

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Educational Administration: Theses,
Dissertations, and Student Research

Educational Administration, Department of

Spring 4-1-2015

The Study of Pre-service Teachers Participating in Candidate Learning Communities: A Mixed Methods Study

Barbara Sunderman

University of Nebraska-Lincoln, dr.barbara.sunderman@gmail.com

Follow this and additional works at: <https://digitalcommons.unl.edu/cehsedaddiss>



Part of the [Educational Leadership Commons](#), [Elementary Education and Teaching Commons](#), and the [Higher Education and Teaching Commons](#)

Sunderman, Barbara, "The Study of Pre-service Teachers Participating in Candidate Learning Communities: A Mixed Methods Study" (2015). *Educational Administration: Theses, Dissertations, and Student Research*. 217.

<https://digitalcommons.unl.edu/cehsedaddiss/217>

This Article is brought to you for free and open access by the Educational Administration, Department of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Educational Administration: Theses, Dissertations, and Student Research by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

A STUDY OF PRE-SERVICE TEACHERS PARTICIPATING IN CANDIDATE
LEARNING COMMUNITIES: A MIXED METHODS STUDY

By

Barbara Sunderman

A DISSERTATION

Presented to the Faculty of
The Graduate College at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Education

Major: Educational Administration (UNL-UNO)

Under the Supervision of Professor Jody C. Isernhagen

Lincoln, Nebraska

May 2015

A STUDY OF PRE-SERVICE TEACHERS PARTICIPATING IN CANDIDATE LEARNING COMMUNITIES: A MIXED METHODS STUDY

Barbara Sunderman, Ed.D.

University of Nebraska, 2015

Advisor: Jody Isernhagen

The purpose of this study was to examine the perceptions of instructional skill and professional dispositions of pre-service teacher education candidates' understanding of their own teaching skills. The research examined perceptions before and after the clinical experience while participating in a Candidate Learning Community. In this mixed-methods study, perceptions were quantitatively measured with a pre-survey and a post survey of 17 participants and qualitatively described by 11 participants in follow up interviews; each intensely studied teaching skill and professional pedagogy in coursework and cooperative classrooms.

The research revealed significant increase in personal perception of teaching skills and dispositions during the clinical term while participating in Candidate Learning Communities. The findings indicated that concentrated classroom participation and course work combined with the Candidate Learning Community groups can help develop improved perception of teaching skills and professional dispositions. The quantitative data indicated a significant difference in teaching skills and dispositions from the pre-survey at the beginning of the academic term to the post-survey at the end of the term.

The qualitative findings indicated the participants benefitted from involvement in a Candidate Learning Community; these benefits were described as an increase in teaching and learning ideas, encouragement from others, increases in teaching skills and dispositions, and a feeling of belonging. Implications of this study were the use of learning communities can impact perceptions of the learning of pre-service teachers. Based on the findings of this study, implications for future study included investigating how participation in Candidate Learning Communities impacted the work with colleagues during in-service teaching, investigating the impact of learning teams and their effectiveness with other pre-service teaching majors, and investigating the impact of learning communities over time.

Dedication

To all who strive to make the world a better place through their work in education and in memory of my father, Rev. Bruce N. Katt, who was a servant leader. His life, his ministry, his love, his commitment to others, and his devotion to family and the greater good, are models for my own ideas of what it means to be a leader and an educator. A legacy of generosity of spirit as well as the import of service are gifts for which I am grateful.

Acknowledgements

Although my name appears on the cover of this dissertation, I would like to thank the many educators, mentors, family, and friends who contributed to the completion of this dissertation. All of you have made my work possible with your support for which I will always have the deepest gratitude.

Thank you to my advisor, Dr. Jody Isernhagen, without whom I would not be the educator or person I am today. I cannot overstate my gratitude for her commitment to my learning, her dedication to the field of education, and her advice and guidance through the dissertation process. I am also grateful to my graduate committee: Dr. Larry Dlugosh, Dr. Del Harnisch, and Dr. Don Uerling.

I am indebted to the educators with whom I work each day. My former and current colleagues, their work in teaching and learning continues to inspire me and I am honored to be a part of these teams of dedicated professionals. I am also indebted to my students who dedicate themselves to becoming educators and my former students who make me proud of their service to education. Thank all of you for your support of my work with Candidate Learning Communities. To my group of professors who meet to write each week, thank you for your encouragement.

And finally, thank you to my family whose steadfast love and support encouraged me throughout my doctoral journey. My husband Roger, whose reassurance and care are unwavering. Thank you to our son Neal, our daughter Laura, and her fiancé Michael for their understanding and inspiration as I worked toward this goal and for their tolerance for being both my students and children. My sisters, brother, nieces, and nephews who

encouraged me, and my mother. Your encouragement and care helped make the completion of my doctoral work possible. Thank you to my extended family that has encouraged me during this long journey. All of you are appreciated more than you know.

Table of Contents

Chapter 1—Overview	1
Introduction	1
Background	1
Purpose of the Study	4
Research Questions	5
Research Methods	6
Definition of Terms	6
Statement of the Problem	8
Significance of the Study	10
Summary	11
Chapter 2—Literature Review	12
Introduction	12
Modern Educational Reform in the United States	12
Professional Learning Communities in PreK-12	14
The Evolution of Professional Learning Communities	14
Current Use of Professional Learning Communities	16
Professional Development School Model	19
Learning Communities in Higher Education	20
Learning Communities in Undergraduate Programs	20
Professional Learning Communities in Pre-service Teacher Education Programs	26
Summary	32

Chapter 3—Research Design and Methodology.....	33
Introduction.....	33
Design	36
Quantitative Methods.....	38
Analysis Strategy	39
Qualitative Methods.....	40
Analysis Strategy	42
Population and Sample	42
Data Collection	44
Limitations and Delimitations	45
Summary	46
Chapter 4—Results	48
Introduction.....	48
Quantitative Research Questions	48
Quantitative Survey Participants.....	49
Quantitative Survey Instrument	50
Quantitative Survey Data Analysis Procedures	51
Quantitative Results	53
Quantitative Results by Research Question	55
Quantitative Research Question 1.....	55
Quantitative Research Question 2.....	59
Quantitative Research Question 3.....	64
Quantitative Research Question 4.....	65
Quantitative Research Question 5.....	70

	iii
Qualitative Research Questions	72
Qualitative Methods.....	73
Qualitative Interview Participants.....	73
Qualitative Survey Data Analysis Procedures	74
Qualitative Results by Research Question.....	74
Qualitative Research Question 1.....	76
Qualitative Research Question 2.....	82
Qualitative Research Question 3.....	86
Qualitative Research Question 4.....	89
Summary	94
Chapter 5—Conclusion and Recommendations	97
Introduction.....	97
Quantitative Research Questions	97
Qualitative Research Questions	98
Method and Findings	99
Significance of the Study	103
Recommendations for Further Research.....	104
Summary	106
References.....	107
Appendices.....	111

List of Tables

Table 1	Demographic Data of Study Participants.....	50
Table 2	Candidate Learning Communities Survey of Skills and Dispositions Reliability Coefficient by Survey Phase	52
Table 3	Analysis of Candidate Learning Communities Survey of Skills and Dispositions by Question Set	53
Table 4	Overall Quantitative Study Results of All Items	54
Table 5	Instructional Skills Survey Results—All Items	57
Table 6	Instructional Skills Survey Results by Category	59
Table 7	Overall Dispositions.....	60
Table 8	Dispositions- Working with Others	61
Table 9	Dispositions Skills - Communication	62
Table 10	Dispositions Skills - Professionalism	63
Table 11	Dispositional Skills – In and Out of the School Setting	64
Table 12	Time Spent Outside of Class with CLC Group	66
Table 13	Group Means on Overall Quantitative Questions by CLC Time.....	67
Table 14	Teaching Skills Survey Items with Cohen’s d Effect Rates	67
Table 15	Dispositional Skills Survey Items with Cohen’s d Effect Rates.....	71
Table 16	Interview Results by Research Question Themes.....	75

List of Figures

Figure 1	Learning Community Pyramid	23
----------	----------------------------------	----

List of Appendices

Appendix A	Pre- and Post-Surveys	111
Appendix B	Interview Protocol.....	126
Appendix C	Letter of Permission from Hastings College.....	129
Appendix D	Letter of Permission from Dr. Aaron Bower	131
Appendix E	IRB Letter	133
Appendix F	Quantitative Survey Results.....	136

Chapter 1

Overview

Introduction

Teacher education programs are designed to prepare pre-service teachers for their work in school classrooms. Traditionally, schools have functioned in an industrial model with collaborative efforts of teachers not part of the normative culture. Teacher preparatory programs have worked in the same manner, preparing students for a role in which they are part of the assembly line of education and creating an isolating experience during their college years. This study examined the impact of using a collaborative environment during teacher preparation. This chapter will examine the background of this work in teacher education, state the purpose of the study, describe the research questions, explain the methodology, identify the key terms, explore the problem and identify the significance of the study.

Background

Undergraduate programs prepare students with bachelor degrees in a wide variety of content areas in their chosen major field of study. Teacher preparation programs in Nebraska differ from many other undergraduate programs in that the content, practice, and the pedagogy are taught simultaneously. Pre-service teachers must understand teaching pedagogy as well as be able to use these learned skills in a classroom. Students in teacher education preparatory programs learn in the college classroom the theories of teaching and learning and put those theories into practice in real classroom experiences. Engagement in personal understanding of teaching skills is

critical to the pre-service teacher and their ability to lead a classroom successfully upon graduation.

Within the Teacher Education Department at Hastings College, a small Midwestern liberal arts four-year college, there are three main programs in which a student can enroll: elementary education, secondary education, and/or special education. Students who major in elementary education and/or special education must enroll in a fall semester of course work and clinical experience; this occurs during the fall term of the junior year in the four-year program. Students in this program are in a prescribed set of courses while enrolled in their clinical experience. Clinical experiences occur in two partner elementary schools within a partnership school district. Elementary and special education majors are enrolled in the clinical experience during their junior year and will also be participants in the study. During this clinical experience, students at Hastings College are part of a small group of pre-service teachers, which are called Candidate Learning Communities (CLC). Each group is comprised of 4-5 students all of whom are enrolled in the Clinical Experience. Candidate Learning Communities are unique to Hastings College and are an integral part of the process during the clinical term.

Student growth in the area of instructional skill and professional disposition is an important component to the overall understanding of teaching and learning for pre-service teachers. Future teachers must work to understand the skills of the teaching profession including lesson design, lesson delivery, and classroom management. Professional dispositions related to the teaching profession also are fundamental in shaping the success of future educators, a few of which include timeliness,

communication skills, and ethical decision-making. Participation in an elementary pre-service teacher learning community can enhance the overall understanding of both professional disposition and teaching skills.

Collaborative teams of teachers and school administrators are an essential part of the contemporary school. Professional Learning Communities (PLCs) are commonly used as vehicles for providing professional development and implementing school improvement initiatives in school districts in Nebraska. These teams of teachers collaborate on topics such as student progress, teaching strategies, and school related concerns. Teacher candidates who are familiar with collaborative work, will benefit upon placement in their first teaching positions. This study will look at the collaborative environments comparable to a PLC to see if a similar system at the undergraduate level with elementary pre-service teachers influences the understanding of the pre-service teacher. These groups called Candidate Learning Communities (CLCs) are collaborative in nature and in that way are much like a PLC. The collaborative team approach to the work of becoming a teacher creates an environment in which learning takes place and is cooperative. Within the local community, a partnership exists with the local P-12 school district. Two elementary schools serve as the location for the school placements. These two elementary schools both have the highest need in terms of free and reduced students as well as the most diverse population within the area. The schools are located in close proximity to the college. These local elementary classrooms provide an opportunity for each elementary and special education pre-service teacher to see the theory discussed in the college classroom in practice as they serve hours in a school setting during the

clinical term. Students in this clinical experience will teach under the supervision of their cooperating teacher. Instructors from the college courses provide the context for which the learning of both teaching skills and disposition takes place. Courses are taught in a traditional fall calendar at the undergraduate level by full time professors from the college.

Elementary CLC participants investigate their own learning and work collaboratively to improve their understanding of teaching, specific teaching skills, and enhancing the development of their personal professional dispositions. Learning these skills takes place in the college classroom, the school placement, and with their CLC group.

Purpose of the Study

The purpose of this study was to examine the relationship between the perceptions of instructional skill and professional dispositions of pre-service teacher education candidates' understanding of their own teaching skills. The study examined perceptions before and after the clinical experience while participating in a Candidate Learning Community. In this study, elementary and special education teacher candidates participated in Candidate Learning Communities with peers while enrolled in their experience. Elementary and Special Education majors were chosen as they participate in four courses together as well as the clinical experience allowing frequent opportunity to interact with their cohort as well as their own learning community.

Research Questions

In this study, the researcher used a mixed methods approach focused upon collection of “data on quantitative instruments and on qualitative data reports based on individual interviews to see if the two types of data show similar results but from different perspectives” (Creswell & Plano Clark, 2011, p. 6). The following quantitative research questions guided this study’s investigation:

- To what extent has there been growth in instructional skills understanding in the clinical term for elementary and special education pre-service teachers? If so, how much?
- To what extent has there been growth in professional dispositional understanding in the clinical term for elementary pre-service teachers? If so, how much?
- Is there a relationship between the amount of time spent by a pre-service teacher in a Candidate Learning Community (CLC) and the perception of the quality of the clinical experience?
- Does participation in a CLC impact a pre-service teacher’s perception about specific teaching skills when enrolled in a clinical experience?
- Does participation in a CLC impact a pre-service teacher’s understanding of teaching dispositions in a clinical experience?

