program have to come from families living at or below 200% of the federal poverty level. Access to childcare, especially high-quality childcare, can often be a barrier for families who are trying to achieve financial stability (Muenchow & Weinber, 2016). Improving the financial situation of many of Tempe's residents while providing high-quality preschool at no cost to economically disadvantaged families is a way to increase the quality of life for many of its citizens.

The Tempe PRE program is full day; each preschool classroom follows the same hours and days as the rest of the school they are housed within. As part of the program children are offered free breakfast, lunch, and a snack daily and most of the classrooms offer free before and after care from 7am to 6pm. Each classroom is staffed with one early childhood certified or endorsed lead teacher and one full-time instructional assistant. Classrooms are capped at 18 children allowing for a 1:9 teacher to child ratio

which is much lower than the state licensing required ratio of 1:13 for classrooms that include three-year-old children.

Approval to conduct my research as part of the Tempe PRE staff was obtained from my supervisor at the City of Tempe as well as from the two superintendents of the school districts currently partnering with the Tempe PRE program, the Tempe Elementary School District #3 and the Kyrene School District. Appendix A contains documentation of these approvals.

Participants. The participants were all early childhood certified or endorsed lead teachers in the Tempe PRE program. Both instructional assistants and lead teachers attended the PD session but only the lead teachers are responsible for lesson planning, arranging the classroom environment, and assessing children's development. For these reasons only lead teachers were targeted for this study although all staff were offered the opportunity to join the vCoP at the conclusion of the study. All participants have a bachelor's degree along with a teaching certificate or endorsement in early childhood education which covers the ages of birth through third grade. Four teachers are in their first year of teaching, one has taught for nine years, one for eight years, and one for five years.

Role of the researcher. As the researcher, I was what Mertler (2014) describes as a participant as observer in the study. He defines this role as someone who, "actually takes on a much more active role within the context of the particular setting. The researcher continues to observe and take notes on what is observed but also has the opportunity to interact with the participants in the study" (p. 121).

A large part of my role as the Tempe PRE Supervisor is to ensure teachers are taking what they have learned in their professional development sessions and implementing them into their teaching practices. In this role I was available to provide support, resources, and feedback as the teachers work to implement what they have learned in professional development back into their classrooms through face-to-face coaching with feedback. I also monitored the online platform to facilitate the sharing of resources, asking and answering of questions, as well as ensured that the resources and ideas shared met the high-quality standards set during the training. My role within the vCoP was that of a consultant which Sheridan et al. (2009) define as, “an indirect, triadic model that focuses on helping the consultee (trainee) in his or her professional responsibilities with one or more clients through systematic problem solving, social influence, and provision of professional support” (p. 382). This allowed me to not only observe and gather anecdotal data on how the teachers used the online platform but also allowed me a way to target the resources I provided based on ideas shared, questions asked, or other resources shared by participants. This type of interaction will move me from being merely an observer to a participant/observer as an insider (Mertler, 2014).

Procedure

Professional development session. Tempe PRE teachers participated in a professional development session regarding social emotional development presented by a program specialist with ADE’s early childhood unit on February 24, 2018. While there are eight modules that can be selected to have training on from the AzELS, I settled on the social emotional development module for a number of reasons such as the number of

requests I received from teachers for assistance with behavioral concerns, basic classroom management, age-appropriate expectations, and/or how to make a day run smoothly. These were also topics that I observed in classrooms as being areas many of our teachers could use continued professional growth in. Due to my previous role as a program specialist with the Arizona Department of Education (ADE) early childhood unit, I knew that these were all topics covered in the social emotional development module and that this module in particular was one that the Tempe PRE staff would benefit from attending.

I participated in the PD opportunity along with the teaching staff in order to ensure that all the topics addressed in the social emotional implementation survey were addressed directly by the trainer. During the session I took notes on every topic presented and checked it against the survey as the training progressed utilizing a fidelity check (Appendix B) that was created based on the Power Point presented by ADE. A copy of the fidelity check was sent to the Director of Professional Development and Sustainability with ADE's early childhood unit to ensure that all the items on the fidelity check aligned with the topics presented in the training. After receiving confirmation that the fidelity check accurately represented all the topics covered in the PD session, it was then used during the session to ensure that all the items on the survey were addressed in the session.

The items on the fidelity check and survey also formed the basis of the topics I presented within the vCoP during the study as I moderated the group. Khadid and Strange (2016) found that the role of the moderator was a critical component of a

successful virtual CoP. They examined literature which led them to conclude, “a good facilitator is essential to moderate the framing and qualifying process of an online discussion, to lead teachers to the desired reflexive level and to help them benefit optimally from their participation” (Khadid & Strange, 2016, p. 613).

Lead teachers completed pre-intervention surveys that gathered data on what they currently implement in their classroom related to social emotional development practices. The purpose of a survey is to “produce statistics, that is, quantitative or numerical descriptions about some aspects of the study population” (Fowler, 2014, p. 1). After participating in the social emotional development PD lead teachers were recruited to participate in the study and completed consent forms (Appendix C). A total of 11 lead teachers signed consents and became study participants. Once they signed consent forms the pre-intervention survey (Appendix E) was distributed, completed, and collected. Participants were informed that they would be randomly assigned to one of two groups, an initial group who would be able to join the vCoP right away and a later starting group who would join after a period of time.

Randomization. The names of all participants were sent to my dissertation chair, Dr. Sherman Dorn, who completed a random assignment of the participants. Six participants were assigned to the initial group and five to the later joining group.

Initial phase. The six initial participants were emailed the information to join the closed Facebook group. Two participants joined the group within a few days. The other four initial group members needed several reminders and even a personal prompt during a classroom visit to join. Two said they accidentally requested to join the wrong group

after I sent out the cover picture for the group and the other two said they would forget when they went home at the end of the day and were unable to access Facebook while they were at work. After about three weeks all the initial members were finally part of the group and members began sharing information.

During this initial time before all participants had joined, I still shared articles, resources, and posed questions to the members. Below is an example of one of the initial posts I made to the group.

Ariana Lopez shared a post.

March 20

What are your thoughts? This was talked about at HighScope training and touched on at the Social Emotional training.

Teachstone Like Page

March 19

"Because kids are kids, and school isn't designed to let them move around as much as they need to. Because they need to be taught how and why to do the right th...

EDWEEK.ORG

Death to the Behavior Chart! 3 Reasons to Resist the Lure of Punishments and Rewards

Star charts and color cards create a negative classroom environment, writes Justin Minkel. To address the root problems of students' misbehavior, teachers need to toss the behavioral systems and focus on building relationships.

Seen by 5

After seven weeks the mid-intervention survey (Appendix E) was scheduled to be administered in person at the Tempe Public Library where my office is located. Only four of the participants were able to make it to this and completed the survey in person. The other members were sent the mid- survey electronically. One participant never completed this second administration of the survey despite three email reminders and

dropped out of the study. Out of the other four later joining participants, three joined the Facebook group. One later joining participant completed all three administrations of the survey but never joined the group.

Later phase. After six additional weeks of participation by all members the post-survey (Appendix E) was administered electronically, and face-to-face semi-structured interviews (Appendix D) were scheduled and completed with seven of the participants. According to Brinkmann and Kvale (2015), “research interviews have the purpose of providing knowledge” (p. 4). Providing participants the opportunity to share their experience of participating in the vCoP enhanced the quantitative data gathered in the pre- and post-survey instruments and allowed for rich descriptions of the participants experiences not captured in the survey instruments.

During this later phase of implementation Arizona had a historic teacher walkout. From April 24th, 2018 to April 29th, 2018, most public schools were closed while teachers protested low teacher pay at the Arizona state capital. This walkout greatly impacted participation within the vCoP from the start of the walkout until the end of the study. One post made during the walkout to report what the City of Tempe’s response was ended up being the most viewed post in the entire group and is shown below.

Ariana Lopez shared a post.

April 24

this was sent out by the city... we are working on other options and will let teachers and parents know if we come up with anything

City of Tempe Government

April 24

Please take a moment to review this important walkout information and options for Kid Zone, city community centers and Tempe PRE. We will provide updates

as we get them and are continuously working on adding resources and options for parents: <https://bit.ly/2FeoAFY>.

TEMPE.GOV

Walkout information and options for Kid Zone, city community centers and Tempe PRE

The City of Tempe is working diligently to provide options for parents during this week's walkout. Below...

Learn More

Seen by everyone

Timeline

Table 1 below shows a timeline of study activities.

Table 1

Timeline of Research Activities

<i>Timeline</i>	
February 24, 2018	Social Emotional Development module PD session Consents signed Pre- survey administered
February 27, 2018	vCoP (Facebook group) began with initial group (n=5)
February 27, 2018 – April 18, 2018	Facilitated vCoP for initial group
April 13, 2018	Mid- surveys administered Later group joined vCoP
May 18, 201	vCoP officially ends Post- surveys sent out electronically
May 18, 2018 – May 31, 2018	Face-to-face interviews conducted

Instruments and Data Sources

Table 2 below shows a timeline of the data collection methods and sources which is then followed by a description of the qualitative and quantitative data instruments and sources.

Table 2

Timeline of Data Collection Methods

Timeline	Data Collection Method
February 24, 2018	Social emotional development implementation pre- survey
April 13, 2018	Social emotional development implementation mid- survey
May 18, 2018	Social emotional development implementation post- survey
May 18, 2018 – May 31, 2018	Face-to-face semi-structured interviews
February 27, 2018 – May 18, 2018	Posts and comments in Facebook group

Social emotional development implementation survey. To measure the implementation of social emotional development strategies, I used pre-, mid-, and post-intervention surveys. I created the social emotional development survey based on the Social Emotional Development module training presented by ADE's early childhood unit during the time I was a program specialist with ADE. Once I had created a draft of the survey I sent it to all the other program specialists as well as the Director of Professional Development and Sustainability, Lauren Zbyszinski. Feedback was incorporated into the instrument and it was then piloted with 11 early childhood teachers around the state to check for internal reliability (see Survey instrument reliability later in this chapter).