The following qualitative research questions were investigated during the study:

- How do pre-service teachers describe the way they were engaged in Candidate Learning Communities?
- What role did participation in a Candidate Learning Community play in increased personal and professional understanding of teaching skills and dispositions?
- What was the benefit(s) of participation in a Candidate Learning Community?
- Within the Candidate Learning Community, what types of experiences are attributed to furthering the success of pre-service teachers as an individual as well as a member of a team?

Research Methods

During the study, participants were asked to complete a longitudinal survey at the beginning and end of the fifteen-week experience. This survey was quantitative only in the initial survey and both quantitative and qualitative in design in the concluding survey. Following the completion of the term and after the survey data was analyzed, the researcher invited eleven participants to take part in an individual interview based upon systemic selection. These individual interviews were conducted to obtain an in-depth understanding of the quantitative results. In this mixed methods study, the data from both the quantitative and qualitative instruments was analyzed to answer the research questions.

Definition of Terms

PLC- Professional Learning Community—An organized group of educators who share a common goal to improve student learning and adhere to the ideas of a PLC,

which include focus on data, collaboration and results. Educators work to understand the results of student data and focus on ways to improve learning in the classroom.

CLC- Candidate Learning Community—Pre-service educators are assigned to a small group of peers during the clinical experience at Hastings College. CLCs are assigned tasks that focus on their learning of instructional skill, content understanding, classroom management, and professional dispositions.

Clinical Experience—After acceptance into the teacher education program, students may enroll in ED 340: Elementary Clinical. Students work with one elementary teacher in a classroom setting and have the opportunity to observe and teach in this teaching practicum.

Dispositions— Professional attitudes, values, and beliefs demonstrated through both verbal and non-verbal behaviors as educators interact with students, families, colleagues, and communities.

Teaching Skills— Professional abilities to manage classrooms, plan, deliver, assess classroom instruction, and execute roles and responsibilities of the profession of teaching.

Elementary Block—During the junior year at Hastings College teacher education candidates majoring in elementary and/or special education enroll in a series of college courses in the areas of Language Arts, Social Science, Classroom Management, and Children's Literature as well as being simultaneously enrolled in a clinical experience in which there are hours for teaching and observation in the K-5 classroom.

Pre-service Teacher—A student accepted into an accredited university or college teacher preparation program to become a teacher.

Teacher Education Programs—A program at a College and University, which prepares pre-service teachers to enter a classroom in a P-12 setting.

Statement of the Problem

The work of teaching and learning in schools today differs from the schools of the last century as the work has become more collaborative in nature. In the past century, teachers were able to work in their own classrooms with very little collaboration about curriculum, achievement or student skill with their peers. According to John Goodlad (2004), “teachers, like their students, to a large extent carry on side by side similar but essentially separated activities. It will require more than exhortation to change this situation” (p. 188). Teaching in schools today requires the ability to work in collaborative teams to improve student learning. Unlike the industrialized model of the 20th century, teachers must be able to work collaboratively to improve the work of the school. “If schools are to be significantly more effective, they must break from the industrial model upon which they were created and embrace a new model that enables them to function as learning organizations” (DuFour & Eaker, 1998, p. 15). Teacher education programs have been able to train teachers as individuals before this time without working to enhance collaborative skills. Mirroring the work being completed in Nebraska schools with collaborative communities, Hastings College educates elementary pre-service teachers while using collaborative teaming called Candidate Learning Communities. In this study, collaborative teams of teacher candidates emulate

the work of teachers in schools today with in-service teachers. When utilizing Professional Learning Communities in schools, “Educators create an environment that fosters mutual cooperation, emotional support, and personal growth as they work together to achieve what they cannot accomplish alone” (DuFour & Eaker, 1998, p. xiii). Using this model of collaboration, the aim of the study was to better understand the use of Candidate Learning Communities and their effect on the skill development of pre-service teachers during the clinical term.

A study by Dolezal (2008) found that there was little widespread use of professional learning communities in pre-service teacher education. The purpose of the study was to find a relationship between the professor’s tenure and efficacy in using a professional learning community format. As a result, there was no significant difference found between the benefits of using a professional learning community within the teacher education program and the level of the instructor’s experience.

While establishing a need for candidates to work collaboratively to alter the thinking about student performance based on social class, Hollins (2011) discussed the need for experiential learning. His aim was to encourage candidates to build a more holistic perspective on not only the processes and content of their teaching practices but also the meaning and the purpose behind it. The researcher found that students benefit from emotional support provided within their professional learning communities at the pre-service teacher level. However, there was little evidence of professional growth due to these learning communities. One tenant of the research is the necessity for pre-service teacher education programs to encourage professional discourse with and among their

candidate teachers. Learning communities can provide this contextual understanding for pre-service teachers with whom they are working. According to Hollins (2011), there are three areas in which a PLC can guide learners to help them work on their overall understanding of the teaching and learning processes. These areas are focused inquiry, direct observation, and guided practice. At the core of the work in the pre-service teacher education experience, Hollins (2011) emphasized that the experience needs to reflect the work that candidates will be expected to do during their professional career.

Significance of the Study

The purpose of this study was to examine the relationship between perceptions of instructional skill and professional dispositions of pre-service teacher education candidates' understanding of their own teaching skills at a small private liberal arts school. The study looked at pre-service teacher perceptions before beginning the clinical experience and after completing the clinical experience while participating in a learning community known as a Candidate Learning Community.

No previous study has looked at the use of pre-service teacher groups modeled after Professional Learning Communities. Two important factors in the success of a classroom teacher are the understanding of professional skill and the utilization of professional dispositions. By studying, a Candidate Learning Community embedded in the Clinical term of the teacher education series of coursework; this researcher conducted a study to better understand if the CLC enhances the experience for the pre-service teacher. The mixed methods format for the research provided quantifiable information from the participants as they were surveyed at the beginning and end of the

experience. Individual interviews with the participants followed to collect qualitative information that helps explain the survey data collected.

The research study provides insight on the use of collaborative groups in teacher education and may be generalized to other academic subjects in higher education undergraduate programs. This study may be beneficial to school district personnel who utilize Professional Learning Teams for better understanding the need of non-tenured faculty groups.

Summary

The aim of this study was to determine the relationship between the utilization of candidate learning communities during the clinical experience and level of understanding of the pre-service teacher, more specifically, the level of understanding of pedagogical methodologies, the understanding of classroom management techniques, and the significance of professional dispositions. A survey instrument was administered at the beginning of the semester prior to instruction in the methodology courses for entrance into the clinical classroom. At the end of the term, the same survey was given and results were tabulated to identify growth areas in the aforementioned areas.

To enable the researcher to obtain a deepened understanding of the findings from the survey, individual interviews with some participants were conducted after the end of the clinical term. During the interviews, the researcher drew upon personal experiences with the CLC. A deeper understanding of the participants' perception of what worked and what did not work to deepen their understanding in skill, classroom management, and dispositions was sought.

Chapter 2

Literature Review

Introduction

Professional Learning Communities (PLC) have a relatively short history in schools in the United States and in the work of school reform. Since their inception after the Nation at Risk report, PLC's have become one way of schools working to improve student achievement with collaborative teams of teachers. In this chapter, the information about the origins of PLC's within the reform efforts of public schools is discussed. The use of the PLC in the traditional PreK-12 system with both the early and current use is discussed. This focus is on the reform efforts in schools and the teacher's role in creating a sustainable learning environment. Continuing to examine the use of learning communities in Higher Education, this chapter will look at the use in undergraduate programs. Finally, a discussion of the use of collaborative groups of learning communities within teacher education programs was examined.

Modern Educational Reform in the United States

PLCs originated in a modern wave of educational reform. Preceding the notion of the PLC were the efforts of the reforming of the American educational system beginning in the 1970's focused on the basic subjects and the deficiencies of students in broad terms. According to John Goodlad (2004), "the indictments of the 1970s usually were less diagnostic and more simplistic" (p. 6) and did not enable the educational professional to understand the real problems with the educational system. In this same time, Goodlad (2004) discussed the weakened condition of both the church and family,

which had been a stable force in the American culture as well as it helped with the education of the youth. Deficiencies in education were given little specificity as well as being over generalized. “Not surprisingly, the reforms proposed were piecemeal” (Goodlad, 2004, p. 6). Few reforms were proposed and instead pressures were exerted on teachers and students to improve the basics. According to Goodlad, there was a general assumption that with a focus on the basic 3 Rs (reading, writing, arithmetic), schools could overcome the deficiencies. This assumption ignored the social factors of society, a decay of the church and school as support for students and the work of the school.

A National at Risk (U. S. Department of Education, 1983) was a landmark event in educational reform in the United States. This report discussed the failing of the American School system and began a cry for reform in the schools. This began a new wave of reform in local, state and national educational agencies. In the opening pages the report stated, “the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very nature as a Nation and a people” (p. 3). Educators began speaking out about ways in which students were taught and assessed, the collaboration with peers, and reflections to critically assess their own teaching practices (Archer, 2012).

Archer (2012) stated that in 1983, a school in Illinois, Adlai Stevenson High School, hired Dr. Richard DuFour to lead the school. During this time, the school put a plan into place for students who were not learning. This was a small part of the reform framework later known as the Professional Learning Community. The school had

processes for identification and assistance for students who were struggling as well as encouragement for Advanced Placement courses and many other initiatives. Dr. DuFour was a leader in this paradigm shift and his consultation with other districts after a decade of working to improve the school began the work of professional learning communities in the early 1990's (Archer, 2012).

Professional Learning Communities in PreK-12

The evolution of professional learning communities. PLCs are relatively new in the field of education. Discussions from before the turn of the 21st century gave insight into the idea of collaborative reform efforts, with the focus on schools and teaching and learning. "If we want to enhance their organizational capacity to boost student learning, they should work on building a professional community that is characterized by, a shared purpose, collaborative activity, and collective responsibility among staff" (Newmann & Wehlage, 1995, p. 37). Reform efforts are a long tradition in the schools of America, and one strategy for success is the professional learning community. Educational reform leaders began the thinking behind what is now known as a Professional Learning Community (PLC).

The professional learning community model of DuFour and Eaker (1998) was centered on three questions. These questions were:

1. Exactly what is it we want all students to learn?
2. How will we know when each student has acquired the essential knowledge and skills?
3. What happens in our school when a student does not learn?

These authors believed that based on previous study “rarely has research given school practitioners such a consistent message and clear sense of direction. But even if educators are persuaded that creating a professional learning community offers the best strategy for school improvement, difficult questions remain” (DuFour & Eaker, 1998, p. 25).

Underlying the need for professional learning teams is the desire of stakeholders for school reform, Harris (2011) discusses why reform fails. She gives several reasons, the first being that change is expected to happen too quickly and thus the changes are superficial. Second, there is indication that the wrong people are behind the change, external forces instead of internal experts. The third reason noted is often characterized by failure to look at the robustness needed to accomplish the changes that are desired, which leads Alma Harris (2011) to look at capacity building as an underlying necessity to successful school reform. Capacity building is not new and the research suggests that capacity building means, “people take the opportunity to do things differently to learn new skills and to generate more effective practice” (Harris, 2011, p. 627). In Wales, data collected from over 100 schools identified that, of course, there was resistance to PLCs. Many claimed they were already doing it. However, the clarity of focus of the work of the PLC, including the deep understanding it was not only to be a group that studied the work of their students, but also to develop education action teams that implemented these changes in their classrooms. During this initial phase, it was evident that PLCs also needed to have strong support of leadership in order to be successful. One advantage in the preschool through grade 12 system is that “it is clear that PLCs are now viewed as

one way of raising standards of literacy and numeracy and tackling disadvantage”

(Harris, 2011, p. 632). Ongoing challenges for professional learning communities in this setting are that as you grow the work of the learning community you could lose momentum. Efforts to reform education to meet the growing challenges of the student and societal need as students needed more than the 3Rs. Because the prior factory model was “woefully inadequate for meeting the national education goals of today – goals that call for all students to master rigorous content, learn how to learn, pursue productive employment, and compete in a global economy” (DuFour & Eaker, 1998, p. 23). School reform efforts have been evolving. The authors offered several characteristics of what a Professional Learning Community would consist of:

1. Shared mission, vision, and values.
2. Collective Inquiry
3. Collaborative Teams
4. Action orientation and experimentation
5. Continuous improvement
6. Results orientation. (DuFour & Eaker, 1998, pp. 25-29)

These are the building blocks and first identifiers of what makes a PLC and how they are to work in the PreK-12 schools.

Current use of professional learning communities. In Rick DuFour’s (2011) article in the Phi Delta Kappan entitled, *Work Together But Only If You Want To*, he discussed the isolation of teachers and their colleagues in terms of practice in their classrooms. Encouraging teachers to collaborate is not the answer to continuous improvement; instead, he suggested that educators require “embedding professional collaboration in the routine practice of the school” (DuFour, 2011, p. 58). For teachers the structure of the school has not supported, required, or even expected any

collaboration. Teachers have continued to work independently of each other instead of in teams working towards collaborative student achievement. Most professionals consider collaboration a vital part of success within the profession. DuFour (2011) gave examples of pilots, lawyers, doctors, and engineers among others in which these professionals consider it routine to confer with their colleagues.