The social emotional implementation survey (Appendix E) was broken in to three constructs; Building positive relationships; Designing supportive environments; and Social emotional teaching strategies. A sample question from construct one was, “3. I ensure ALL staff working in the classroom build relationships with children that are responsive.” A sample question from construct two was, “10. I ensure materials available are relevant to children’s needs, lives, and interests.” A sample question from construct three was, “28. I do not force children to say, “I’m sorry,” and instead teach children to use strategies such as right wrongs, communicate with each other over disagreements, etc.”

The social emotional development pre-, mid-, and post-intervention survey consists of 23 Likert scale items on a five-item scale. The scale was; 1=Hardly Ever, 2=Rarely, 3=Sometimes, 4=Often, and 5=Very Often.

Qualitative measures. Qualitative data in the form of semi-structured interviews conducted with six participants and one participant who never joined the vCoP along with text from the Facebook group was collected over the course of the study.

Semi-structured interviews. The semi-structured interviews (Appendix D) consisted of 10 questions designed to explore the teachers’ experiences participating in the virtual CoP and how it influenced their implementation of new skills. Qualitative interviews according to Brinkmann and Kvale (2015) are “attempts to understand the world from the subjects’ points of view, to unfold the meaning of their experiences, to uncover their lived world prior to scientific explanations” (p. 3). For this study I utilized

an interview guide approach in order to “elicit the participant’s worldview” (Rossman & Rallis, 2017, p. 155).

The interviews in this study were designed to better understand the participants’ experiences participating in the vCoP and how it impacted their practices. A sample question that was asked to participants was, “Do you feel the virtual CoP helped you in implementing new skills? If so, how?” Interviews were conducted before and after school in May 2017 in order to accommodate teacher’s busy schedules during the last month of school.

Member checking. Member checking is “a process in which the researcher asks one or more participants in the study to check the accuracy of the account” (Creswell, 2015, p. 259). After the initial analysis of the qualitative data was conducted and major themes were created, an email was sent to three participants to get their feedback on the initial results. The three participants selected represented both initial and later joining members of the vCoP and were all participants who typically respond quickly to email requests. All three participants responded that they agreed with the major themes from the data analysis and there were no changes they felt that needed to be made.

Virtual community of practice (vCoP) or Facebook group data. Facebook data was copied and pasted into a Word document to allow for coding of the interactions that occurred in the group. Members were assigned pseudonyms to protect their privacy. Table 3 below shows participants pseudonym along with which phase of the study they were randomly assigned to. All interview quotes and Facebook data that follows utilizes the participants’ pseudonym listed below.

Table 3

Participant Pseudonym and Phase of Participation

Participant	Pseudonym	Phase of participation
Participant 1	Molly	Initial
Participant 2	Heather	Initial
Participant 3	Alicia	Initial
Participant 4	Braelyn	Initial
Participant 5	Laurie	Later
Participant 6	Andrea	Later
Participant 7*	Robin	Later
Participant 8*	Molly	Initial
Participant 9*	Sherry	Later
Participant 10*	Maria	Initial

* denotes participation in vCoP but data not included in data analysis

Table 4 below summarizes the timeline of members' participation within the vCoP.

Table 4

Timeline of vCoP Activities

Timeline	Activity
February 27, 2018	Facebook group began with initial group
February 27 – April 18, 2018	Initial group participating 28 posts; 26 posted by researcher, 2 posted by participants
March 21, 2018	First comment made by participant
April 2, 2018	Researcher posed question regarding helping a fellow teacher dealing with a behavior problem during clean up time; 18 comments by participants
April 9, 2018	Participant posed problem to group; 5 comments by participants, 3 pictures
April 18, 2018	Later joining group invited to participate; 2 members joined
April 18, 2018-May 11, 2018	All participants in group; 11 posts made by moderator, 0 posts made by participants
April 24, 2018-April 28, 2018	Teacher walkout; participation slowed
May 18, 2018	vCoP officially ended

Data Analysis

Quantitative data. Quantitative data was gathered in the form of the three administrations of the social emotional development implementation survey. Descriptive

statistics was run on the data to explore the relationship between participation in the vCoP and implementation of skills learned in the social emotional development PD session. Results are described in Chapter 4.

Qualitative data. Seven semi-structured face-to-face interviews were conducted with participants at the conclusion of participation in the vCoP. First and second cycle coding was used to explore the relationship between participation in the vCoP and how participants built relationships with each other in order to support their implementation of skills learned in the social emotional development PD session. A transcript of the Facebook group was also coded using first and second cycle coding to explore how participants built relationships and learned from each other during participation. Results of the qualitative data are described in Chapter 4.

Trust of Data and Analysis

Survey instrument reliability. To ensure the data gathered from the pre- and post-surveys is valid, internal reliability analysis was run on a pilot administration of the social emotional development implementation survey. The survey was sent electronically to early childhood teachers. 11 respondents anonymously completed the survey and their responses were used to determine the reliability of the instrument. “If the data are unreliable, they cannot lead to valid (legitimate) inferences” (Fraenkel & Wallen, 2005, p. 160). I used SPSS 23 to measure Cronbach’s alpha, “a measure of the internal consistency of a test or scale” (Tavakol & Dennick, 2011, p. 53), on my social emotional development implementation survey. The survey instrument was broken into three subconstructs and the results are presented in Table 5 and discussed below.

Table 5

Social and Emotional Development Implementation Survey Estimates of Internal Reliability (n=11)

Construct	Respondents (n)	Items Within Construct	Coefficient Alpha Estimate of Reliability
Building positive relationships	n=11 Valid=11 Excluded=0	Items 1-4 4	.833
Designing supportive environments	n=11 Valid=11 Excluded=0	Items 5-20 16	.864
Social emotional teaching strategies	n=11 Valid =11 Excluded=0	Items 21-40 20	.913
Overall Alpha	n=11 Valid=11 Excluded=0	n=40 40	.942

The social emotional development survey showed strong internal consistency overall at .942 as well as within each subconstruct. The first construct of building positive relationships had an estimate of consistency (or one measure of reliability) of .833. The second construct of designing supportive environments showed an estimate of reliability of .864. The last construct of social emotional teaching strategies had an estimate of reliability of .913, the strongest of the three constructs. This high estimate of overall reliability ensure that the survey instrument was reliable and could be used in the study without changes.

Mean scores from the pilot administration of the social emotional development implementation survey for each construct are shown in Table 6 below.

Table 6

Pilot Survey Mean Scores (n=11)

	Construct 1 Building positive relationships	Construct 2 Designing supportive environments	Construct 3 Social emotional teaching strategies
Pilot response mean scores	3.7	3.9	3.6

Semi-structured interviews. Interview questions were piloted with one participant who not only completed a phone interview, but who also gave feedback on the interview questions themselves. The participant said it would be helpful to have the questions sent to her ahead of time so she could think about her answers before I called, but she also felt that having some specific reminders about items within the questions would have been even more helpful. One example she gave was the first question that asks about her experience with the language and literacy professional development session overall. She felt that if I had provided a summary document with what was covered in the session as a reminder, that would have been more helpful for her to formulate specific answers (personal communication, December 1, 2017).

Researcher support in classrooms. As part of my role in Tempe PRE, I, along with a colleague, provide direct support to teachers in their classrooms. To control for the effect of this direct support, teachers who receive support from my colleague were

allowed to participate in the vCoP, but their data was not included in the final results. I also tracked the time spent in the remaining teachers' classrooms to account for the influence my support could have on their participation or their responses. Table 6 below shows the time I spent in participants classrooms and a sample of the topics covered during these visits.

Table 7

Researcher Time Spent in Classrooms and Sample Topics Covered

Participant	Time spent in classroom in minutes	Samples of topics covered
Molly	362	Transitions Wait-time Overview of assessments
Heather	393	Schedule Transitions Room arrangement
Alicia	271	Role of QF coach Attention grabbers Clear expectations
Braelyn	223	Child with behaviors* Room arrangement Results of assessment
Laurie	195	Results of assessment New staff concerns
Andrea	123	Room arrangement Results of assessment Eating in classroom vs. cafeteria

Note. *I suggested she ask for support within the vCoP and this was one of only two posts made by a participant with the Facebook group.

During my time in classrooms, little work was spent on social emotional development topics covered in the PD session or focused on in the study. Time spent in classrooms was more frequently spent on issues such as room arrangement, transitions, and materials needed in various areas of the classroom. The only time topics covered in the study were discussed with teachers in their classrooms was when teachers would ask directly for support with one of these topics. Some suggestions were given but participants were also directed to the vCoP to ask their peers for suggestions or to see recently posted articles.

CHAPTER 4

RESULTS

Closing the research to implementation gap is a key aspect of ensuring that investments in professional development results in actual changes in teacher behaviors, yielding positive impacts on child outcomes. The purpose of this study was to examine if participation in a virtual community of practice could be a means to help teachers in the Tempe PRE program implement what they learned in PD. The research questions focus on examining if participation in a vCoP impacts teachers' implementation of new skills learned in a PD session on social emotional development and if participation in a vCoP can help to build early childhood teachers' peer-to-peer support while implementing new skills learned in a PD session.

For the first research question, quantitative data gathered from the social emotional survey administrations is discussed for six of the participants. One participant's data was excluded from the quantitative results because although they completed all three survey administrations, they never joined or participated in the vCoP. A table summarizes the quantitative data gathered followed by a description of the findings. For the second research question, qualitative data collected from face-to-face interviews and an analysis of the Facebook group data is reported through emergent themes and trends.

I collected and analyzed data in the form of six pre-, mid-, and post-intervention surveys, seven face-to-face interviews, and a transcript of the Facebook participation. Results of the data analysis is as follows:

Research Question One

The first research question addresses if participating in a vCoP has any impact on early childhood teachers' implementation of new skills learned in professional development on social emotional development. For early childhood educators in the Tempe PRE program, to what extent can participation in a virtual community of practice influence implementation of new skills learned in professional development?

Quantitative data. I used quantitative, self-reported data on teacher knowledge and behavior in the classroom after receiving PD focusing on young children's social emotional development. The quantitative data was gathered in the form of three administrations of a social emotional development survey. The survey consisted of 40 questions around building positive relationships, designing supportive environments, and social emotional teaching strategies. The survey was comprised of three constructs; building positive relationships consisted of questions 1 through 4; designing supportive environments consisted of questions 5 through 20; and social emotional teaching strategies consisted of questions 21 through 40. On a Likert scale of 1 – 5, participants rated their own implementation of survey items with 1=Hardly Ever, 2=Rarely, 3=Sometimes, 4=Often, 5=Very Often; thus, a high score indicates high self-reported frequency of behavior. A total of six participants' results were examined for changes in scores across three administrations; pre-intervention, mid-intervention, and post-intervention.

Pre- survey data showed many of the participants rating themselves very high (a score of 4 or 5) on multiple items, leaving little room to show future growth. For

example, participant one scored themselves a 5 (Very Often) on 12 out of 40 of the items, or 30% of the questions. They also scored themselves a 4 (Often) on 21 out of 40 items, or 53% of the questions. When looking at results for all participants across the three survey administrations, there were similar outcomes, examined by inspection because of small sample size. Table 8 below shows these results followed by a short discussion and implications.

Table 8

Mean Scores Across Constructs; Construct 1 (4 items), Construct 2 (16 items), Construct 3 (20 items)

Phase of Participation in vCoP	Construct 1 Building positive relationships			Construct 2 Designing supportive environments			Construct 3 Social emotional teaching strategies		
	Pre-	Mid-	Post-	Pre-	Mid-	Post-	Pre-	Mid-	Post-
Initial (<i>n</i> =4)	4.4	4.5	4.9	4.0	4.4	4.4	3.8	4.0	4.3
Later (<i>n</i> =2)	4.3	4.8	4.6	4.3	4.5	4.2	4.1	4.3	4.0

Average scores started above 4 (Often) in all but one area, leaving little room for scores to change. These high initial scores would need further evaluation and are discussed in Chapter 5 as a recommendation for future cycles of research. The mean scores above further demonstrate very small increases across survey administrations and, in some cases, drops in scores between administrations. These self-reported scores are considerably higher than the scores of participants in the survey pilot, described in Chapter 3. Mean scores for construct one in the survey pilot (*n*=11) were 3.7, 3.9 for the second construct and 3.6 for the third. The difference between the pilot survey scores and

the high study participant initial scores could be a result of desirability-bias and is one of the limitations for this study discussed in Chapter 5.

Additionally, the high self-reported scores differed from teacher behaviors I observed in classrooms. Many of the requests I would receive from teachers for support was specifically for social emotional struggles they were experiencing in their classrooms. For instance, one of the participants who rated themselves 4s and 5s on most items across all three administrations of the survey also requested specific support for one child in her classroom who was struggling with knowing how to handle strong emotions. I asked what strategies were being used to teach all the children about ways to identify their emotions and appropriate ways to handle their emotions. This topic appears in the PD session and in survey items 23, 24, 25, and 26. Despite the high self-rating, the participant had no specific examples of ways she was teaching children how to identify their emotions and asked for ideas to teach children to name or talk about their emotions as opposed to acting out.

In another classroom, the participant was moderating a disagreement between two children. The participant then made one child say “I’m sorry” to the other child. This topic of “I’m sorry” was covered at some length during the PD session and item 28 on the survey asks the participant to state whether they force children to say, "I'm sorry" or teach children to use alternative strategies such as right wrongs or communicate with each other over disagreements. This participant scored themselves a 5 on all three administrations of the survey indicating that she did not think she was forcing children to say, “I’m sorry” during conflicts.

Several of the participants also reported in their interviews that the professional development session on young children's social emotional development was new information. Braelyn said it was "eye-opening." Alicia said, "It opened me up to a lot of very different things that I hadn't considered before taking it." Laurie said, "I liked it because a lot of it made sense to me and made it easier to implement." And Heather said, "I think the professional development showed me a lot of new strategies that I can use with some of my students." These differences between observed behaviors and interview data, on the one hand, and self-reported scores on the three survey administrations, on the other, were seen for several of the participants and reflect the challenge in relying on self-reported scores in research.

Due to the high self-reported scores across all three survey administrations, the first research question could not be answered. Additional data would need to be gathered in the form of classroom observations, a larger Likert scale, or other form of data collection to answer this question. This will be addressed in the limitations of the study within Chapter 5.

Research Question Two

The second research question addresses whether participating in a vCoP helps early childhood teachers build peer-to-peer support. For early childhood educators in the Tempe PRE program, how can a virtual community of practice be a means to build peer-to-peer support for implementation of skills learned in professional development?

Qualitative data from seven semi-structured interviews and the transcripts from the Facebook group were utilized to answer research question two.

Semi-structured interview data. First cycle coding on all seven interviews was completed using initial (open) coding in which the researcher has an opportunity to reflect deeply on the data in an initial cycle of coding (Saldaña, 2016). Initial coding was first conducted on paper by reading through the data multiple times, identifying labels for small chunks or lines of data. Transcripts and initial codes were then transferred into HyperResearch to allow for a closer review of the codes and related text in a manageable manner. The second cycle of coding was then reviewed several more times and researcher notes were examined to determine what the data was saying about the participants' experiences during the professional development session and within the vCoP. The major codes and themes that emerged are discussed below to answer the second research question.

During first cycle coding, 140 initial codes or themes were identified in the data. These initial codes were then examined for common themes that emerged during the second cycle, resulting in the following five themes: professional development was helpful and useful; participation in the vCoP helped build a community of support; more active participation would have helped participants get more out of the vCoP; a combination of virtual along with face-to-face interactions would have been more helpful for some participants; and the resources shared were helpful. Table 9 below shows a sample of the coding process.

Table 9

Initial Codes and Consolidated Codes

Initial cycle codes	Second cycle consolidated codes
Felt safe and supported Useful ideas Shared experience Not alone Connect with other teachers Feedback Sharing my experience with others Same shoes as me Other teachers' experience Others like me	Participation in the vCoP helped build a community of support
Resources shared Useful ideas What I got out of vCoP Enjoyed resources shared Helpful	Resources shared were helpful
Relevant Helpful Eye opening Enjoyed PD Useful PD	Professional development was helpful and useful

Helpful and useful professional development. The professional development session was viewed as being helpful and useful; specific strategies were shared that were able to be taken back to individual classrooms and implemented. One participant, Andrea, said, “I think I was able to come back from the training and use those tools and strategies immediately.” Specific strategies were found to be particularly beneficial, such as helping children begin to talk about their emotions; using books to teach emotions; giving children choices; using buddies; and sitting with each student and getting to know

them. Another participant, Heather, said, “They showed us examples of what can you do, or like, based on these ideas... you learn from other teachers.” Teachers felt the professional development was ‘helpful’ as it was relevant to their current experience in the classroom. Braelyn said, “I remember being able to, when she [the trainer] was talking, certain students would pop up in my mind. I’d be like, yep, now I can see that.” Robin said, “I really appreciated it. It was relevant. I’ve never taken a professional development for social emotional and I was just really happy to know that she had some real-life stories that happened right here in this classroom. So, it let me know that things were okay.”

Community of support. Participation in the Facebook group, or vCoP, helped to build a community of support. It was noted by teachers that; the support and feedback received from their peers was helpful and it helped create a feeling that teachers are not alone. One participant, Alicia, said “It was very positive. Everyone was very supportive.” She also later said, “I didn’t feel like it was going to be like, oh you do this, or you do that? It was accepting, and I liked that.” Another participant, Heather, said “I feel that the Facebook page helped me feel like, more supported as a teacher and feel like I’m not by myself, you know? Like, I have the support of other teachers and they’re in the same shoes as me.” Laurie said “I liked reading what struggles the other teachers were having... and I’m reading and it’s like, I’m not alone you know? Everybody’s having these struggles.” One other participant, Molly also said, “I have somewhere to go that I can ask a group of people who are in my shoes dealing with the exact same group

of kids... age level, in the same district and all that, so knowing that I have that community.”

Desire for more active participation. More active participation by all could have helped members gain even more support from the Facebook group. Four of the six participants reported they would like to see more participation by members within the group and that such involvement would be a top priority to change about the group. Braelyn said, “I feel that if we would have shared our struggles more, I feel that I could have taken more back,” and she later added, “I would like to see more people participate in it.” Another participant, Andrea, when asked about what she would change about the vCoP said, “And of course it would be nice if, and I’m taking from this too, but more input from other people but that’s hard to control. But even for me, I’m one who didn’t do it, but people should input more.” Molly said, “Finding ways for people to be more involved somehow... more interaction I guess is what I would say.”