When schools are organized to support the collaborative culture of Professional Learning Communities, classroom teachers continue to have tremendous latitude. Throughout most of their workday and workweek, they labor in their individual classrooms as they attempt to meet the needs of each student. But the school will also embed processes into the routine practice of its professionals to ensure that they co-labor in the coordinated and systematic effort to support the students they serve. (DuFour, 2011, p. 59)

The professional learning community process does not impede the professional in their own classroom rather helps them establish clear benchmarks and agreed-upon measures to monitor the progress of their learners. Professionals then make decisions based on promising strategies and research based practices instead of using methods just because these are ways in which the work has always been done. DuFour (2011) shared “an individual’s desire to work in isolation does not trump the professionals obligation to apply what is considered the most effective practice in his or her field” (p. 60). Providing educators with the tools to ensure success in their classrooms includes, according to DuFour, building professional learning communities. He argued, there needs to be a systematic process that ensures that teachers will receive the support that they need from their colleagues, and finally that the cultures that embed this collaboration into their routine practice will ensure focused efforts upon building capacity to work together instead of alone as professionals.

“We recognize that each school learning community had its own set of unique challenges for improving the teaching and learning process” (Doolittle, Sudeck, & Rattigan, 2008, p. 309). Schools who were unfamiliar with change struggled more than the schools that were more familiar with change. When a school has an effective professional development structure, they function more readily in a professional learning community, but when schools lack systems organization, the learning communities are less ready to confront change.

As professional learning communities gained ground in popularity, DuFour (2007) indicated that we should not be surprised that faculties will identify themselves as working in PLCs, yet doing none of the work that should be done. In addition, there are schools in which effective PLCs are indeed happening and yet the terminology PLC is nowhere in the vocabulary of that school. DuFour (2007) indicated there is confusion regarding the term and addressed some of the issues of difficulty in an article where educators actually gauged PLC practices as “a powerful, proven conceptual framework for transforming schools at all levels” (DuFour, 2007, p. 8). Professional learning communities in P-12 systems are definitely catching on, however, DuFour cautions about the use of these when not using best practices for meeting the needs of all students. The push behind the PLC movement has been school reform. The PLC does not, according to DuFour, circumvent any difficult routes to school improvement. It does not give a recipe, but instead is a framework for transformation for school improvement in the P-12 system, which engages teachers in their work collaboratively.

In the professional experience, many in-service teachers will be in formal or informal Professional Learning Communities with collaborative efforts as part of the work expected. When focused on the right things collaborative cultures are indeed powerful (Fullan, 2001). According to DuFour and DuFour (2012), there are advantages to team discussions which include greater clarity, consistence, common pacing, and greater ownership. In this discussion of the work of the PLC they are discussing the work towards P-12 student learning.

Professional development school model. The critical elements for engagement in school improvement efforts and effective school development partnerships were highlighted in a Doolittle et al. (2008) article *Creating Professional Learning Communities: The Work of Professional Development in Schools*. There are challenges within the standards-based reform work that has been happening in schools. A professional development school according to these authors is one in which the University faculty work in conjunction with the faculty and staff at local schools so that their teacher candidates can spend a great deal of time working and reflecting upon experiences with their clinical teachers. Teachers involved within the K-12 system may also be in charge or co-teach pedagogy courses for teacher candidates within the college facility. Discussion of learning communities in this context includes functioning in partnerships with the entire school community and stakeholders whom are outside the school building. Within this work, there are seven intentions in which members of the learning community need to engage. These seven intentions discussed by Doolittle et al. (2008, p. 306) include: (a) idea of a common purpose, (b) viewing peers as colleagues,

(c) looking for self as well as group actualization, (d) also viewing outside groups like your own, (e) reflection, (f) seeking help, and (g) celebrating all accomplishments as a group and as an individual. When all interested groups focus on mutually agreed upon educational initiatives and work towards using a systemic change model, these professional development schools can have great accomplishments.

One example shared by Doolittle et al. (2008) of using a professional development school model was to respond to improving the learning climate of a secondary school. All stakeholders were charged with investigating the idea of piloting a ninth grade learning community. The school had previously been resistant to change. There was initial resistance to changing or transforming the complex high school schedule into small learning communities for the incoming ninth graders. University faculty kept the discussion centered on the mission, vision, and learner outcomes to be accomplished. The group was navigating through the maze of best practices under the tutelage of the University faculty. After identifying crucial factors to success, they initiated learning communities in the fall of 2007.

Learning Communities in Higher Education

Learning communities in undergraduate programs. One use of a learning community in higher education is in the first year experience. Freshman learning communities (FLCs) are designed to socialize, integrate and retain new college students (Jaffee, 2007). There is research to support this academic success according to Jaffee (2007) who indicated that there are four arguments for these FLCs. First, students learn best when they can make interdisciplinary connections to the content information across

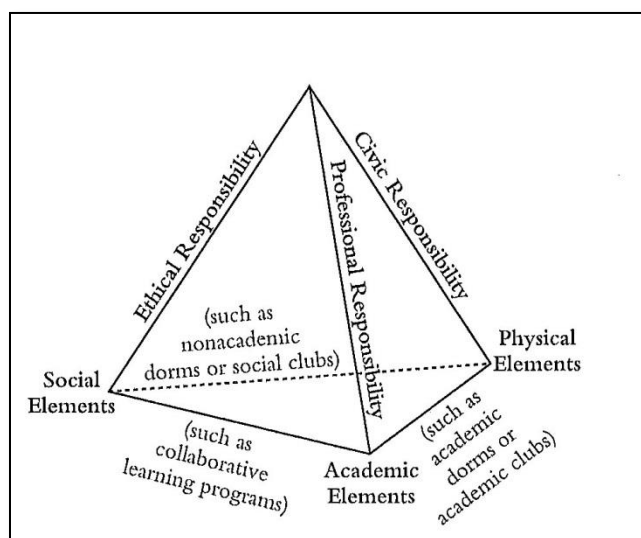
courses. Second, learning is enhanced when students can engage with their peers. Third, engagement in learning enhances understanding and fourth, students perform better when they can have meaningful academic relationships with faculty. In most FLC groups, there are relatively few students engaging in an academic protocol for the first year experience. This can vary from one course to several courses within the same cohort. Jaffee (2007) stated, “there is now considerable evidence that FLCs enhance student retention rates and academic performance” (p. 66). Students can benefit from the learning community experience.

Rocconi (2011) in his research indicated that a growing number of institutions are implementing learning communities in the first year experience. For the purpose of Racconi’s study, the definition of learning communities was specifically a cohort of students who were involved in an intentional course of study. Indications are a “higher level of engagement for students who participated in learning communities” (p. 179). General conclusions of Racconi’s research are that the “findings tend to corroborate previous research. Findings suggest that learning community participation is strongly related to engagement” (Rocconi, 2011, p. 188). Educational gains are made when students are engaged and students are more likely to be engaged when they are part of a learning community. Rocconi suggested that further research is needed not only in the results on educational outcomes from participation in learning communities but also in the unintended results of increased engagement and the role learning communities play in increased success.

Rocconi (2011) shared that membership in a learning community does not play a role in the students' perceptions of the college environment. "Participation in a learning community was most strongly related to interactions with student acquaintances, followed by effort in their coursework, and then interactions with faculty members" (pp. 188-189). The role of the learning communities described by Rocconi are to establish cohort groups of learners as support for each other as they engage in learning within the collegiate setting.

Learning communities at Indiana University-Purdue University Indianapolis have gone through a number of changes since their beginnings. Authors, Evenbeck and Borden (2001), discussed learning communities as a part of the first-year seminar implanted at Indiana University in the 1980s. Full-time faculty were not involved in the programs but were supported largely by staff and other personnel as an orientation to new students. In the mid-1990s faculty met weekly to "develop initiatives to serve entering students" (Evenbeck & Borden, 2001, p. 4). By the summer of 1996, a campus team began a campus-wide strategy to support achievement. This led to the Faculty Council approving the formation of a new program to support first year students. Initially a pilot program, which began by July 1998, became their signature program. This program included comprehensive assessment practices including skill, enhancing academic and faculty connections, and qualitative assessment of learning communities. Learning communities at this university were limited to first-year students and an orientation seminar.

Aaron Brower and Karen Dettinger (1998) further defined and discussed a model of learning communities in their 1990 article. They stated that a learning community must be large enough to accomplish goals and include all members who wish to join. “Above all else, the development of learning communities must be idea driven: we must think comprehensively and conceptually about the goals, purposes, and program components of these communities – making choices about their strengths and emphases” (Brower & Dettinger, 1998, p. 17). These authors shared a pyramid model of the learning community as shown in Figure 1.



Source: Brower & Dettinger (1998, pp. 17). Copyright 2003 by EBSCO Publishing. Reprinted with Permission.

Figure 1. Learning community pyramid.

The bottom triad indicates social elements, academic elements, and physical elements.

The hypotenuses of each triad model are the ethical responsibility, professional

responsibility, and civic responsibility, each of these forms the edges of the pyramid. Academic components of the learning community included the curriculum content while the social component included interpersonal relationships between the students, between the faculty, and with each other. Finally, the physical component was the place on campus in which a learning community resided. Pedagogically these learning communities fundamentally were the cohort groupings within a traditional college. This could be identifiable for freshman, for individual majors, or could be based on the residency of the individuals involved. These learning communities were not only formed to increase the content understanding of curricula but also to promote professional, civic, and educational responsibilities of learners. The authors acknowledged that there was indeed overlap in these three general areas and they could be facilitated through civic learning as well as academic content.

“We have intentionally designed this pyramid model to create a comprehensive definition of learning communities that is somewhat restrictive” (Brower & Dettinger, 1998, p. 18). Four learning community models were identified. First is the Bradley Learning Community from the University of Wisconsin at Madison; these learning communities were based on residence halls. There is little emphasis on academic dimensions, these instead focus on civic and the responsibility portion of the original mission of the college. The second learning community discussed, was from the University of Oregon. These communities have more widespread use, than the original freshman interest group programs, which linked three courses around a pre-major topic with a cohort of approximately 25 students. These students were together in the first-

year seminar. The focus was on integrating academic and social elements to enhance professional ethical responsibility. Two examples of other programs to be placed high within the pyramid were degree granting residential programs in which classrooms and faculty offices were both housed within the residence facilities. Two schools, James Madison College at Michigan State University and the residential college at the University of Michigan, used the Bradley learning community model that was designed to focus on civic and ethical responsibility and not professional development. However, these residential colleges explicitly had a comprehensive liberal arts college program. “Developing programming that encourages students to learn together and interact with one another and with the faculty” (Brower & Dettinger, 1998, p. 20), students of these residential colleges participated in a comprehensive learning community. There were six characteristics identified by the authors as common to all learning communities:

1. A sense of group identity is developed for all participants and they recognize each other as learners,
2. A space in which people come together to engage in specific learning activities,
3. A supportive environment that engages students in the life of the institution,
4. Integration of social and academic experiences,
5. Interconnections of disciplines,
6. Providing a context for developing complex thinking skills including critical thinking. (Brower & Dettinger, 1998, p. 20)

Authors Zhu and Baylen (2005), in their article, *From Learning Community to Community Learning: Pedagogy, Technology and Interactivity*, an exploration of pedagogical approaches was completed. When you examine learning communities and identify the term, you find it has been “used to refer to a number of approaches, as models and learning environments” (p. 253). Identifying one use of the term or one

approach is impossible as the use of the term, learning communities, has been used in many areas of curricula and pedagogical approaches. The researchers stated that learning communities are an innovative approach to both teaching and learning and this approach is an innovative way to acquire common knowledge and improve their academic performance (Zhu & Baylen, 2005). The researchers' aim was to identify communities of practice, which were informal networks, and community learning which offered opportunities outside the educational setting.

Professional learning communities in pre-service teacher education

programs. Early use of grouping teachers was documented by Nattiv, Winitzky, and Drickey (1991) with cooperative learning groups described in the early 1990s. Although not the same as a professional learning community, these groupings laid the foundation for pre-service teachers to work in teams. As a result of instructional strategies focused upon cooperative learning, students in teacher education in Utah were part of roundtables, pairs-check, and group investigation as some of the implemented strategies. Part of the rationale for using these cooperative groups was that the researchers were modeling effective practice stating that “students are more likely to use methods that they have experienced” (Nattiv et al., 1991). The researchers offered learning style differences as a component of the implementation rationale as well as a philosophical and societal need. Citing Dewey's (1938) philosophy, as an impetus for cooperative learning, including the need to have teacher education programs model appropriate practices, advocated in public education, offers a democratic element to group learning in schools.

Similar to the work with in-service teachers, Utah researchers identified early implementation ideas used in the cooperative learning groups (Nattiv et al., 1991). First, pre-service teachers needed a strong rationale for the use of these groups, as it was a step away from traditional higher education work. Creating groupings that were as diverse as possible was the goal of the research, but participants in education were a very homogenous group so results were minor. Teams of students spent time team building, which was an element of the incurrent PLC work as well as building personal accountability, also a PLC tenant. These strategies were used in 35 methods classes although they were adapted for each course.

One study from the state of Montana (Dolezal, 2008) found that there was not widespread use of professional learning communities in pre-service teacher education. “However, the people that use them find perceived benefits and successes in them” (Dolezal, 2008, p. 77). The study was looking for the relationship between professor tenure and efficacy in using a professional learning community format. There was no significant difference in the level of instructor experience and the benefits of using professional learning communities in teacher education.

Another article discussed the need for improved pre-service education practices as candidates learned to understand the pedagogy of teaching as well as the pragmatic understandings that come from experiential learning. In this area, Hollins (2011) discussed that a collaborative environment, “encourages candidates to develop a more holistic perspective on the meaning, purpose, process, and content of their practice as teachers” (p. 401). There is a need for candidates to work collaboratively to change the

deficit thinking about student performance based on social class. By “working collaboratively to construct knowledge of the relationship between learner characteristics, pedagogical practices, and learning outcomes, teachers were better able to facilitate learning for these students” (Hollins, 2011, p. 402).