Desire for more face-to-face interaction. A combination of face-to-face along with the Facebook group was an expressed interest for some members. When asked what they would change about the group, Molly said, “Some sort of maybe not virtual aspect of it. A time where we like meet and discuss... once a month or something, things we’ve talked about.” Heather also said, “The only thing that I would change [would be to] meet up in person like, maybe I don’t know, once every two weeks or maybe even a video chat.” Further, the sole participant of the study who never joined the vCoP expressed that using a platform similar to a Google Hangout would have been beneficial for her and

was a platform she had used in prior professional groups she had participated in, echoing other participants' desire for face-to-face interaction.

Resources shared were helpful. Aspects of the vCoP that participants found helpful were the resources, such as articles, shared, especially research-based ones. All six participant interviews mentioned the articles shared as being helpful. Molly said, "The shared stories I guess was my favorite part and access to new articles and research-based articles." Alicia said, "Also, the articles were very helpful and useful as well because it was very informative as far as giving me information that I may have been looking for and I can refer back to it because it's online there on the forum." She further reported that it was nice to not search on her own for resources and that it was nice to have articles that were specific to the age she currently teaches. She said, "I follow like Twitter accounts and things like that with teachers, but it was nice to have a group of people kind of give their opinions on a certain topic and things that were at the grade level which I'm at."

Non-participant data. One participant, Robin, completed all three survey administrations but never joined the Facebook group even after several reminders from the researcher. A short face-to-face interview was still conducted to examine reasons for non-participation. Two main themes emerged from examining this data; non-use of social media in general and needing a face-to-face way to connect with other professionals. Robin said, "I don't use social media as often as I should, and I know people use it for the social aspect of it and I don't. I guess I'm an introvert social mediast [sic]." She also said that she has previously used Google Hangout to connect with other

professionals and that a utilizing a platform similar to that may have resulted in her participating in the group.

vCoP data. Data from the Facebook group was copied and pasted into a Word document to allow for closer examination. Overall, I found the majority of participation in the group was only as a result of my posts as the facilitator. Only two of the posts made on the page were generated by participants while the remaining 36 were initiated by me. The facilitator posts I created did generate several interactions between participants sharing ideas and connecting over common struggles, successes, and strategies that they had found to be successful in their own classrooms. One example of a post I created and the resulting interactions among the participants is shown below.

Ariana Lopez

April 2 · Gilbert

It's clean up time and you have child who absolutely refuses to help. Melts down if made to. What do you do?

Comment with your advice for a fellow teacher struggling with this right now.

Gail Start with something that has a clear ending...and give a choice. “Do you want to put all the potato head pieces in the bucket or put all the magnet gears in their bucket?”

Gail When they protest both of those choices you say “ok, let me know when you are ready to choose and I can help you” walk away and make sure no other student cleans up whatever choices you gave

Gail Come back to the question in 3-5 minutes and ask the question again. Repeat until they clean up. It might take 30 mins but it will end ESPECIALLY when everyone else moves on to the next exciting thing without them

Molly Agree! I think it’s important to give choices, and to be sure that they do end up cleaning at some point. No matter how long it takes.

Gail And that’s the hardest part!!! We get so caught up in what needs to happen next that we don’t realize the real teaching is happening in the stand off 🤔

it's not about the adult "winning" its teaching the student social emotional control during non preferred activities

Ariana Lopez So hard to do! Do you take the same approach when it leads to a complete meltdown? Like destroy the classroom meltdown not just some stubborn crying.

Gail Oh that's even more fun!!! Yes and no. I do a room clear so all the other students are safe. I give the student the controlled choices and while I wait for him to choice I clean the rest. Obviously waiting for the completed meltdown to somewhat end

Gail No one likes dodging toys while you clean

Molly It depends on the kid, and the aggressiveness of the situation. I have one kid who will mess up the room, but not in a real aggressive manner, just dumping things out and tipping things over. However, there have been times that he started to throw objects or interfere with other students, and at that point (when it becomes dangerous) I call for support for that student to be removed from the environment.

Gail Molly agree! Support is definitely needed when it becomes that disruptive. Have you found it to be rewarding for the student to be removed from the mess though?

Molly Gail it's only been twice, and he was not rewarded. I think he genuinely felt bad and we have noticed it change recently for the better. 😊

This post demonstrated how two participants shared their common experiences with children who were struggling with behaviors in their classrooms and successful strategies they had used to address these struggles. This post displayed some of the most extensive interactions among participants with a total of eighteen comments made by participants in response to my original post.

I also found that passive participation in the group was higher than active participation. Passive participation could be seen by the number of members who saw a

post but did not comment on it. Within a Facebook group a post will tell you ‘Seen by’ followed by the number of members who have seen or read that particular post.

Participants can also ‘Like’ a post without commenting on it and Facebook will keep track of such activities by members. Below is an example of a post I made that was seen by most of the members of the group, ‘Seen by 9’, but generated no comments.

Ariana Lopez shared a post.

May 10

How can this type of open-ended art support children's social emotional development?

Video

-1:25

Lisa Terreni *to* Reggio Emilia Inspired Dialogue (REID) Wellington

May 5

Autumn is a great time to collect natural materials for ephemeral art making...so I hope this inspires you

Below is an example of a post I generated that had a few ‘Likes’ and was seen by 11 participants but resulted in no comments being made by participants.

Ariana Lopez shared an album.

April 22

A few ideas for be by myself areas. Share pictures of your ‘be by myself’ area if you have one.

Edutopia added 7 new photos to the album: Peace Corners.

April 22

Cool down corners, calm corners, Antarctica (because you go there to chill out)...

Whatever you call these places where kids voluntarily go to manage their emotions, here’s a quick peek at a few from our readers. Add your own!

2 Like

Seen by 11

There was a lack of active participation by members of the group, demonstrated by only two posts being initiated by participants and 37 posts initiated by me. Out of the 39 total posts, 14 had comments by participants. Only one post was seen by all members of the group, a post I generated to check in with the members during the state-wide teachers' walkout in Arizona. All other Facebook posts had members who had seen the message, but not necessarily generating a comment. This lack of active participation in the Facebook group was corroborated by the interviews in which several members expressed the desire to have more participation in the group. It is important to note that the passive participation also had evidentiary support in the interview data; all participants stated that the resources shared in the group were helpful, implying that all participants were reading and viewing the resources even if they never commented on them.

Below is one of the posts generated by a participant, followed by responding comments:

Braelyn

April 9

Hey friends! I'm having a horrible time with emotional meltdowns. I try to prevent them but, they will push me to engage with them by climbing on our furniture (seriously climbing to the top of the play fridge). I have tried EVEYRTHING I can think of. Is there anything you have tried that may help me. Seen by 10

Molly I have a space in my room that's away from the work space and we call it the calm corner. It's a canopy with a few pillows, some fidgets, feelings flash cards, feelings mirrors, and a few books (all neatly organized of course 😊). The kids know that any other "toys" are not allowed in the area, and that it's a quiet space. It has worked really well for a handful of my kiddos. Like Ariana mentioned, it took some time to teach the expectations, but it's great once it

clicks. I told them that they can scream into a pillow, punch the pillow, stomp their feet, or simply read a book or fidget with a fidget tool.

Ariana Lopez Molly that's great!! Would you be willing to share some of the pics of it on here? No kids in the pic of course 😊

Molly It's pretty simple, there's still some more I'd like to do to make it "cozy". The blue light covering helps with the humming sound of the floresant (sp?) lights, as well as providing a more calm environment from the blue.

Laurie How about giving a special something to hold when he is listening and being safe (not climbing)? I have a runner who loves a squishy t-rex (from the Dollar store) and when he is listening and being safe he can hold it. I started with a little card of Eore (sp?) as he loves donkeys (another story), when that wore off I went to the squishy dino. He also carries a clipboard with a chart every where we go. I carry tiny creature stickers in my pocket and he gets 2 or 3 to put on his chart when he is making good choices. Right at first, when everyone wanted a sticker I told them that everyone will get one at the end of the day.

This post and the resulting comments show that participants had a desire to help each other when they were struggling with something in their classrooms. One can see corroborating evidence from the face-to-face interviews in which most participants mentioned that one aspect of the vCoP they enjoyed was hearing from other teachers. More significantly, this post highlights the lack of active participation as it was seen by 10 participants but was only commented on by two participants.

Summary of Data Analysis and Results

Both quantitative and qualitative data were gathered and analyzed in order to answer the two research questions guiding this study. Due to the small sample size and the ceiling effect on all three survey administrations, there was little quantitative data to fully answer the first research question. For the second research question, there were much richer descriptions of the experiences of participants within the vCoP from the

semi-structured interviews and transcripts from the Facebook group interactions. This data showed that participants did experience a network that helped to build peer-to-peer support in implementing what they had learned in the social emotional development PD session.

CHAPTER 5

DISCUSSION

The purpose of this study was to examine the use of a vCoP to help close the research to implementation gap that exists and to help teachers implement new skills learned in PD. This section will include a discussion of the overall findings, limitations of the study, the relationship of those findings to the general problem of practice, and then the theoretical perspectives and related research that guided the study. I will then discuss issues related to transferability, implications for future research, and final conclusions.

Through the data analysis I learned more about the impact of the intervention from the qualitative data than from the quantitative data. For quantitative data I relied solely on self-reported survey data; the participants scored themselves high on the majority of the items on the pre-survey, leaving little room to show growth over the course of the study. The qualitative data that I gathered from the semi-structured interviews and the examination of the Facebook interactions gave much more information on how the participants felt that participating in the vCoP benefitted them. Overall the quantitative data was not sufficient to answer RQ1 and will need further data collection and analysis to fully answer. For RQ2 the qualitative data showed that teachers felt participation in the vCoP helped them feel supported by each other and that they were part of a community of teachers who shared the same experiences but no evidence that this participation supported them in implementing new skills.