Hollins (2011) reported that although teacher preparation schools have developed cohorts for learning, these have provided emotional support but have not supported professional growth. Suggestions in the article were to have pre-service cohorts in deliberate preparations “of candidates for participating in professional communities” (Hollins, 2011, p. 402). Participation in a professional community engaged the candidates to work collaboratively and improve learning outcomes for students. Teacher preparation has a challenge to engage candidates to learn the professional discourse and practices of the P-12 classroom. Professional learning communities can provide that context for pre-service teachers. Hollins (2011) had three areas in which the learning for candidates was reciprocal and interconnected. A PLC can guide learners and work toward overall understanding of the educational process of teaching and learning in these areas. Areas of focused inquiry, direct observation, and guided practice were the fundamental areas for learning according to Hollins (2011). She concluded by stating that, “The practices in the preparation of teachers for quality teaching, at the core, mirror those which candidates are expected to apply in PK-12 schools” (Hollins, 2011, p. 405).

In current teacher education programs, there is evidence that using a constructivist model for teaching and learning is a current methodology. Teachers,

according to Gordon (2008), need to be connected to both the subject they are teaching and the students whom they teach. “The capacity for connectedness is more integral to good teaching than technique and that when teaching is reduced to technique, something is lost” (Gordon, 2008, p. 323). Gordon stated that pre-service teacher education programs must enable the candidates to work to construct their own knowledge of deep understanding of pedagogy, content, and dispositions; they must also have a strong sense of self. This sense enables the connection to the students once in their own classrooms. As candidates work towards completion, it is critical as learners that they become “active, scholarly participators in the learning process” (Gordon, 2008, p. 324). This includes dialogue with other candidates and a sense of the subject matter with exposure to many sources of information. Although Gordon does not highlight the use of a professional learning community within the pre-service experience, his work on constructivist teaching and learning has similar goals to the work in the PLC. He stated, “When used correctly is neither teacher centered nor student centered but rather learner centered. A constructivist classroom is one in which there is a balance between teacher and student-directed learning and requires teachers to take an active role in the learning process, including formal teaching” (Gordon, 2008, p. 325).

A descriptive account of a professional learning community established between University professors, University teacher candidates, and a school district supervisor included the teachers of a high school partnered to create a learning community that emphasized collaboration and innovation. The purpose of this learning community at six high schools in Michigan was to improve student learning. During this study, “Wells

and Feun found that the teachers were not trained to cooperate on issues of student learning, and they were so used to working autonomously that they did not want to disrupt the status quo” (Jetton, Cancienne, & Greever, 2008, p. 328). During the study, the University professors served as liaisons to sustain the professional relationship among the University and the district. A total of three partnerships, two informal and one formal served as the basis for the teaming between the University and the local public schools. This partnership began because of a professional relationship between the authors and an assistant superintendent of the district. There was a focus to provide professional development to teachers by the school district in areas of reading and writing to foster student success prior to this professional learning community’s relationship. During this time at the beginning of the work, the group (Jetton et al., 2008) established a vision of literacy, which included: (a) Literacy is constructive (b) Literacy is fluent, (c) Literacy is strategic, (d) Literacy is motivated, and (e) Literacy is a lifelong pursuit (pp. 330-331). After developing the definition of literacy, the team began restructuring the organization of the high school from academic disciplines to teams developed around student academic achievement levels. As student populations became more diverse, the team understood the need for some restructuring to accommodate the diverse needs of the students. After restructuring the departments, the team had a need to restructure the curriculum for student success, indicating a need for curricula materials to be written on the students’ reading levels. “We wanted to make sure that the texts were interesting, but not insulting in their simplicity because the text needed to be added to the first through fourth grade reading levels” (Jetton et al., 2008,

p. 333). After the coaching teams were established, they began including undergraduate students as part of the faculty learning community at the high school. Undergraduate students were pre-service teachers who benefited by learning to administer literacy and Limited English Proficient (LEP) assessments in an authentic school setting. There was an expansion to include more University teachers and they worked together to create a community University classroom for the English-language arts methods course which included a practicum. Students in this pre-service experience were not directly included in the goal setting and understanding of student achievement during the professional learning community meetings. However, they were allowed to accompany the cooperating teachers to these professional learning community team meetings. University students became an integral part of the faculty, attended school faculty meetings, and worked with students in the classrooms. The benefits to these pre-service teachers included, “game knowledge and increased their effectiveness in many ways. They increased their knowledge of students’ literacy needs, the literacy curriculum, and the affected teaching practices for enhancing the literacy abilities of many students at this high school” (Jetton et al., 2008, p. 334).

During the clinical experience at Hastings College, pre-service teachers participated in Candidate Learning Communities (CLC). This opportunity was described in the Hastings College Catalog in the following manner:

All teacher candidates enrolled in Ed 340 (elementary) or Ed 350 (secondary and K-12) are assigned to a Candidate Learning Community (CLC). CLC participation is a required component of the clinical experience. CLC groups are modeled after Professional Learning Communities (PLCs). The term ***PROFESSIONAL LEARNING COMMUNITY (PLC)*** describes a collegial

group of administrators and school staff who are united in their commitment to student learning usually in a P-12 setting. (Hastings College, 2014, p. 29).

Participation in a Candidate Learning Community is unique to Hastings College as a part of the clinical experience. This experience involves being assigned in a CLC by supervising professors, working collaboratively with group members throughout the term, developing lessons and projects with these same group members, and peer reviewing videotaped lessons from clinical placements among other tasks.

Summary

Pre-service teacher education programs have used some aspects of a professional learning community, but no research is established to ascertain the impact using a Candidate Learning Community in such a setting. Teams of pre-service teachers who work throughout the semester of a Clinical experience and their perceptions of their growth have not been researched. This study will add to the literature on the topic of teaching skill and dispositional understanding of the pre-service teacher in the third year of the professional sequence of course work. Additionally, the impact of using Candidate Learning Communities will be offered because of this study.

Chapter 3

Research Design and Methodology

Introduction

This mixed methods study addressed perceptions regarding the understanding of teaching skills and professional dispositions of pre-service teachers during their clinical term while participating in Candidate Learning Communities. The rationale for using a mixed methods study was that neither quantitative, nor qualitative methods were sufficient by themselves to describe completely the details of the learning communities and their value in the clinical term. In this study, the use of mixed methods enhanced the understanding of the quantitative data with a qualitative follow up. The study took place at Hastings College, in Hastings, Nebraska. This study examined perceptions of Elementary and Special Education majors before and after the clinical experience while participating in a learning community unique to Hastings College known as Candidate Learning Communities.

This study examined the use of candidate learning community groups to determine the individual understanding of both the teaching skills and the professional dispositions necessary for teacher candidates. Factors within the teaching skill understanding included: (a) lesson plan design connected to the assessments used by the teacher as well as the lesson objectives designed in the introductory part of the lesson, (b) to what extent do pre-service teachers understand the alignment of standards to lesson objectives as well as specific lesson design components, (c) the understanding of pre-service teachers with the check for understanding, guided and independent practice,

and the use of differentiation within the lesson for teaching, and (d) how candidate-learning communities help students understand the necessity of developmentally appropriate practice, within the lesson design and implementation of lessons.

Another area within the consideration of teaching for pre-service teachers is the understanding of classroom management: (a) Does the candidate learning community enhance the understanding of basic classroom management skills, including positive classroom management, multiple management strategies, engagement strategies, and strategies that enhance individual learner needs? and (b) does the pre-service teacher engage parents in the classroom?

In the area of professional dispositions, three general factors were included in the study: a collaboration, communication, and professional judgment. Focused on two questions: (a) to what extent do candidate learning communities enhance and improve the perceptions students have of their own pedagogical and dispositional learning's, and (b) what factors used during the candidate learning communities work together to specifically enhance the learning as perceived by these pre-service teachers?

In this study, teacher candidates majoring in Elementary and Special Education participated in Candidate Learning Communities with peers while enrolled in only courses in their major and the clinical experience. These majors were chosen as they participate in four courses together as well as the clinical experience allowing frequent opportunity to interact as a learning community. The group of pre-service teachers majoring in Elementary Education takes the following courses: Children's Literature, Methods of Teaching Social Studies, Reading, Language Arts and Classroom

Management. The Special Education majors take the following courses: Children's Literature, Methods of Teaching Social Studies, Reading, Language Arts and Characteristics. In the specified coursework, there are 12 credits students take together, and then the Elementary and Special Education majors each take one course different from each other. During this set of fourteen credit hours, as well as the time spent in the cooperating classrooms, the students have a good deal of time together as well as shared learning opportunities. Four professors teach this set of courses.

An exploratory sequential mixed methods design was used, with quantitative and qualitative data collected in the initial phase, at the beginning of the term and a follow-up survey at the end of the term. Quantitative data was collected using closed questioning survey methods and qualitative data was collected within the surveys with open-ended questions. After these results were analyzed, eleven students were selected using a systemic selection process and the researcher interviewed these participants individually about the experiences in the CLC, to help give meaning to the results of the longitudinal quantitative study. In this study, pre- and post-survey data was analyzed to compare pre-service teachers' perceptions of their skill related to skill and professional disposition. The qualitative data was derived from both the survey information, at the beginning and end of the term, as well as the interviews at the conclusion of the clinical term and helped describe the impact of Candidate Learning Communities on the skills of the pre-service teacher. The reason for eliciting both quantitative and qualitative data was to validate results.

The study focused on the perceived skills of the pre-service teacher from the beginning of the semester in the clinical term to the end of that term. Two areas of interest within this term were identified in the study; one was instructional skill, which included lesson design, lesson delivery, and classroom management. Professional dispositions was the second area of interest, specifically, collaboration, communication, and professional judgment will be examined. In these collaborative learning groups, pre-service teachers interacted with their peers as well as their professors in several types of groupings, but the main grouping used in this semester was in the CLC. Candidate Learning Communities are unique to the teacher education department at Hastings College and used during the clinical term until graduation.

In this chapter, the methodologies of this study were discussed. First, the overall design of the study was shared. Next, the methodology for the quantitative portion of the study was described, followed by an explanation of the qualitative methods. Then the population for the study as well as the sampling method was presented. The method for data collection and its analysis will be discussed. Lastly, the limitations of the study will be examined.

Design

This study used an explanatory sequential mixed methods (Creswell & Plano Clark, 2011, p. 4) design, which combined elements of qualitative and quantitative research approaches to understand the problem more completely. In this sequential procedure, the researcher sought to elaborate on the findings of the quantitative research approach with follow-up qualitative research. Creswell (2003) stated, the “study may

begin with a quantitative method in which theories or concepts are tested, to be followed by a qualitative method involving detailed exploration with a few cases or individuals” (Creswell, 2003, p. 16). This explanatory sequential mixed methods design involved collecting primarily quantitative data first and then explaining the quantitative result with in-depth qualitative data. In the first, quantitative phase of the study, pre and post survey data was collected from pre-service teachers involved in their clinical term at Hastings College to describe the use of learning communities in educational skill and professional dispositions. The qualitative phase was conducted throughout the experience including the collection of individual open-ended survey results. In this exploratory follow-up, the researcher explored Candidate Learning Community experience with pre-service teachers during their clinical semester using individual interviews. The impact of the use of the Candidate Learning Communities, unique to Hastings College, was examined using this mix-methods approach.

Hastings College is a liberal arts four-year private, co-educational, residential, Presbyterian-related liberal arts college. This school is located in Hastings, in South Central Nebraska, a city of 25,000. Hastings College offers three degrees, Bachelor of Arts, Bachelor of Music and Master of Arts in Teaching (MAT). A variety of majors within these degrees exists.

During the study, participants were asked to complete a longitudinal survey at the beginning and end of the 15-week experience. After the data was analyzed, the researcher invited 11 of participants to take part in an individual interview. These interviews were conducted to obtain an in-depth understanding of the quantitative results. Determination

of individuals was by systemic selection. Participants were ranked using a normal distribution as represented with a bell curve based on the results of the quantitative data. A random start number was used to identify a participant in the bottom half of the bell curve and a participant in the top half of the bell curve. Additional participants were selected by identifying every third person in rank order, this continued until three to five participants in each half of the bell curve had been identified as well as a minimum of two participants from each CLC. Participants, who were selected but were unable to participate in the individual interview, or did not volunteer to participate, were replaced by a participant adjacent to that individual on either side within the rank order list.

Teacher education students in the clinical term participated in 14 credits. One credit in the fall is the Clinical experience itself. These students are a cohort of future elementary and special education teachers and were grouped into smaller CLC groups during this term. Five groups were created with 3 to 4 participants in each group; overall, there were 18 students in the clinical experience during the fall term. There were 3 professors and 1 full time instructor who taught during the clinical term. Courses included: Elementary Clinical, Children's Literature, Classroom Management or Special Education Characteristics, Teaching of Language Arts, Developmental Reading/ Methods of Teaching Reading, and Methods of Teaching Social Studies.