While the quantitative data from the surveys did not show enough growth to answer RQ1, within the semi-structured interviews, I asked all participants if they felt

that participation in the vCoP helped them to implement new skills they had learned in the PD session. Three of the participants, or half, felt that it did help them implement new skills, two felt that it did not, and one felt that it did to a small extent; however, when asked follow up questions to determine exactly which skills the vCoP participation had helped them implement, none of the members identified skills that had been covered in the PD session.

Limitations

There were several limitations for this study, some of which were anticipated before the start of the study and others that were identified while the study progressed. Each one and how it impacted the study is discussed.

One limitation to this study was the sole reliance on self-reported survey data for the quantitative data collection. While self-reported surveys are a common form of quantitative data collection for research, there are always limitations for this type of data collection. Fowler (2014), states, “Systematic (biased) differences between the sample respondents and the whole population or between the answers that are given and the true values for those who are answering” (pp. 12-13). This type of error is the most likely cause for the very small changes seen in participants’ survey responses. They see themselves as already implementing the skills on the social emotional implementation survey leaving little room to show changes.

I relied solely on teacher self-reports to determine if participation in a vCoP impacted implementation of skills learned in a PD session. Relying on this data source along limited what I was able to determine from the data. Most of my participants rated

themselves as implementing skills “often” or “very often” on the majority of the items in the survey. This left little room to show any growth across the three survey administrations. To address this challenge, I should have added in some form of classroom observation or videotaping of lessons to have a way to cross check what participants self-report with another objective data source.

Another limitation to my findings is my role as a member of the funding organization and as someone who is part of the administrative team for the program. While my role does not evaluate teachers but is a supportive and coaching role for what they are implementing in their classrooms, my title as the Tempe PRE Supervisor could potentially have been seen as a supervisory position by participants. This may have limited or influenced how they participated in the vCoP by influencing some to inflate their survey responses, so they would appear to me, an administrator, as capable, competent teachers. This phenomenon is referred to as social desirability response bias (van de Mortel, 2008) and can cause results from research that relies solely on self-reported data to be skewed. Others may have been hesitant to share their struggles within the vCoP for the same reason. Some teachers may have felt pressured to participate in the vCoP due to my position in the program and this may have impacted their interview responses as they may have told me what they felt I wanted to hear.

Beyond the impact social desirability response bias (van de Mortel, 2008) could have had on participants’ responses on the three survey administrations, this could have also impacted their desire, or lack thereof, to look reflectively and critically at their own practices in order to evaluate their implementation of skills accurately. Reflective

practices according to Finlay (2016) can range from solitary introspection to engaging in critical dialogue with others (as cited in Taole & Mawela, 2017). It is possible that participants in this study did not take the time to reflect on their own practices and the lack of active participation by most members in the vCoP did not allow for critical dialogue with peers. One potential reason for this lack of reflective practice could have been a lack of time on the part of participating teachers.

Teachers' lack of time to utilize the platform was another related limitation. Several of the participants stated during their interviews that they did not participate more because they did not have time to comment on posts. This lack of time limited their participation in the vCoP and impeded their potential contributions to the group. A lack of time is common for many busy professionals but one that is heard often for teachers. Teachers need to have time built in to their day to meet with other professionals, share promising practices, struggles, and build their collective knowledge. In a survey conducted for the Bill & Melinda Gates Foundation, 44% of the teachers who responded cited a lack of time being built in to their schedules for professional development as an extremely limiting barrier to improving their own practices (Boston Consulting Group, 2014).

Another limitation to the study was the limit of some participants' comfort with and use of social media. During a curriculum PD session, I used an ice breaker with all teachers in the program to see what their comfort level and use of social media sites was. All participants at the training except one said they had Facebook accounts and used it regularly; However, one participant in the study never joined the Facebook group and

stated in her interview that she does not really use social media all that much except to look up recipes and see what her family is doing.

One additional limitation to this study was the amount of time I spent in teachers' classrooms. While there was no way to completely control for the time I spent in classrooms and the potential impact that time could have on participants' responses to survey and interview items, it is a potential limitation. As I tracked time in teachers' classrooms, it also came to light that I spent much more time in the initial joining groups' rooms than those who were in the later joining group. Over the course of the study I spent an average of 312 minutes in the initial joining groups' classrooms and only 159 minutes in the later joining groups' classrooms. Though this was not intentional, this difference in time spent in rooms could have impacted how the initial joining group interacted in the vCoP, pushing their level of participation higher and inflating their self-reported responses on the mid- and post- survey administrations. To control for this in future cycles, classrooms would need to have equal amounts of classroom visit time and this would have to be carefully tracked.

Relationship to Problem of Practice

Outcomes from this study have implications for practice to address the research to implementation gap. The qualitative data in this study showed some evidence for using the vCoP as a way to build support among the Tempe PRE teachers but not evidence that it helped teachers implement new skills learned in PD. While there was not sufficient quantitative data to determine if participation impacted implementation of new skills, building a community of support among teachers participating in a new program,

especially when many of these teachers are also new to teaching preschool, was an important goal of the study. As teachers share ideas and resources and begin to learn from each other, their confidence in their own skills improves which should lead to improved outcomes for children.

For the teachers in the Tempe PRE program, participation in the vCoP did help to build a sense of community and a sense that they were not alone in their struggles. They appreciated knowing there were other teachers walking in their shoes and that there were resources available to them and a place they could go to look for some support. For these teachers there was not clear evidence that participation closed the research to implementation gap, but there is the possibility that in future cycles better data could be collected to show evidence of implementing new skills into teaching practices as a result of participation in a vCoP.

Small programs searching for ways to support their teachers could use this study to guide potential methods to accomplish this with some caution. The program would need to ensure that there was a strong facilitator who attended professional development along with the teachers in order to effectively facilitate a vCoP. Administrator support would be another critical component for the success of any type of community of practice. From my experience working with various programs in coaching and supportive roles, I have found that without support from administrators who supervise and evaluate teachers, the chance of new practices becoming a part of the culture of the program are very slim. Teachers may participate or implement what they are learning while there are incentives in place, but once those are removed, unless the administration

has decided this will be the new norm, those practices tend to go away. Outside incentives are often used to motivate teacher to participate in research and professional development. While this was not the case in my study, it is common practice that teachers receive financial or material incentives to try new approaches or participate in professional development.

As is the case with my position, there are many programs that get support from, and have programmatic decisions made by, outside partners. In my case, since the City of Tempe is the funder of the Tempe PRE classrooms, we chose the curriculum that was being implemented as well as the approach to guidance and discipline and the assessments that would be implemented by teachers in the program. We put in place agreements that clearly laid out the role of administration on both sides, expectations for teachers, as well as who was accountable for what. During the time I conducted my study, there was a preschool coordinator who was evaluating all of the Tempe PRE teachers and who attended the professional development sessions along with the teachers. Having someone in this type of role would be critical for the success of any type of collaborative approach or even for a researcher trying to help teachers implement new skills.

Outcomes Related to Theoretical Perspectives and Related Research

This section will describe the outcomes in the context of the theoretical perspectives and related research that helped to guide the study. First the theoretical perspectives of communities of practice and social constructivism are addressed followed by research related to virtual communities of practice.

Outcomes related to theoretical perspectives. Communities of practice according to Wenger et al. (2002) are a group of people who share a common problem, context, or passion about a topic and who interact on an ongoing basis to deepen their knowledge and expertise on this topic. Participation in a community of practice will, according to them, eventually lead to “the personal satisfaction of knowing colleagues who understand each other’s perspectives and of belonging to an interesting group of people” (p. 5). This is reflected in the participants in this study reporting that they felt they weren’t alone in their struggles. Throughout the qualitative data analysis was the sense that other teachers were experiencing the same struggles they were and there was a place where they could reach out to other teachers for support and look for resources; however, even though participants reported this in their interviews, there was a lack of evidence of this within the vCoP itself shown by the limited comments and posts generated by participants.

Wenger (1998) said, “The first characteristic of practice as the source of coherence of a community is the mutual engagement of participants. Practice does not exist in the abstract. It exists because people are engaged in actions whose meanings they negotiate with one another” (p. 73). Within the vCoP in my study, this mutual engagement seemed to be lacking as many of the participants rarely commented, shared ideas, or asked questions of other members. The majority of the posts were generated by me, and many of the posts had few or no comments by participants. While Wenger (1998) addresses non-participation as being a valuable and expected aspect of being a member of a community of practice, he also describes participation as “an active process”

that involves “doing, talking, thinking, feeling and belonging” (p. 56). This active participation from all members of the vCoP could have helped participants build more peer-to-peer support.

Participants in this study reported feeling that reading other’s ideas and receiving feedback from other participants was beneficial but they did not respond to each other frequently throughout the study. Most of the comments made by participants was in response to my posts and all but one resource was shared by me. This leads me to wonder if for this group, they may not believe they have anything of value to share and that as an authority figure, what I write or say is what they should pay attention to and value. Members of the group reported the comments by others were helpful but were hesitant to share their own knowledge or struggles. While many participants reported the vCoP to be helpful and appreciated sharing in the common struggles of others, the lack of active participation impeded what Ruey (2009) described as social constructivist theory where “knowledge is socially situated and is constructed through reflection on one’s own thoughts and experiences, as well as other learners’ ideas” (p. 707).

Outcomes related to related research. Several of the participants in this study mentioned that they felt they would have gained more knowledge and skills from the group if there had been a combination of virtual and face-to-face meetings. They felt that relying solely on sharing information virtually limited how they could interact with other members of the group and that being able to have a conversation without having to write everything out would have helped them feel more connected to other members. Having a combination of face-to-face and virtual opportunities to connect is reflected in the study

conducted by Baran and Cagiltay (2010) in which they studied how well preservice teacher candidates shared knowledge. One of their findings and recommendations was that a combination of virtual and face-to-face meetings would help increase voluntary participation within the online community of practice. Within my own experience with this study I would agree that a combination of virtual and face-to-face meetings would make participation more impactful for teachers who are trying to improve their practices through involvement in a vCoP.