Quantitative methods. During the quantitative first phase of the study, the following research questions were used to guide this study's investigation. This pre- and post-survey is shown in Appendix A. This survey was given to the participants at the beginning of the clinical experience and again at the end of the clinical experience. These

surveys were administered electronically using an on-line survey tool called Qualtrics and will include both quantitative and qualitative questions. The first survey was given within the first week of Clinical before participants had been in the cooperative elementary classrooms or worked in the coursework of the term. The follow-up survey was given during the last full week of courses in the semester. All members of the Clinical Experience were invited to participate. The researcher used this survey tool to help describe the results to these questions:

- To what extent has there been growth in instructional skills understanding in the clinical term for elementary and special education pre-service teachers? If so, how much?
- To what extent has there been growth in professional dispositional understanding in the clinical term for elementary pre-service teachers? If so, how much?
- Is there a relationship between the amount of time spent by a pre-service teacher in a Candidate Learning Community (CLC) and the perception of the quality of the clinical experience?
- Does participation in a CLC impact a pre-service teacher's perception about specific teaching skills when enrolled in a clinical experience?
- Does participation in a CLC impact a pre-service teacher's understanding of teaching dispositions in a clinical experience?

Analysis strategy. In the process of designing the quantitative survey instrument, the researcher conducted a Content Validity study. A professor in teacher education

reviewed the survey as a critic who is an expert in the education field. The researcher also located a teacher in the public K-12 school, who looked at the survey as someone who has worked with clinical students and has been a long time participant in a Professional Learning Community herself. A third former staff developer at the Educational Service Unit validated the survey tool as well.

For the purpose of reliability, the researcher constructed an Alternate-Form reliability study on the quantitative survey. Pre-service teacher volunteers completed the survey and the results of those responses were compared. During the analysis of the survey result, the pre and post data of the Candidate Learning Community participants underwent a paired t-test analysis. Analysis continued using a calculation of the Cohen's d as well as calculating the effect size of the study. Paired tests were used when the data was collected from the same subjects by comparing them before the treatment, with themselves after. Subject personal communications were compared before and after the clinical term to determine the differences. These results determined the selection of individuals to participate in the individual interviews. These interviews helped to explain the data collected from these initial quantitative and qualitative questionnaire results.

Qualitative methods. During the first quantitative portion of the research, several qualitative open-ended questions were included on the post surveys. During the second phase of the research, the qualitative research portion, individual interviews were organized to discuss the qualitative questions to obtain a greater understanding of the experiences of students in Candidate Learning Communities to support the quantitative results.

Determination of individuals were in a systemic selection. Participants were ranked using a normal distribution as represented with a bell curve based on the results of the quantitative data. A random start number was used to identify the first participant in the bottom half of the bell curve and the first participant in the top half of the bell curve. Additional participants were selected by identifying every third person in rank order, this continued until four participants in each half of the bell curve had been identified. A participant adjacent to that individual on the rank order list substituted participants, who had been selected but were unable to participate in the individual interview.

Interviews were used, as it “is necessary when we cannot observe behavior, feelings, or how people interpret the world around them” (Merriam, 2009, p. 88). The researcher following the interview protocol (Appendix B) conducted these individual interviews. This included “the largest part of the interview guided by list of questions or issues to be explored” (Merriam, 2009, p. 89). Other identifiers of this type of interview, which were beneficial according to Merriam (2009), were tested in the interview protocol. The information is part of the constructivist perspective, which permeated this study. This researcher was interested in obtaining added insight using the following questions:

- How did pre-service teachers describe the way they are engaged in Candidate Learning Communities?
- What role did participation in a Candidate Learning Community play in increased personal and professional understanding of teaching skills and dispositions?

- What was the benefit(s) of participation in a Candidate Learning Community?
- Within the Candidate Learning Community, what types of experiences were attributed to furthering the success of pre-service teachers as an individual as well as a member of a team?

Analysis strategy. For validity and reliability in the qualitative portion of the study, the researcher used a rich, thick description in the narrative to provide “enough description to contextualize the study such that readers will be able to determine the extent to which their situations match the research context, and, hence, whether findings can be transferred” (Merriam, 2009, p. 229). During the organization of the individual interviews as well as the qualitative analysis of the research, the researcher used peer review and examination as a strategy for promoting validity and reliability. Merriam (2009) described the strategy as one in which there are “discussions with colleagues regarding the process of study, the congruency of emerging findings with the raw data, and tentative interpretations” (p. 229).

Population and Sample

At Hastings College, the education majors make up about 25% of the total college enrollment. This number was about 300 students in the 2013-2014 school year with approximately 60 students enrolled in their clinical term each fall semester within the education department. This enrolled population includes both the secondary and the elementary education majors. These 60 students represent the population group of this study. To be eligible to be in the clinical term, students had junior status, passed the Praxis I exam (in compliance with the Nebraska Department of Education guidelines),

had a 2.5 GPA, and had four positive recommendations from faculty across campus, two of whom came from the major field of study. All students who were in the clinical term and past it have been accepted into the teacher education program and have met these criteria. Of these students, the range of majors within education included Music Education, Math Education, Social Science Education, Special Education, Elementary Education, English Education, Middle Grades Education, Art Education, Science Education, and Physical Education.

The sampling of all students enrolled in Elementary Clinical in the fall term was asked to participate. This was a required course for students in both Special Education and Elementary Education. Participation was voluntary, with 15-35 students in any given fall term. The human subject informed consent protocol was followed. Only Elementary and Special Education students were selected for this study. These majors participated in a specific course of study in the fall of the junior year of their college experience. This course of study was designed as a holistic undertaking in which participants learned from theory in the college classroom and then worked to see the theory in practice within the clinical classroom. Pre-service teachers in the Hastings College program put in a minimum of 45 hours in the P-12 classroom during the one credit hour clinical experience, but within the context of the elementary pre-service program students put in between 110-180 hours in the P-5 classroom during the clinical placement. Students were placed in small groups called Candidate Learning Communities (CLCs) to study the teaching skills and theory used in elementary education. Grouping was intentional using a socio-graph system and combined Praxis scores, for creating groups that had a balance of

abilities as well as social providence. Not only did students have class time with these peers, but they also had required weekly meetings with their CLC outside of the school day. Course time with the instructor of record also took place in the large class setting to discuss the issues within the school day and the understanding of teaching skills that happened in the semester. These class meetings occurred weekly for one hour.

Students engaged in this pre-service teacher work had the following similarities in their course content. Students enrolled in their Elementary Clinical (110-180 hours in the classroom with an in-service teacher), two language arts courses, one children's literature course, one social studies methods course and either classroom management for elementary education majors or a characteristics course for special education majors. Clinical requirements included classroom hours, journaling weekly, teaching of lessons, and one hour per week for discussion group.

Data Collection

Data was collected at the beginning of the experience using a quantitative electronic survey. This survey was administered prior to beginning the coursework and the clinical experience, and participants were placed in learning communities as part of this experience. The candidate teachers participated in both courses and clinical hours in a regular education setting and participate in a similar electronic quantitative and qualitative survey at the conclusion of the term. Participants also took part at the end of the semester in individual interviews conducted by the researcher as part of the study.

Survey links were emailed to participants in the clinical term and reminders of the survey were sent out within five days of the original survey. Participants were asked to

complete the human study consent form before they are asked to complete the initial survey. A post study survey was administered at the conclusion of the term using the same delivery method.

Limitations and Delimitations

Limitations of this study must be considered. First of which is the relationship of the researcher to the study. This researcher is part of the clinical term for all education students at Hastings College, where the study took place. Acknowledgement of potential bias for the impact for learning from the researcher as the participants of the study will be positively impacted by the interaction with the candidate learning communities. Taking outcomes from this study and applying them to other institutions will be a general use of the results. Participants in this study had a unique circumstance with courses of study, size of the institution, and community, therefore making sweeping assumptions to other institutions, particularly larger institutions, will be challenging. Another limitation of the study was the limited nature of sample subjects. The number of this research sample was 17. With this limited number of participants, the researcher was working to nullify the problems of a small research sample with the use of a mixed-methods approach. This will helped provide validity to the study, but the sample size remained small none-the-less. The ability to generalize the results of this study may only be possible to a limited number of smaller institutions with a teacher education program similar to the one used in the study. Interpretations from this study need to be considered with great care.

Delimitations in this study must also be considered. Research was conducted on a population of students who are studying education. For the purpose of this study, the

research was focused on students majoring in Elementary and Special Education. Secondary Education majors were not chosen as the opportunities for interaction with their fellow students was limited to only five hours a week in the classroom and there was no intentional overlap in partner school placements. These limited interactions of fellow pre-service teachers have led to the selection of Elementary and Special Education majors. These pre-service teachers have purposeful overlap, which better represents the Professional Learning Communities used by in-service teachers. In addition, the research impetus is the assumption that collaborative environments help with engagement of participants in a deeper understanding of information. Use of the CLC groups within the teacher education program at Hastings College demonstrates a departmental understanding of holistic learning environments. In this study, there was bias on the part of the researcher toward collaborative teams working to enable deeper understanding. The researcher's curiosity lay in the evidence that these collaborative CLC groups influenced the achievement of the participants in specific ways. The Candidate Learning Communities have been in use at Hastings College since the fall of 2009, and the researcher interest lay in the understanding of the use of these groups.

Summary

During this study, participants completed a pre and post survey on teaching skill understanding and professional dispositions within the teacher profession. Participants were grouped into Candidate Learning Communities for the duration of the study. This study occurred during their clinical term while in their pre-service during the undergraduate experience. Selected participants were also interviewed at the conclusion

of the term individually to enable the researcher to better understand the survey results.

The mixed-methods study helped inform the researcher of how pre-service teachers increased their understanding of pedagogical learning and professional dispositions.

Chapter 4

Results

Introduction

The purpose of this study was to examine the relationship between the perceptions of teaching skill and professional dispositions of pre-service teacher education candidates' understanding of their own teaching skills. An exploratory sequential mixed methods design was used, with quantitative survey data collected in the initial phase, at the beginning of the term. Both quantitative and qualitative data were collected using a follow-up survey and qualitative data was collected using interviews at the end of the term. The study examined perceptions before and after the clinical experience while participating in a Candidate Learning Community (CLC). In this study, elementary and special education teacher candidates participated in CLCs, this group design is unique to Hastings College, with peers while enrolled in their experience. Elementary and Special Education majors were chosen as they participated in four courses together, as well as the clinical experience, allowing frequent opportunity to interact with their cohort as well as their own learning community.

Quantitative Research Questions

The following research questions guided this study's quantitative investigation.

- To what extent has there been growth in instructional skills understanding in the clinical term for elementary and special education pre-service teachers? If so, how much?

- To what extent has there been growth in professional dispositional understanding in the clinical term for elementary pre-service teachers? If so, how much?
- Is there a relationship between the amount of time spent by a pre-service teacher in a Candidate Learning Community (CLC) and the perception of the quality of the clinical experience?
- Does participation in a CLC impact a pre-service teacher's perception about specific teaching skills when enrolled in a clinical experience?
- Does participation in a CLC impact a pre-service teacher's understanding of teaching dispositions in a clinical experience?

Quantitative Survey Participants

Survey participants were selected based on registration in ED 340 Elementary Clinical in the fall of 2014, which is a required course for every Elementary and Special Education major at Hastings College. A total of 18 students were enrolled in the course with 17 students participating in the study. All the participants in the study were over the age of 19 and majoring in elementary education or special education. The demographic information can be found in Table 1. Of the 17 participants, 16 are female and 1 is male. There were 15 juniors and 1 senior at the undergraduate level, and there was 1 Master of Arts in Teaching (MAT) participant. All 17 participants were elementary education majors, 12 were double majors in special education, and three participants were also being endorsed in early childhood education. Students enrolled in the Elementary Junior Block took courses together and spent time in classrooms in the field to fulfill the

requirements of the Clinical. Students enrolled in this experience were also part of the CLCs of Hastings College Teacher Education Department, these groups are unique to Hastings College. Participants were divided into five candidate learning community groups with no more than four in each group.

Table 1

Demographic Data of Study Participants

Demographic Information of Participants $n=17$							
Year in School			Gender		Declared Education Major(s)		
Junior	Senior	MAT	Male	Female	Elementary	Special Ed	ECH
15	1	1	1	16	17	12	3

Quantitative Survey Instrument

Using Qualtrics software to disseminate the survey, a Likert scale survey was given to the participants at the beginning and at the end of the study. For the initial survey (Appendix A), participants rated their skill level on the items from 1 (not skilled) to 10 (very skilled). Questions 1 through 7 focused upon: (a) lesson planning, (b) assessment connected to lesson objectives, (c) alignment of standards to lesson objectives, (d) checks for understanding, (e) guided and independent practice, (f) developmentally appropriate practice, and (g) differentiation. Questions 24-26 also were in this group, covering how well participants were prepared in lesson delivery. These teaching skill items were grouped together with lesson planning as the topic. Next, the teaching skill topic was

classroom management with participants rating themselves on items 8 through 12 on positive classroom environment, including multiple management strategies, multiple engagement strategies, use of strategies based on learner needs and engaging parents in school. These questions 27 through 29 also pertained to the idea of classroom management techniques focused upon understanding, implementing, and using classroom management with actual students being addressed. These two sets of questions addressed classroom management. Finally, questions 13 through 23 as well as question 30 addressed the idea of professional dispositions. These questions identified dispositional competencies of working with others, communication skills, and general professionalism to their ability to display these professional dispositions inside and outside of the classroom. Each of these items on the survey had a 10 point scale. Participants were able to rate themselves on each of the 30 items.