Communities of practice rely on peers learning from each other within the social constructivist theory of learning. Through interactions with each other, sharing of successes, struggles, and best practices, teachers within a community of practice would, in theory, improve their own practices. Relying on teachers to be self-reflective of their own practices and implement new skills based on interactions within a community of practice may not be enough to close the research to implementation gap. One approach to closing this gap that has shown some promise is coaching or consultation that supports what teachers are learning in PD and an example of this approach is the My Teaching Partner (Pianta et al., 2008). In this approach, teachers are shown exemplar videos of the desired skill they are to be implementing into their teaching. They then videotape themselves teaching and the video is examined by a trained consultant who provides written feedback as well as engages in video chats with the teacher to provide verbal feedback. This model has shown initial positive findings regarding changes in teacher behaviors as a result of the feedback.

My study did not find that participation in a vCoP had an impact on implementing new skills but did help them feel supported by each other. Perhaps combining a more targeted approach such as that being implemented within programs such as My Teaching Partner and a community of practice where teachers receive support both from a coach or consultant as well as their peers could have a positive impact on both implementing new skills as well as helping preschool teachers not feel alone in their struggles.

Implications for Future Research

After completing this current cycle of research there are a few logical next cycles I would recommend for future research. For teachers in Tempe PRE the next logical step would be to add in a face-to-face component and build in time for classroom observations of skills to better address RQ1. The reliance on self-reported survey data in this study did not allow for RQ1 to be answered so another cycle would need to focus on gathering quantitative data that can answer this question. Teachers involved in Tempe PRE are taking PD on an ongoing basis and have already participated in several sessions that would allow for creating an observation tool and survey instrument that could then be used as the basis for a second vCoP. A critical component would be to add in face-to-face meetings, whether in person or through a virtual platform, so that participants can have a way to connect with each other in a variety of settings. This would require working closely with both the Tempe Elementary and Kyrene School Districts to identify and allow time for teachers to participate in these face-to-face meetings.

The purpose of attending PD is ultimately to improve children's outcomes, therefore a future cycle needs to focus on the impact participation in a vCoP has on

children's outcomes. A natural future cycle of research in the Tempe PRE program would be to examine the impact participation in a vCoP may have on children's outcomes. Tempe PRE utilizes an online program that assesses children's development across eight domains of learning in an ongoing process called My Teaching Strategies. Assessment scores can be assessed across the three checkpoints finalized during the year to assess if teachers who are participating in a vCoP around one of these domains of learning have better outcomes for their children in that domain compared to those who are not. A potential research question could be as follows: For children in the Tempe PRE program, does teacher participation in a vCoP improve outcomes on any one of the eight domains of learning as measured by My Teaching Strategies?

One last potential area for future research in Arizona would be the impact of participation in a vCoP on a group of early childhood teachers who do not work in the same program but who attend a common PD session. All the participants of this study work for the same program and work with a similar child demographic. In my prior work with ADE's early childhood unit, I provided PD to early childhood practitioners from a variety of programs across the state, but I had no way to measure if any of my trainings made an impact on teachers' practices. Creating a vCoP could be a way to begin to measure that impact and provide a wider network of support and resources for the early childhood field in this state. A possible research question could be as follows: For early childhood teachers in Arizona attending a common PD session, does participation in a vCoP provide a means of building peer-to-peer support across varying programs and geographic areas?

Conclusion

As professionals struggle in the field of early childhood education to close the research to implementation gap, there has been a focus on what teachers need to address this and help teachers implement what they are learning in PD. Professional development providers need to work to find ways to support teachers after the session has ended in order to impact the implementation of the skills learned in the session. Virtual communities of practice can be a promising way to help provide this follow up and support.

The purpose of this study was to see if participation in a vCoP could help teachers implement new skills they learned in professional development as well as provide a platform for teachers to build their own network of support among each other. While the quantitative data did not show a clear increase in implementation of the skills they learned in PD, the examination of the qualitative data in this study showed that the teachers felt participation in the vCoP benefitted them and helped them to feel more support and connections to other teachers working in the same program as themselves. The teachers who participated in this project have begun to build a network of support for themselves where they can reach out to colleagues who are walking in their shoes and build their collective skills. Improving their skills will, hopefully, eventually lead to increased outcomes for the children in their classrooms, ensuring they get off the start research says they need to be successful all throughout school.

REFERENCES

- Ackerman, D. J. (2004). What do teachers need? Practitioners' perspectives on early childhood professional development. *Early Childhood Teacher Education, 24*(4), 291-301.
- Arizona Department of Education Early Childhood Education. (n.d.). *Preschool development grant guidance manual FY18*. Retrieved from <https://cms.azed.gov/home/GetDocumentFile?id=5952e2a93217e108207241b8>
- Arizona Department of Health Services, Bureau of Child Care Licensing. (2010). *Arizona administrative code and Arizona revised statutes for child care facilities*. Retrieved from <http://www.azdhs.gov/documents/licensing/childcare-facilities/rules/bccl-child-care-facility-rules.pdf>.
- Baran, B., & Cagiltay, K. (2010). The dynamics of online communities in the activity theory framework. *Educational Technology & Society, 13*(4), 155-166.
- Barnett, W. S., Friedman-Krauss, A. H., Weisenfeld, G. G., Horowitz, M., Kasmin, R., & Squires, J. H. (2017). *The state of preschool 2016: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research.
- Boston Consulting Group, (2014). *Teachers know best: Teachers' view of professional development*. Bill & Melinda Gates Foundation. Retrieved from <http://k12education.gatesfoundation.org/download/?Num=2336&filename=Gates-PDMarketResearch-Dec5.pdf>
- Brinkmann, S. & Kvale, S. (2015). *Interviews: Learning the craft of qualitative research interviewing* (3rd ed.). Thousand Oaks, CA: SAGE Publications.
- Brown, C. A. & Lilford, R. J. (2006). The stepped wedge trial design: A systematic review. *BMC Medical Research Methodology, 6*(54). doi:10.1186/1471-2288-6-54
- Brown, C. G., Cooper, D., Herman, J., Lizarin, M., Linden, M., Post, S., & Tanden, N. (2013, February 07). *Investing in our children: A plan to expand access to preschool and child care*. Washington, DC: Center for American Progress. Retrieved from <https://www.americanprogress.org/issues/early-childhood/reports/2013/02/07/52071/investing-in-our-children/>

- Buysse, V., Winton, P. J., & Rous, B. (2009). Reaching consensus on a definition of professional development for the early childhood field. *Topics in Early Childhood Special Education, 28*(4), 235-243.
- Carnine, D. (1997). Bridging the research-to-practice gap. *Exceptional Children, 63*(4), 513-521.
- Carolan, M. (2013, November 21). *Cities lead the charge on pre-k*. Retrieved from <https://www.newamerica.org/education-policy/decentral/cities-lead-charge-pre-k/>
- Cassidy, L. (2011). Online Communities of Practice to Support collaborative Mental Health Practice in Rural Areas. *Issues in Mental Health Nursing, 32*(2), 98-107.
- Christ, T., & Wang, C. (2013). Exploring a community of practice model for professional development to address challenges to classroom practices in early childhood. *Journal of Early Childhood Teacher Education, 34*(4), 350-373.
- City of Tempe, City Hall. (2017). *Community profile*. Retrieved from <http://www.tempe.gov/city-hall/economic-development/community-profile>
- Creswell, J. (2015). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (5th ed.). Upper Saddle River, NJ: Pearson.
- Downer, J. T., Kraft-Sayer, M. E., & Pianta, R. C. (2009). Ongoing, web-mediated professional development focused on teacher-child interactions: Early childhood educators usage rates and self-reported satisfaction. *Early Education and Development, 20*(2), 321-345.
- Fowler, F. J., Jr. (2014). *Survey research methods* (5th ed.) Thousand Oaks, CA: SAGE Publications.
- Fraenkel, J. R. & Wallen, N. E. (2005). Validity and reliability. In J. R. Fraenkel & N. E. Wallen (Eds.), *How to design and evaluate research in education with PowerWeb* (pp. 152 - 171). Hightstown, NJ: McGraw Hill Publishing Co.
- Franks, R. P., & Schroeder, J. (2013). Implementation science: What do we know and where do we go from here? In T. Halle, A. Metz, & I. Martinez-Beck (Eds.), *Applying implementation science in early childhood programs and systems* (pp. 5 – 19). Baltimore, London, Sydney: Paul H Brookes Publishing.
- Fullan, M., Rincon-Gallardo, S., & Hargreaves, A. (2015). Professional capital as accountability. *Education Policy Analysis Archives, 23*(15). <http://dx.doi.org/10.14507/epaa.v23.1998>