Quantitative Survey Data Analysis Procedures

The quantitative survey data were downloaded from Qualtrics using Microsoft Excel (2010) and uploaded into SPSS (version 21.0) for analysis. The 30-item, 10-point Likert scale survey was analyzed for each phase of the study. Therefore minimum and maximum values and standard deviations were computed for each survey item as well as groups of items with similar ideas. Specifically, Cronbach's alpha was computed for each phase of the study, the results appear in Table 4. According to Santos (1999),

Alpha coefficient ranges in value from 0 to 1 and maybe used to describe the reliability of factors extracted from dichotomous and/or multi-point type point formatted questionnaires were scales. The higher the score, the more reliable the generated scale is. It is indicated that 0.7 is an acceptable reliability coefficient a lower threshold are sometimes used in literature. (1999, p. 2)

Table 2

Candidate Learning Communities Survey of Skills and Dispositions Reliability Coefficient by Survey Phase

Survey	α
Pre-survey	.98
Post-survey	.97

The reliability coefficients ranged from .97 to .98 which indicated a high level of reliability. The pre-survey rated a slightly higher rate at .98 while the post-survey rated slightly lower at .97 both are indicative of a reliable survey.

A dependent variable paired t-test was completed on the results of the survey instrument with the pre- and post-tests. Results are summarized in Table 3. This table identifies the t-test for all questions as well as a breakdown of each set of questions with in the survey. Using the t-test statistic helped to determine the p-value for each set of data. The overall t-test reading was 5.77 with a P value of $< .0001$ which is considered extremely statistically significant. Looking at each set of questions in the survey, three sets are equally statistically significant; set one which is about lesson plan design, set six which is also about lesson plan design, and set seven which is about classroom management implementation. Each of these sets of questions had the same p-value of $< .0001$. Other question sets' P values ranged from $< .0009$ to $< .0653$. These results are discussed in relation to each research question throughout the chapter. An analysis of Cohen's d was also compiled from the dataset, with an effect size for the overall survey, as well as each set of questions was compiled for both the Cohen's d and the effect size.

Table 3

Analysis of Candidate Learning Communities Survey of Skills and Dispositions by Question Set

	Question Set 1 Questions 1-7 Teaching Skills	Question Set 2 Questions 8-12 Classroom	Question Set 3 Questions 13-16 Dispositions	Question Set 4 Questions 17-19 Dispositions	Question Set 5 Questions 20-23 Disposition	Question Set 6 Questions 24-26 Lesson Plan Design	Question Set 7 Questions 27-29 Classroom	Question Set 8 Question 30 Dispositions	Overall For All Questions
Two-tailed p	<.0001	<.0037	<.0006	<.0162	<.0653	<.0001	<.0001	<.0009	<.0001
Effect Size	0.64	0.51	0.51	0.33	0.22	0.72	0.64	0.52	0.62
Cohen's d	1.66	1.19	1.17	0.71	0.44	2.07	1.68	1.24	1.59
t-test	6.4497	3.3952	4.2212	2.6881	1.9789	7.8495	5.2978	4.0749	5.77

These results are recorded in Table 3. The overall effect size of the survey was 0.62, which indicated a large effect size. In the table, it is evident that some question sets indicated a much higher effect rate than other question sets. These datasets will be explored within the appropriate respective question throughout Chapter 4.

Quantitative Results

In Table 4, the results are displayed from the CLC survey of skills and dispositions. These results included the pre-survey, which was given at the beginning of the semester, and the post survey, which was given at the end of the semester. The analysis below is a compilation of the quantitative measures from the Likert scale survey. With a mean change of 1.95 on a 10 point Likert scale and a standard deviation change of 1.39 on that same 10 point Likert scale; the results are a 0.62 effect size with the *Cohen's d* of 1.59. "*Cohen's d*, is the difference between the means of the groups being compared

Table 4

Overall Quantitative Study Results of All Items

All Participant Overall Quantitative Answers Instructional Skill and Dispositions All Questions			
	Pre- Survey	Post- Survey	Change
Mean	6.06	8.00	1.95
Standard Deviation	1.52	0.81	1.39
Effect Size	-	-	0.62
Cohen's d	-	-	1.59

given in standard score units or z scores” (Cooper & Hedges, 1994, p. 234). Effect sizes can be identified as “the percentage of the standard deviation that the difference in the mean scores represent. In discussing this difference, Cohen defined effect sizes as being ‘small’ (i.e., .2 or smaller, ‘medium’ (i.e., .2 and .5), or large (i.e., greater than .5),” (Terrell, 2012, p. 165). The effect size of 0.62 (Table 3) indicated that the study has a large intervention success. With an $n = 17$ in this study, the researcher is confident that the use of Candidate Learning Communities increased the individual’s ability to make gains in teaching skills and dispositions during the clinical semester. When comparing the effect size of this study with the standard understanding, a 0.2 effect size indicated a small intervention success, a 0.2 to 0.5 effect size indicated a medium intervention success and a effect size greater than 0.5 indicated a large intervention success. This study having a result of 0.62 effect size change indicates the use of these small group teams, called CLCs, have a positive impact on the learning of teaching candidates.

In Cohen's terminology, a small effect size is one in which there is a real effect-i.e., something is really happening in the world-but which you can only see through careful study. A 'large' effect size is an effect which is big enough, and/or consistent enough, they may be able to see it "with the naked eye." (Walker, 2007, p. 4)

Quantitative results by research question. Data results which address each quantitative research question are presented in this section of the chapter. Dependent paired sample t-tests were used to determine if the increase in the means from the pre-survey to the post-survey were statistically significant. Statistical significance was determined by a p-value of $\leq .0001$ (Table 3).

Quantitative research question 1. The first question asked was, "To what extent has there been growth in instructional skills understanding in the clinical term for elementary and special education pre-service teachers? If so, how much?" The results are shown in Table 3. This data included the instructional skills of teaching skill in terms of lesson plan design and classroom management from both the pre-and the post survey. The results of the first set of questions on the survey, instructional skills, included the following on lesson plan writing:

1. Lesson plan design
2. Assessment connected to lesson objectives
3. The standards connected to lesson objectives
4. Using checks for understanding
5. The use of guided and independent practice
6. Use of developmentally appropriate practices
7. Differentiation of curriculum for individual learners.

This dealt specifically with participants' knowledge of the instructional skills of lesson planning. Another area that was surveyed in this instructional skill category included a set of questions regarding classroom management. In this set of questions participants were asked to identify their skills in the following areas:

1. Positive classroom management
2. Multiple management strategies
3. Multiple engagement strategies
4. Uses strategies based on learner needs
5. Engages parents in school

These items dealt entirely with the knowledge of the participants in important classroom management ideas. In the second half of the survey, participants were asked to continue rating their skills on a Likert scale. These included more lesson plan questions which were focused upon:

1. Understanding lesson plan design
2. Writing a lesson plan
3. Teaching a planned lesson in the classroom

Participants were now evaluating their competence in implementing the knowledge from the classroom. Questions regarding classroom management were also asked. These included:

1. Understanding classroom management techniques
2. Implementing classroom management techniques
3. Using classroom management techniques with students

This set of questions completed the area of instructional skills.

Table 5 provides the analysis of this set of questions. The effect size of 0.66 again indicated a large significance of the use of CLC groups during the clinical term. This is a combination of both the confidence built in terms of lesson plan development, lesson implementation, as well as classroom management skills.

Table 5

Instructional Skill Survey Results – All Items

Instructional Skills All Questions		
	Pre-Survey	Post-Survey
Mean	5.04	7.58
Standard Deviation	1.76	1.05
Cohen's d		1.75
Effect Size		0.66

Participation in candidate learning communities during this term provided the participants with the opportunity to write lesson plans initially with their own small group and towards the end of the term as individuals. Peer evaluations were done on the group plans and individual plans, as well as instructor feedback were provided on all lesson plans. Participants had the opportunity within their Candidate Learning Community group to discuss exemplar lesson designs and to identify both strengths and weaknesses in their peer designed lessons. Students also had the opportunity to discuss classroom management techniques in college coursework, with the Candidate Learning Community teams and with their cooperating teachers in the school placements. Expectations of the

candidates included their practice of lesson plan design and implementation as well as classroom management in these clinical settings.

A summary of the analysis of the instructional skills in both lesson design and classroom management can be found in Data Table 6. Effect size result was 0.66, which indicated a medium to high effect. This combines the teaching skills of lesson design and implementation, as well as classroom management. Looking further into the results and disaggregating the data based on lesson design and classroom management, lesson design had an overall higher effect of 0.68 while classroom management, had an overall effect rate of 0.59. Both indicated a medium to high effect, but lesson plan design was clearly more effective for students participating in candidate learning communities than was classroom management. Looking further into the disaggregation of lesson plan design, participants rated their understanding of lesson plan design, which deals with their direct implementation in both writing and delivering lessons. Implementation of instructional skills had a much higher effect size rate of 0.72 than the knowledge of instructional skills which had an increase of 0.64. Again both are considered to be medium to high effect rates, but participants rated their understanding in one set much higher than the other set.

Within instructional skill, questions were also asked about classroom management and the understanding participants gained in the second set of questions. This set of questions included positive classroom management, multiple management strategies, multiple engagement strategies, the uses of classroom management based on learner needs, and the engagement of parents in the work of the school. These results are summarized in Table 6. The effect size of the classroom management work was 0.59,

indicating a medium to high impact by the size. Within this overall score there were two subsets including the understanding of classroom management and implementing classroom management techniques. Again understanding had an effect rate of 0.5,1 which is a medium effect rate. Implementation had a higher effect rate of 0.64, which indicated a medium to high impact on study participants' perception of their skills.

Table 6

Instructional Skills Survey Results by Category

Instructional Skills Overall and Disaggregated Data based on Lesson Design and Classroom Management							
	Instructional Skills All Questions	Instructional Skill- Lesson Design	Instructional Skill Understanding Lesson Design	Instructional Skill Implementing Lesson Design	Instructional Skill – Classroom Management	Instructional Skill Understanding Classroom	Instructional Skill Implementing Classroom
Pre-Survey Mean	5.04	4.81	4.74	4.98	5.32	5.55	4.94
Post-Survey Mean	7.58	7.66	7.50	8.06	7.47	7.44	7.53
Pre-Survey SD	1.76	1.85	1.96	1.72	1.80	1.97	1.88
Post-Survey SD	1.05	1.17	1.31	1.21	1.04	1.09	1.10
Cohen's d	1.75	1.84	1.66	2.07	1.46	1.19	1.68
Effect Size	0.66	0.68	0.64	0.72	0.59	0.51	0.64

Quantitative research question 2. The second question asked was, “To what extent has there been growth in professional dispositional understanding in the clinical term for elementary pre-service teachers? If so, how much?” The results are shown here in Table 7 the effect size of the dispositional portion of the survey was 0.43, which indicated a medium to high effect. Areas of dispositions, which were part of the survey,

included questions on working with others, communication, professional demeanor, and displaying a professional disposition. Participants rated their perception of efficacy in this area initially with a mean of 7.04 on a ten-point Likert Survey, with an increase of 1.21 to 8.25 in the post survey. Not only was the effect rate high, but their personal perception of their own skill in this area was high.

Table 7

Overall Dispositions

All Dispositions			
	Pre-Survey	Post- survey	Difference
Mean	7.04	8.25	1.21
Standard Deviation	1.57	0.86	1.26
Effect Size			0.43
Cohen's d			0.96

One area within the dispositions on the study survey was working with others. This area included the following prompts: working with other teachers, working with parents, conflict resolution strategies, and accepting differences. In this area, the scores of the pre-survey were quite high with a mean 8.32 on the ten point Likert Scale. A post survey mean on these same items was 8.93, which is a high score as well in this scale. An effect size of 0.22 from this section of the survey indicated a lower effect on this particular area of dispositional understanding in the pre-service educator perception. In the range of 0.2

to 0.5, a medium effect rate indicated there was a medium effect when using CLCs to improve dispositions in the area of working with others during the clinical term. Mean scores indicated there was little room for growth in this area and thus could correlate to the lower effect rate in these dispositional considerations.

Table 8

Dispositions – working with others

Dispositions - working with others			
	Pre	Post	Differences
Mean	8.32	8.93	0.60
Standard Deviation	1.70	0.96	1.26
Effect Size			0.22
Cohen's d			0.44

In the area of communication skills within dispositional understanding, there was an effect size of 0.33 which scores within the medium range of 0.2 to 0.5 effect size as seen in Table 9. This area included communication skills only and questions from the survey included: written communication, oral communication, and listening to others.

Participants rated themselves lower initially than the working with others dispositional section identified in the previous table (Table 9) with a mean of 6.86 in the pre-survey on communication skills and a mean of 7.94 on the post survey. Again this medium effect

Table 9

Dispositional Skills – Communication

Dispositions – Communication			
	Pre	Post	Differences
Mean	6.86	7.94	1.08
Standard Deviation	1.84	1.10	1.65
Effect Size			0.33
Cohen's d			0.71

rate indicated that there was some significance to using the learning communities during the clinical term within the area of dispositional skills as they related to communication.

In Table 10, the dispositional skills of professionalism, participants rated themselves in the pre-survey initially quite high at 8.32 on the 10 point Likert scale with a postal survey mean of 8.93 on that same scale. The effect size was on the lower end of the medium effect rate with an effect size of 0.22. This was just in the range of 0.2 to 0.5 which indicated a medium effect rate. The items within this section of dispositional understanding included the following professional skills: confidentiality, integrity, punctual and attentive, and appearance, dress, and demeanor. Participants rated themselves in this section close to the top of the scale. And although the difference in the mean is only 0.60, there still was some movement of effect size (0.22) within this small area of dispositional understanding in the clinical term.

Table 10

Dispositional Skills – Professionalism

Dispositions – Professionalism			
	Pre	Post	Differences
Mean	8.32	8.93	0.60
Standard Deviation	1.70	0.96	1.26
Effect Size			0.22
Cohen's d			0.44

Performance of dispositional skills both inside the school setting and outside of the school setting is represented in Table 11. Participants rated themselves with a mean of 7.18 in the pre-study survey and a mean in the post survey of 9.00. The effect size in this area of dispositional skills was in the high effect range of 0.5 to 0.8, with an effect size of 0.52 in this section of this study survey. This section of the survey was only one item which asked participants to rate themselves on a 10 point Likert scale which indicated their perception of themselves displaying professional dispositions in and out of the classroom. The effect rate in this area indicated that there was a high effect from this study while working in candidate learning communities during the clinical term.

Table 11

Dispositional Skills – In and out of school setting

Dispositions – Displaying both in and out of the classroom			
	Pre	Post	Differences
Mean	7.18	9.00	1.82
Standard Deviation	1.85	0.94	1.85
Effect Size			0.52
Cohen's d			1.24

Quantitative Research Question 3. The third quantitative research questions was, “Is there a relationship between the amount of time spent by a pre-service teacher in a Candidate Learning Community (CLC) and the perception of the quality of the clinical experience?” Participants were able to identify the amount of time they had spent on average with their CLC outside of class per week. The first response indicated 0 to 29 minutes per week, the second response indicated 30 to 59 minutes per week, the third response indicated 60 to 89 minutes per week, the fourth response indicated 90 to 119 minutes per week and the final response indicated more than 120 minutes per week. Four respondents indicated the first response of 0 to 29 minutes per week; their overall increase mean was 1.31 on all quantitative responses. The participants indicated they spent between 30 and 59 minutes per week outside of class time with their CLC group. These participants had an overall increase mean of 2.21. Five participants indicated a response of 60 to 89 minutes per week outside of class time. This final group had an

increase mean in their overall quantitative responses of 2.02. Table 12 shows individual participants' responses grouped according to the response regarding time spent with their CLC group outside of regular coursework.

In Table 13 both the pre-survey mean of each group and the post survey mean of each group as well as the mean increases were included in the table. When comparing each group's mean increase to the overall mean increase of the entire population there was a difference between Group 1 which falls more than 0.60 below the overall mean score and Groups 2 and 3 which were higher than the overall mean. Although the n is small in each of these subgroups, there was some indication that more time spent with your CLC group outside of the regular schedule likely increased participant understanding. Group 3 had the highest effect rate of all three groups, the overall effect rate was 0.62 with group 3's overall effect rating being slightly higher at 0.65. The effect rate of the group that spent between 30 and 59 minutes outside of class time in a week to gather was 0.40 and the effect rate of group one which spent 0 to 29 minutes together in a week outside of class was 0.56. All of these effect rates indicated a medium to high effect but there seemed to be no direct correlation in this small sample between the amount of time spent outside of class and effect rate.

Quantitative research question 4. The fourth quantitative question looked at specific teaching skills, "Does participation in a CLC impact a pre-service teacher's perception about specific teaching skills when enrolled in a clinical experience?" In Table 14 effect rates are indicated with the grayscale and the top third of the effect rates are in the area of

Table 12

Time spent outside of class with CLC group

Mean Scores by Individual Participants- All Quantitative Questions					
Response to time outside of class with CLC	Pre- Survey Mean	Post -Survey Mean	Increase in mean	Minutes outside of class time with CLCL	Mean Increase for group
1	7.21	8.77	1.56	0 to 29	1.31
1	5.57	7.92	2.34	0 to 29	
1	7.25	9.09	1.85	0 to 29	
1	7.13	6.63	-0.50	0 to 29	
2	4.11	8.33	4.22	30 to 59	2.21
2	4.23	7.91	3.68	30 to 59	
2	3.44	6.75	3.31	30 to 59	
2	7.01	8.87	1.86	30 to 59	
2	6.41	7.97	1.56	30 to 59	
2	7.07	8.41	1.33	30 to 59	
2	5.56	6.64	1.08	30 to 59	
2	8.54	9.21	0.67	30 to 59	
3	3.22	7.79	4.57	60 to 89	2.02
3	6.44	8.62	2.18	60 to 89	
3	5.79	7.89	2.10	60 to 89	
3	6.48	7.87	1.39	60 to 89	
3	7.48	7.33	-0.15	60 to 89	

Table 13

Group Means on Overall Quantitative Questions by CLC Time

Overall Quantitative Scores by CLC Time					
Participants by time responses	Pre-Survey Mean	Post Survey Mean	Mean Increase	Cohen's d	Effect Rate
Overall $n=17$	5.98	7.95	1.97	1.59	.62
Group 1: 0-29 Minutes $n=4$	6.79	8.10	1.31	1.36	0.56
Group 2: 30-59 Minutes $n=8$	5.80	8.01	2.21	0.86	0.40
Group 3: 60-89 Minutes $n=5$	5.88	7.90	2.02	1.70	0.65

Table 14

Teaching Skills Survey Items with Cohen's d effect rates

Survey Items Related to Teaching Skills	Cohen's d	Effect size	Rank
Question Set 1			
Lesson Planning (1)	1.84	.67	3
Assessment connected to lesson objectives (2)	1.73	.64	5
Alignment of standards to lesson objectives (3)	1.78	.66	4
Check for Understanding (4)	1.36	.55	10
Guided and independent practice (5)	1.51	.60	8
Developmentally appropriate practice (6)	1.39	.57	9
Differentiation (7)	1.20	.51	15

Table 14 continues

Survey Items Related to Teaching Skills	Cohen's d	Effect size	Rank
Question Set 2			
Positive classroom environment (1)	0.90	.39	13
Multiple management strategies (2)	1.01	.44	12
Multiple engagement strategies (3)	1.34	.55	10
Uses strategies based on learner needs (4)	1.31	.38	14
Engages parents in school (5)	0.84	.45	11
Question Set 11			
Understanding lesson plan design (1)	1.96	.70	1
Writing a lesson plan (2)	1.99	.69	2
Teaching a planned lesson in the classroom (3)	1.77	.66	4
Question Set 12			
Understanding classroom management techniques (1)	1.68	.63	6
Implementing classroom management techniques (2)	1.73	.69	2
Using classroom management techniques with students (3)	1.60	.62	7

lesson planning, with the exception of one item. Each item from the survey with relation to specific teaching skills was analyzed and both the Cohen's d and effect size were found on each survey item. The highest of these was understanding lesson plan design with an effect rate of 0.70 and writing a lesson plan with an effect rate of 0.69. This is a significantly high effect rate indicating the perceptions of candidate teachers on the specific teaching skills improved considerably during the clinical term. Also in the top six

were lesson planning with the Cohen's d of 1.84 and an effect size of .67, alignment of standards to lesson objectives with the Cohen's d of 1.78 and effect size of .66, teaching a planned lesson in the classroom with the Cohen's d of 1.77 and an effect size of .66, and assessment connected to lesson objectives with the Cohen's d of 1.73 as an effect size of .64. Each of these high effect rates indicated the perception of specific lesson design skills increased during the clinical term while participating in candidate learning communities. The specific teaching skill of lesson plan design had a high effect rate and there was a high effect rate on implementation and classroom management techniques. Implementing classroom management strategies had a Cohen's d of 1.73 and an effect rate of .69 which again was a higher effect rate. This was followed closely by understanding classroom management techniques with the Cohen's d of 1.68 and an effect rate of .63. Finally, using classroom management techniques with students had a Cohen's d rate of 1.60 with an effect rate of .62.

Other effect rates noted in Table 14 also fell in the high range; these included check for understanding with an effect rate of .55, which was part of lesson design. Continuing a lesson design, another area with a higher effect rate of .60 and a Cohen's d of 1.51, is the area of guided and independent practice. Participants also scored in such a way to have an effect rate of .57 in developmentally appropriate practice and .51 in differentiation of curriculum. Still, there was a more significant effect rate in the area of classroom management (.39) than in the other teaching skills effect rates of positive classroom environment which was in the medium range for effect rates. Also following in this medium-range were multiple management strategies with an effect rate of .44, uses

strategies based on learner needs with an effect rate of .38, and engages parents in school with an effect rate of .45.

Instructional skills as identified on a pre-and post survey all had an increased positive effect on the pre-service teacher in their clinical term, with very significant increases on lesson plan design in particular.

Quantitative research question 5. The last quantitative research questions was, “Does participation in a CLC impact a pre-service teacher’s understanding of teaching dispositions in a clinical experience?” In Table 15 effect rates were indicated with the grayscale and the top third of the effect rates were in the area of dispositional skills. Individual questions from the pre- and the post-survey were analyzed to find both the Cohen’s d and the effect rate within the dispositional survey items. A complete set of these questions can be found in Appendix A. The most significant effect rate within this area was displaying professional dispositions in and out of the classroom, with a rate of .59 and a Cohen’s d of 1.31. Participants indicated one other area in the high effect range, which is conflict resolution strategies with an effect rate of .52 and a Cohen’s d 1.25. The data also indicated a medium effect rate for several other areas, most of which fall into the working with others category. These included: working with other teachers with an effect rate of .45, working with parents with an effect rate of .40, and accepting of differences with an effect rate of .35. In the set of questions on communication two areas indicated a medium effect rate. These were oral communication with an effect rate of .32 and listening to others with an effect rate of .39. Candidate Learning Communities work together on

Table 15

Dispositional Skills Survey Items with Cohen's d effect rates

Dispositional Skills on Quantitative Survey	Cohen's d	Effect Rate	Rank
Question Set 3			
Working with other teachers (1)	1.00	.45	3
Working with parents (2)	0.88	.40	4
Conflict resolution strategies (3)	1.25	.52	2
Accepting of differences (4)	0.83	.35	6
Question Set 4			
Written communication (1)	0.43	.20	10
Oral communication (2)	0.70	.32	7
Listening to others (3)	0.88	.39	5
Question Set 5			
Confidentiality (1)	0.36	.17	12
Integrity (2)	0.51	.23	8
Punctual and attentive (3)	0.39	.19	11
Appearance, dress, and demeanor (4)	0.45	.21	9
Question Set 13			
Displaying professional dispositions in and out of the classroom (1)	1.31	.59	1

projects, as well as on problem-solving specific issues within the clinical term to improve skills in these areas and perception of those improved skills and dispositional areas are understandable. Still, in this medium-range of effect size was written communication with an effect size of .20, integrity with an effect rate of .23 and appearance, dress, and demeanor with an effect rate of .21. Each of these areas were within the medium effect range. Falling into the low effect range were confidentiality, with an effect rate of .17 and punctual and attentive with an effect rate of .19. Participants in this study were already accepted into the Hastings College Teacher Education program. As a part of that process, their dispositions have been assessed by four professors from across campus. It makes some sense that overall the dispositional skills had a lower effect rate than the teaching skills.

Qualitative Research Questions

The following qualitative research questions were investigated during the study:

- How do pre-service teachers describe the way they were engaged in Candidate Learning Communities?
- What role did participation in a Candidate Learning Community play in increased personal and professional understanding of teaching skills and dispositions?
- What was the benefit(s) of participation in a Candidate Learning Community?

- Within the Candidate Learning Community, what types of experiences were attributed to furthering the success of pre-service teachers as an individual as well as a member of a team?

Qualitative methods. Collection of the qualitative data happened in two different processes. During the first quantitative portion of the research, several qualitative open-ended questions were included on the post surveys. During the second phase of the research, the qualitative research portion, individual interviews were organized to discuss the qualitative questions to obtain a greater understanding of the experiences of students in Candidate Learning Communities to support the quantitative results.

Qualitative interview participants. Determination of individuals was in a systemic selection. Participants were ranked using a normal distribution as represented with a bell curve based on the results of the quantitative data. A random start number was used to identify the first participant in the bottom half of the bell curve and the first participant in the top half of the bell curve. Additional participants were selected by identifying every third person in rank order, this continued until five participants in each half of the bell curve had been identified, with eleven total participants. A participant adjacent to that individual on the rank order list was substituted for participants who had been selected but were unable to participate or chose not to participate in the individual interview. Eleven participants were chosen to ensure that all CLC groups had at least two representatives and all ranges of growth were also represented in the final sample. The

researcher followed the interview protocol in Appendix A to conduct these individual interviews.

Qualitative survey data analysis procedures. For validity and reliability in the qualitative portion of the study, the researcher used a rich, thick description in the narrative to provide “enough description to contextualize the study such that readers will be able to determine the extent to which their situations match the research context, and, hence, whether findings can be transferred” (Merriam, 2009, p. 229). Data analysis for this qualitative portion of the study included a process of coding. This is the “process of making notations next to bits of data that strike you as potentially relevant” (Merriam S. B., 2009, p. 178). These codes were grouped into categories using axial coding strategy, (Merriam S. B., 2009, p. 180).

Qualitative results by research question. The following section will analyze each of the qualitative research questions. Themes were similar throughout each of the four qualitative research questions. Participants identified many similar ideas as they reacted to the questions posed in the post survey on an on-line survey tool named Qualtrics, as well as the interview questions the 11 participants responded to. After coding was completed, the common themes from the codes were developed and categorized which are identified in Table 16. This table identifies participants by number which is a randomized assignment by the researcher to protect their anonymity. Each respondent to the survey was assigned a random number and the interview participant's numbers are the only ones which appear within the table. For the purpose of discussion in

Table 16

Interview Results by Research Question Themes

Interview Results By Research Question Themes												
Participant ID	2	3	7	9	10	11	12	13	14	15	16	Total
How do pre-service teachers describe the way they are engaged in Candidate Learning Communities?												
Communication	X	X	X	X	X	X	X	X			X	9
Lesson Plans		X	X	X	X	X	X		X	X		8
Shared Resp				X	X	X					X	4
Struggles	X	X	X	X		X	X		X	X	X	9
Video					X	X	X		X			4
Collaboration		X		X		X		X			X	5
What role did participation in a Candidate Learning Community play in increased personal and professional understanding of teaching skill and dispositions?												
Imp Lesson Plans	X	X	X	X	X	X	X	X	X		X	10
Imp Classroom Man	X	X	X	X	X		X	X	X	X	X	10
Imp Dispositions	X	X						X	X	X	X	6
What was the benefit of participation in a Candidate Learning Community?												
Increased Ideas	X	X			X			X		X	X	6
Collaboration		X		X	X		X	X	X	X	X	8
Support	X	X		X	X	X	X	X	X	X	X	10
Within the Candidate Learning Community, what types of experiences are attributed to furthering the success of pre-service teachers as an individual as well as a member of a team?												
Communication		X			X		X				X	4
Family, Team	X	X	X	X	X	X		X	X	X	X	10
Ideas		X		X	X		X		X	X	X	7
Encouragement		X		X	X	X		X	X		X	7
Real Work		X			X	X	X			X	X	6

this text, participants were assigned a pseudonym to be used throughout the discussion. The use of these pseudonyms protect the identity for these confidential interviews.