- Hall, G. E., & Hord, S. M. (2011). Implementation: Learning builds the bridge between research and practice. *Journal of Staff Development*, 32(4), 52-57.
- Ivankova, N. V. (2105). *Mixed methods applications in action research: From methods to community action*. Thousand Oaks, CA: SAGE Publications.
- Jonassen, D. H. & Land, S. M., (Eds.). (2000). *Theoretical foundations of learning environments*. New York, NY and London, UK: Routledge Taylor & Francis Group.
- Khalid, M. S., & Strange, M. H. (2016). School teacher professional development in online communities of practice: A systematic literature review. In J. Novotana, & A. Janaik (Eds), *Proceedings of the 15th European conference on e-learning* (1st ed., Vol. 1, pp. 605-614). Reading, UK: Academic Conferences Publishing International.
- Knowles, M. S., Holton, E. F. III, Swanson, R. A. (2015). *The adult learner: The definitive classic in adult education and human resource development* (8th ed.). Abingdon, OX: Rutledge.
- Kyrene School District. (2016-2017). *Kyrene elementary school district annual report: School year 2016-2017*. Retrieved from http://web.kyrene.org/info_old/ksd/FlipBuilder/mobile/index.html#p=1
- MacDonald-Evoy, J. (2017, March 28). Tempe could spend \$3 million annually on free preschool for children living in poverty. *Arizona Republic*. Retrieved from <https://www.azcentral.com/story/news/local/tempe/2017/03/28/tempe-could-spend-3-million-annually-free-preschool-children-living-poverty/99417098/>
- Mertler, C. (2014). *Action research: Improving schools and empowering educators* (4th ed.). Thousand Oaks, CA: SAGE Publications.
- Mizell, H. (2010). *Why professional development matters*. Retrieved from https://learningforward.org/docs/pdf/why_pd_matters_web.pdf.
- Muenchow, S., & Weinber, E. (2016). *Ten questions local policymakers should ask about expanding access to preschool*. Washington, DC: Education Policy Center at American Institutes for Research. Retrieved from <http://www.air.org/resource/ten-questions-local-policymakers-should-ask-about-expanding-access-preschool>.
- National Association for the Education of Young Children (n.d.). *Staff educational qualifications*. Retrieved from <http://www.naeyc.org/academy/qualifications>.

- New York City. (2016, October 06). *New York City hosts 12 U.S. cities for first ever pre-k for all cities learning lab*. Retrieved from www1.nyc.gov/office-of-the-mayor/news/798-16/new-york-city-hosts-12-u-s-cities-first-ever-pre-k-all-cities-learning-lab
- Odom, S. L. (2009). The tie that binds: Evidence-based practice, implementation science, and outcomes for children. *Topics in Early Childhood Special Education, 29*(1), 53-61.
- O'Donnell, A. M. (2012). Constructivism. In K. R. Harris, S. Graham, T. Urdan, C. B. McCormick, G. M. Sinatra, & J. Sweller (Eds), *APA educational psychology handbook, Vol 1: Theories, constructs, and critical issues* (pp. 61-84). Washington, DC: American Psychological Association.
- Pay for Success. (2017). *What is Pay for Success?* Retrieved from <http://www.payforsuccess.org/learn/basics/#what-is-pay-for-success>
- Pianta, R. C., Barnett, W. S., Burchinal, M., & Thornburg, K. R. (2009). The effects of preschool Education: What we know, how public policy is or is not aligned with the evidence base, and what we need to know. *Psychological Science in the Public Interest, 10*(2), 49-88.
- Pianta, R. C., Mashburn, A. J., Downer, J. T., Hamre, B. K. & Justice, L. (2008). Effects of web-mediated professional development resources on teacher–child interactions in pre-kindergarten classrooms. *Early Childhood Research Quarterly, 23*, 431-451.
- Quality First Arizona. (2011). *Quality First points scale*. Retrieved from www.azftf.gov/WhatWeDo/Programs/QualityFirst/Documents/Quality%20First%20Points%20Scale.pdf
- Quality First Arizona. (2015). *Quality First scholarships*. Retrieved from www.qualityfirstaz.com/providers/scholarships/
- Rossmann, G. B. & Rallis, S. F. (2017). *An introduction to qualitative research: Learning in the field* (4th ed.). Thousand Oaks, CA: SAGE.
- Ruey, S. (2009). A case study of constructivist instructional strategies for adult online learning. *British Journal of Educational Technology, 41*(5), 706-720.
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: SAGE.

- Schachter, R. E. (2015). An analytic study of the professional development research in early childhood education. *Early Education and Development, 26*(8), 1057-1085.
- Schrader, D. E. (2015). Constructivism and learning in the age of social media: Changing minds and learning communities. *New Directions for Teaching and Learning, (144)*, 23-35.
- Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *The high/scope perry preschool study through age 40: Summary, conclusions, and frequently asked questions*. Ypsilanti, MI: High/Scope Press.
- Sheridan, S. M., Edwards, C. P., Marvin, C. A., & Knoche, L. L. (2009). Professional development in early childhood programs: Process issues and research needs. *Early Education and Development, 20*(3), 377-401.
- Statistica. (2017). *Number of Facebook users by age in the U. S. as of January 2017* (in millions). Retrieved from <https://www.statista.com/statistics/398136/us-facebook-user-age-groups/>
- Taole, M. J. & Mawela, A. S. (2017). A reflective practice approach: Reimagining teachers' continuing professional development. In I. H. Amzat & N. Padilla-Valdez (Eds.), *Teacher professional knowledge and development for reflective and inclusive practices* (pp. 36-44). Abingdon, OX and New York, NY: Routledge.
- Tavakol, M. & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education (2)*, 53-55.
- Tempe Elementary School District. (2017). *History & information*. Retrieved from <http://www.tempeschools.org/our-district/information-history>
- Thomas, A., Menon, A., Boruff, J., Rodriguez, A. M., & Ahmed, S. (2014). Applications of social constructivist learning theories in knowledge translation for healthcare professionals: A scoping review. *Implementation Science, 9*(54).
- Uttley, C. M. & Horm, D. M. (2008). Mentoring in early childhood professional development: Evaluation of the Rhode Island child development specialist apprenticeship program. *Journal of Early Childhood Teacher Education, 29*(3), 237-252.
- van de Mortel, T. F. (2008). Faking it: Social desirability response bias in self-report research. *Australian Journal of Nursing, 25*(4), 40-48.

Vavasseur, C. B., & MacGregor, S. K. (2008). Extending content-focused professional development through online communities of practice. *Journal of Research on Technology in Education*, 40(4), 517-536.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice*. Boston, MA: Harvard Business Review Press.

What is PADLET? (n.d.). Retrieved from
http://www.wvadulted.org/uploads/4/2/4/9/42499625/padlet_for_beginners.pdf

The White House, Office of the Press Secretary. (2013). *President Obama's plan for early education for all Americans*. Retrieved from
<https://obamawhitehouse.archives.gov/the-press-office/2013/02/13/fact-sheet-president-obama-s-plan-early-education-all-americans>

APPENDIX A
ORGANIZATIONAL PARTNER APPROVALS

City of Tempe

Marie Raymond
City of Tempe
3500 South Rural Road
Tempe, AZ 85282
www.tempe.gov



November 28, 2017

To whom it may concern:

This letter is to indicate my support for Ariana Lopez's doctoral research project. As Education, Families & Youth Development Manager for the City of Tempe, I do not anticipate any concerns with her proposed research questions or methods. If you have any questions, please call or email me.

Sincerely,
Marie Raymond
Education, Families & Youth Development Manager
City of Tempe
480-858-7818
marie_raymond@tempe.gov

Tempe Elementary School District

REQUEST TO CONDUCT RESEARCH IN TEMPE SCHOOL DISTRICT NO. 3

Send research request to:

Chris Busch
Superintendent
Tempe School District #3
3205 South Rural Road
Tempe, Arizona 85282

I wish to conduct a research project in Tempe School District #3 and request approval of the Research Committee to contact the appropriate personnel.

Ariana Lopez 11/29/17
Name *Date*
City of Tempe, Tempe PRE Supervisor (602) 400-2498
Position *Phone*

Return Address: 3304 E Franklin Ave., Gilbert AZ 85295

Research Project is for:

ASU Class MA Thesis Doctoral Dissertation
 Faculty Research University Research Other

Title and Purpose: Professional Development in Early Childhood Education: Effects of a Virtual Community of Practice on Implementing Best Practice Purpose: see attached

Approximate number and grade levels of pupils to be involved. 0

Approximate class time required per pupil: n/a

Name of school(s) and what facilities will be needed: n/a

Deadline for completion: May 2018

Comments: _____

Date 11/29/17 Approved Disapproved
Signature: Chris Busch Comments: As long as participation is voluntary
Chris Busch
Superintendent

Approval indicated on this form is intended to grant to the researcher the opportunity to contact the appropriate personnel to gain their approval and support of this project.

Kyrene School District

From: "Bolnick, Rebecca" <RBolnick@kyrene.org>
Date: January 9, 2018 at 1:20:29 PM MST
To: "Lopez, Ariana" <Ariana_Lopez@tempe.gov>
Subject: RE: research

Hi Ariana,

I spoke with both of the principals at the schools with Tempe PRE and they were both agreeable to your research study. So, it is approved. Please let me know what else you might need for your proposal meeting? Thanks!

Rebecca Bolnick, Ph.D.

Director of Accountability

p (480) 541-1145 | e rbolnick@kyrene.org



8700 S. Kyrene Road
Tempe, AZ 85284

APPENDIX B

SOCIAL EMOTIONAL DEVELOPMENT MODULE FIDELITY CHECK

Trainer covers:

- Strategies to prevent children's behaviors from escalating
 - How to help all staff build relationships with children that are responsive, supportive, and consistent
- How to supervise all areas of the classroom
- How to create centers:
 - That have adequate space to match children's interest levels and the number of enrolled children
 - That are easy to determine the purpose of each center

How to ensure materials:

- Are ready for children's use each day
 - Are relevant to children's needs, lives, and interests
 - Support the AzELS
 - Are developmentally appropriate
 - Are rotated and changed on a regular basis
- How to create a space for children to be and/or work alone

How to ensure schedules:

- Are predictable
- Children are prepared for changes ahead of time
- Have a balance of active and quiet times
- Have a balance of large and small group activities
- Have a balance of teacher directed and child-initiated activities

- Routines are well established and followed by children

How to utilize intentional teaching strategies:

- To teach children self-awareness
 - Utilizing specific, positive feedback rather than generic praise
 - To help children identify their emotions
 - To help children label their emotions
 - To teach children empathy
- Reading books to children to teach emotions and social emotional concepts
 - Strategies to use instead of forcing children to say “I’m sorry”

How to ensure rules:

- Are visual
 - Are simple
 - Are easy to understand
 - Are enforced equitably
- How to teach modifications for behavior based on different settings

Transitions

- How to minimize
 - How to pre-plan
 - How to individualize
 - How to prepare children for them ahead of time
- How to ensure staff intentionally build attachment with children
 - How to intentionally build positive interactions with children

- How to intentionally teach children about respect

APPENDIX C
CONSENT LETTER

To Whom it May Concern:

My name is Ariana Lopez and I am a doctoral student in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Sherman Dorn, a faculty member in MLFTC on a research study. The purpose of this study is to better understand ways to support the implementation of skills learned in early childhood professional development sessions.

We are asking for your help, which will involve your participation in two surveys that will take approximately 15 minutes each to complete. The first survey will be completed on paper prior to the start of this professional development session and the second survey will be sent to the email address you provide on your consent form. Survey responses will remain anonymous. There will also be the potential for a few participants to be recruited for a face-to-face interview concerning your experiences and beliefs regarding professional development and your experience participating in a virtual community of practice. We anticipate this interview to take no more than 45 minutes total and all responses will be kept anonymous. Interviews will be audio-recorded and stored on a password protected laptop. Recordings will be deleted after transcription.

Your participation in this study is voluntary. If you choose not to participate or withdraw from the study at any time, there will be no penalty whatsoever. You must be 18 years of age or older to participate.

The benefit to participation is the opportunity for you to reflect on and think more about ways you implement information learned in professional development sessions back in to your own classroom as well as how a virtual community of practice can support your implementation of new skills. Survey responses and interviews will also inform future iterations of the study. There are no foreseeable risks or discomforts to your participation.

Your responses will be confidential and results from this study may be used in reports, presentations, or publications but your name will not be used.

If you have any questions concerning the research study, please contact the research team – Dr. Sherman Dorn, Sherman.Dorn@asu.edu or Ariana Lopez at alopez20@asu.edu or (602) 400-2498.

Thank you,

Ariana Lopez, Doctoral Student

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact Dr. Sherman Dorn at Sherman.Dorn@asu.edu or the Chair of Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

I, _____, agree to participate in the above-mentioned research study. I understand that there are no foreseeable risks to participation

and that all my responses will be kept anonymous. I understand that I may withdraw at any time with no penalty.

Signature

Date

Email address:

APPENDIX D
SEMI-STRUCTURED INTERVIEW QUESTIONS

1. Tell me about your experience with the language and literacy/social emotional development professional development sessions.
2. How has attending these sessions helped you in your professional growth?
3. Tell me about your experience using the virtual CoP.
4. What aspects did you find helpful about the virtual CoP?
5. What portions of the virtual CoP did you use?
6. Do you feel the virtual CoP helped you in implementing new skills? If so, how?
7. Is there anything you would change about the virtual CoP?
8. Anything else you would like to share about your experience?

APPENDIX E

SOCIAL EMOTIONAL DEVELOPMENT IMPLEMENTATION SURVEY

Name: _____

Essential Function

Building positive relationships

To what extent do you currently implement the following teaching practices in your classroom:

1. I utilize strategies to prevent children's behaviors from escalating such as limiting wait times, ensuring there are adequate materials for the number of children present, teaching children appropriate behaviors, etc.

Hardly Ever Rarely Sometimes Often Very Often

2. I ensure ALL staff working in the classroom build relationships with children that are responsive.

Hardly Ever Rarely Sometimes Often Very Often

3. I ensure ALL staff working in the classroom build relationships with children that are supportive.

Hardly Ever Rarely Sometimes Often Very Often

4. I ensure ALL staff working in the classroom build relationships with children that are consistent.

Hardly Ever Rarely Sometimes Often Very Often

Essential Function

Designing supportive environments

To what extent do you currently implement the following teaching practices in your classroom:

5. I have clearly defined centers that are easily viewed/supervised by staff from all areas of the room.

Hardly Ever Rarely Sometimes Often Very Often

6. I ensure there is adequate space in each center to match the interest level of the center.

Hardly Ever Rarely Sometimes Often Very Often

7. I ensure there is adequate space in each center to match the number of enrolled children in the classroom.

Hardly Ever Rarely Sometimes Often Very Often

8. I ensure it is easy to tell what the purpose of each center is through appropriate grouping of materials.

Hardly Ever Rarely Sometimes Often Very Often

9. I ensure materials are ready for children's use upon arrival each day.

Hardly Ever Rarely Sometimes Often Very Often

10. I ensure available materials are relevant to children's needs, lives, and interests.

Hardly Ever Rarely Sometimes Often Very Often

11. I ensure there are a variety of materials that support the Arizona Early Learning Standards.

Hardly Ever Rarely Sometimes Often Very Often

12. I ensure there are a variety of materials that are developmentally appropriate.

Hardly Ever Rarely Sometimes Often Very Often

13. I ensure the materials are changed and rotated on a regular basis (at least monthly).

Hardly Ever Rarely Sometimes Often Very Often

14. I create and enforce a space where children can be and/or work alone.

Hardly Ever Rarely Sometimes Often Very Often

15. I ensure the classroom schedule follows a predictable routine.

Hardly Ever Rarely Sometimes Often Very Often

16. I ensure children are prepared for changes to the schedule or routine ahead of time.

Hardly Ever Rarely Sometimes Often Very Often

17. I ensure the schedule has a balance of active and quiet times.

Hardly Ever Rarely Sometimes Often Very Often

18. I ensure the schedule has a balance of large and small group activities.

Hardly Ever Rarely Sometimes Often Very Often

19. I ensure the schedule has a balance of teacher directed and child initiated activities.
Hardly Ever Rarely Sometimes Often Very Often

20. I ensure that routines are well established and followed by children; i.e. handwashing, arrival, clean up, etc.
Hardly Ever Rarely Sometimes Often Very Often

Essential Function

Social emotional teaching strategies

To what extent do you currently implement the following teaching practices in your classroom:

21. I utilize intentional strategies to teach self-awareness such as a question of the day, placing children's art work at their eye level, completing self-portraits, etc.
Hardly Ever Rarely Sometimes Often Very Often

22. I utilize specific, positive feedback rather than generic praise to acknowledge children's efforts and accomplishments.
Hardly Ever Rarely Sometimes Often Very Often

23. I use intentional strategies to help children identify their emotions such as teaching children emotions vocabulary, labeling children's emotions, or using songs, games, books, or other activities to teach children about emotions.
Hardly Ever Rarely Sometimes Often Very Often

24. I use intentional strategies to help children label their emotions such as teaching children emotions vocabulary, labeling children's emotions, or using songs, games, books, or other activities to teach children about emotions.
Hardly Ever Rarely Sometimes Often Very Often

25. I read books to children that focus on their emotions.
Hardly Ever Rarely Sometimes Often Very Often

26. I read books to children that focus on social emotional concepts.
Hardly Ever Rarely Sometimes Often Very Often

27. I use intentional strategies to teach children empathy such as modeling empathy, drawing attention to children's empathetic behaviors, role playing having empathy, etc.
Hardly Ever Rarely Sometimes Often Very Often

28. I do not force children to say, "I'm sorry" and instead teach children to use strategies such as right wrongs, communicate with each other over disagreements, etc.

Hardly Ever Rarely Sometimes Often Very Often

29. I ensure the classroom rules are visual.

Hardly Ever Rarely Sometimes Often Very Often

30. I ensure the classroom rules are simple.

Hardly Ever Rarely Sometimes Often Very Often

31. I ensure the classroom rules are easy to understand meaning that children are taught the meanings of words used in rules such as defining what being 'kind' to our friends means.

Hardly Ever Rarely Sometimes Often Very Often

32. I ensure the rules are enforced equitably.

Hardly Ever Rarely Sometimes Often Very Often

33. I teach modifications for behavior to children based on different settings such as that there are things that are okay to do at home that aren't okay to do at school; or we act differently on the playground than we do in the classroom.

Hardly Ever Rarely Sometimes Often Very Often

34. I use intentional strategies to minimize transitions during the day.

Hardly Ever Rarely Sometimes Often Very Often

35. I pre-plan transitions.

Hardly Ever Rarely Sometimes Often Very Often

36. I ensure transitions are individualized to meet each child's developmental needs.

Hardly Ever Rarely Sometimes Often Very Often

37. I prepare children for transitions ahead of time use techniques such as a five minute warning or a visual cue that it is almost time to transition.

Hardly Ever Rarely Sometimes Often Very Often

38. I ensure all staff are intentionally building attachment with children through strategies such as sensitive and responsive caregiving, developmentally appropriate expectations, positive verbal interactions, etc.

Hardly Ever Rarely Sometimes Often Very Often

39. I intentionally build positive interactions among children through modeling, reinforcement of positive interactions, use of role playing, etc.

Hardly Ever Rarely Sometimes Often Very Often

40. I intentionally teach children what respect is through strategies such as defining the word respect in child friendly terms, modeling respect for children, and reinforcing incidents when children demonstrate respect.

Hardly Ever Rarely Sometimes Often Very Often

Demographic Information

Please select the answer that best fits you:

Highest level of education obtained:

High school diploma/GED

Some College

Child Development Associate's (CDA)

Associate's degree

Bachelor's degree

Master's degree

Other

Number of years teaching in early childhood (birth through grade 3): _____