Qualitative research question 1. The first qualitative research questions was, “How do pre-service teachers describe the way they were engaged in Candidate Learning Communities?” In this area, participants were engaged in multiple activities over the course of the term. Some of the specific activities revealed themselves in the discussion of the participants, but more often the way in which they were engaged with one another and the growth which occurred from those interactions within their group was identified in discussion. Activities, which participants discussed, were designing lessons together and watching the lessons of their CLC groups for peer review. In lessons design, participants were asked to compose lessons with established criterion. These lessons were done within their groups initially in the term and independently as the term progressed. Participants were also required to watch each CLC member teach two lessons and give peer feedback on specified criterion during the term. These two activities were areas in which participants identified as engagement opportunities with their fellow candidate teachers.

In lesson plan development, 8 of the 11 interviewees discussed the work within this area. Participants described their work within their Candidate Learning Communities which included the practice of lesson design. During this term, participants were asked to develop a series of lesson plans with accompanying coursework application. Direct instruction about purpose and design of lesson plan sections was given, as well as practical application within the clinical term, punctuated with group planning for the

purpose of meaningful discourse. Participants recognized this as an activity within their CLC teams. Amelia remarked, “if I’m having a weakness in a certain area of lesson planning and one of my group members is higher in that area, we are able to help each other and go from there.” Continuing on the work done in lesson plan development, Beth indicated, “I was not confident in my lesson planning skills what so ever, and my CLC group put a lesson plan together,” and she continues by saying, “I really liked how we put the lessons together as a group.” Laura indicated, “we wrote several lesson plans together so, it was so much easier writing them, like the first ones with them (my CLC) than it would have been by myself.” All of these participants identified the work in the lesson plan design. Within this identification Elizabeth indicated she participated in group planning within her response to the survey questions, “In small groups, we have written many lesson plans together. In groups, I feel I am much more successful in writing lesson plans.”

As part of the process of the clinical term, students videotaped themselves teaching a minimum of two lessons in their placement. One of the requirements of this procedure was to include both a self and a peer evaluation. Students watched each other’s videos and analyzed the teaching and learning engagement within the CLC groups. In this work, the groups engaged in discussion about the efficacy of their own teaching and that of their fellow candidate teachers. Videotaping of lessons and the accompanying critiques were the second category of activity participants commented on within the interview process. Fewer reported about this activity, but included information about the ways in which they interacted within the context of the CLC.

Laura discussed her interactions within the CLC group regarding the videotaping of lessons this way,

After teaching my lessons in the classroom and watching those videos with my CLC members it was kind of fun and funny just to see our growth over time and to get input and feedback. And to see their ideas that they had in their lessons and the things that they did well and they did poorly. Well, maybe I need to work on that too.

Clinical participants were able to view other classrooms within this part of the requirement and reported this as part of the work of the CLC.

Claire was a CLC participant, who reported that she was able to have some shared experience with her team by,

Looking at the videos that we taped, you really see different types of students because you think sometimes that your classroom represents everyone. But it really doesn't. Each one of our classrooms was completely different. And the way we presented lessons was completely different and so you can see what worked and what didn't and I think that helped a lot too.

At times, the support on the videotaping went beyond the feedback from the actual teaching and learning but was supportive in the technical aspects of the work. Julie discussed her experiences,

Well as far as teaching the lessons it was really good to have a couple of people from my CLC in the school with me because, I know *Kathryn* came in and taped my first lesson and I'm not really good, at technology. *She* was always there to help me and when it came to uploading the videos and getting them in the right spot and doing all of the technical work.

Participants reported another part of the experience they had with their CLC group was not just a list of activities, but instead the hard work of being a member of a team, which included: communication, shared responsibilities, sharing of struggles, and collaboration. Nine of the interviewees responded with information about the

communication which occurred in their respective CLC groups. Four responded with information with regard to shared responsibility, nine discussed a particular struggle within or for the group and five spent some of the time in discussion on the collaborative efforts of the team. Within the area of communication, participants reported they were able to learn to effectively communicate within the group. Getting to understand fellow team members was part of the communication within the CLC. Pat indicated that, “with our group we really broke out of our shells and got to know each other really well.” Another participant, Beth noted, “It was challenging at the beginning, but I think once we talked about things and figured out each other’s style, it went pretty smooth.”

Emma discussed the communication within the CLC concerning managing a regular classroom instead of managing a small group. She indicated,

you’ve got 25 kids not 7, so you can’t (let kids just burst out their answers) or you would just never get anything done. So that was interesting, and to see how my other CLC students would deal with that and their comments on that too.

Participants also discussed the communication efforts were part of the problem solving within the team. Emma stated,

There’s only a few times were one would slack and you’d have to pick them up and do their part. But it only happened once or twice and it was like, they had a lot of things going on in their life and so our CLC decided, ‘we can pick it up for you if you’re willing to pick it up for us sometime.’

Communication also came in the form of discussion within the CLC about the experiences in the clinical classrooms. The

Growth in the classroom, it was a lot about sharing the experiences, we all experienced different things, I guess. In the classroom, we all had different (cooperating) teachers with way different teaching styles and to hear each other bring those stories to the table and bring those teaching styles to us. We can implement what we want to take from those, shared Elizabeth.

Beyond the work of learning to communicate with their peers, participants indicated their understanding of the shared responsibility. In their interviews, participants wrote about how they were able to depend on the other members of the CLC within the assigned tasks. Kathryn reported about her group, "Everyone was reliable." Andrea said of her team, "we divided the work to be done and then got together and put it all together." Margaret stated that although she may have been frustrated at times, "it did give me the experience of working with a group and a deadline that had to be made." Another participant offered that their CLC group, "worked really well together to complete our tasks." Shared responsibility and group work brought some struggles for the CLC groups, which was something nine interviewees stated. These struggles ranged from communication problems to scheduling issues and participants noted some of each.

One communication issue was noted by Maria,

We were a diverse group where we're not all traditional students. The first lesson plan we did we all had a different idea of how it was going to turn out. What the lesson plan was even going to be on and in the end, once we talked it through, we realized we were trying to convey the same message to students. But we all had a different way of trying to do it. I think that it is important to hear all different sides.

Sandy shared her group had only one altercation by stating,

My CLC was a lot different than others, we only had one altercation. We did have one student that was just, well didn't quite mesh with the rest of us, but, I think part of that was good because there's going to be those teachers that you don't mesh with that well. You're going to have that in a school. So I think even though it was a somewhat a pain, it was good because we got to see the hard side.

Another participant, Amelia, noted working out how the group functioned,

Most of us are all social and kind of take charge. It's been really good because if one person is busy or doesn't have the time there's two other people that were

willing to step up and take charge. It's not that big of a deal and we balance and even it (the work) out.

CLC groups were also part of the support during these struggles. Laura stated, "like it relieved some of the stress first of all, like when you get assigned something you have all the stress and you're like, 'Oh, I have my CLC group.'" The struggles of students who are in an in-depth learning semester are noted by the participant Elizabeth "I think it's good to be side-by-side actually, to have a conversation about what your weaknesses are and you know, that's a hard thing to do."

Participants noted that another part of the CLC process was the collaborative nature of learning teams. Collaboration was centered on the work assigned and the collegial work of becoming a team. This was noted by discussion of what work teams did outside of class, which drew them closer to each other.

Margaret's indicated her CLC group became a team by stating,

We had a student who was a transfer from another school and I really didn't know her at all. Nobody really knew her. But she fit right in with it, and then we had another one that's traditional but kind of non-traditional, I don't know how to explain it. She has a family and everything and so we had to work around her family, like we met at her house with her kids one time, didn't get much done.

She continued, "when she invited us over, played with her kids and we just sat around and talked and just grew as a group."

Collaborative efforts also were around the academic tasks set forth for the groups; these assignments were part of the discussion participants had, "Speaking for my CLC group, I don't think anyone could have put together a book unit, you know, as awesome as we did just by ourselves." Beth stated her group enjoyed, "reading the book and putting it together, just because you can use them in the future."

Another participant, Pat, discussed the group making,

literature circles, the big packets over the books that we read. At the time it was kind of a lot to do and was a lot of things I can do with these different books if I'm up for elementary where they'll read longer books.

Finally, Julie indicated that with her CLC,

I liked when we planned lessons together and to learn literature just because it was a really good practice. We wrote lesson plans in other classes, but I wasn't nearly as familiar with it and the packets were really helpful to learn how to do.

Qualitative research question 2. The second qualitative research question was, "What role did participation in a Candidate Learning Community play in increased personal and professional understanding of teaching skills and dispositions?" Participants described their efforts in learning lesson plan design and classroom management to a greater degree than they described the increased understanding of their professional dispositions. Almost all of the interview participants related the work they had done in the understanding of lesson design. One such participant, Julie described her learning by watching the video tapes,

It was really good because then I was able to watch a couple of their lessons. Being able to watch theirs really helped me see ideas that I can do with my lesson and they were really good about telling me about what I needed to do better.

Margaret also discussed the feedback within the videotaped lessons. She indicated,

We did talk about our first lessons, kind of seeing how everything went and even the feedback that we got on our videos from our CLC groups. I liked having that, just a peer seeing, because at first you are going to be harder on yourself than anybody else. Even seeing my other group members cause there were some really good ones and just saying, 'hey, if you work on this-this would be outstanding,' I think that just helped a lot.

Also discussing the work in the videotaped review of lessons, Claire stated, “The way we presented lessons was completely different and so you can kind of see what worked and like what didn’t and I think that helped a lot too.”

Emma described her experience in lesson design by sharing,

Watching the lessons was really good because you got to see how other people did it and we had so many different teaching styles within our group. .. so it was neat to get to see some more methods and to see their confidence was so exciting. I don’t know it just encouraged me that we’re doing really well together and I just thought the feedback they gave me was good too.

Participants discussed this feedback on lesson design as an important part of the work they did within the CLC groups and to gain the increased skill of lesson design.

Laura said,

Another thing we worked on was our lesson plans and teaching after teaching our first lessons. I think the feedback I got from my CLC group members was just as helpful as the feedback I got from my actual cooperating teacher.

Speaking about her own growth in lesson design, Amelia indicated her group,

gave me a lot of feedback that I was able to develop and take as my own and grow from that. I could bring it into the classroom and see how it actually does work. It is amazing how much you can just learn from watching somebody else. And I like the ideas that they come up with, I’ve grown so much as a teacher and as a person by looking at the videos and watching them and talking with the CLC group about how things worked in their classroom and the things that didn’t work.

Pat discussed the work on lesson design and implementation during the critique of peer reviewed videos within the CLC groups,

They really helped me see that some of the things I thought I wasn’t going very well, they thought I was doing better at. They could point out different things that I never noticed in my own classroom and they’d watch the video from my lesson and say ‘Oh, well this girl over here doing such and such.’ And I didn’t see it when I was in the classroom during the teaching. So it was really helpful to have them watching me and giving me feedback on my lesson.

Participants indicated an awareness in their own lesson design and implementation which was brought about from the work of the CLC groups in terms of peer reviewed lessons.

In the area of classroom management, participants also indicated a greater awareness of their own skills and a larger repertoire of ideas for both engagement and behavior from the work of the CLC groups. Within this context, participants indicated they understood classroom management at a deeper level from their peer's feedback, as well as from watching their peers teach in the videotaped lessons.

Sandy indicated her interactions within the CLC groups by stating,

It gave me a better understanding that not all teachers have good classroom management, which I feel so bad for some of my CLC people because some of them never really had classroom management, their' teachers were just like, - whatever. My teacher had amazing classroom management and so for me to be able to share that with them they were really appreciative.

Pat discussed the learning in regard to management by saying, "it really helped me to see the different behaviors that are going on in the classroom and get really tuned into those and be really watching for them so I can crack down and get the students back on the right track."

Participants indicated learning not only from the work in their own classroom, but also from the conversations, peer review, and reflection opportunities within the CLC groups. They also learned from the cooperating teachers' ideas in the classroom and the teachers their fellow CLC classmates had as cooperating teachers. Maria discussed such an interaction in her interview,

From hearing how the different teachers, the different cooperating teachers that each one of the CLC group members is in. How they have learned to do classroom management along with what we've learned and how we've interpreted what we've learned in our actual classrooms and sharing some ideas. We all bring

those ideas to the table and tell each other what has worked in the classes and some classes are more difficult than others. But just to hear the different techniques that we've tried to implement in our cooperating classrooms and whether that worked or not have been very helpful. I think classroom management is one the scariest things. I am going to be a new teacher and so to hear and know that it doesn't always work and that it's not just me is also my other CLC members who it's not working for has been great.

Increasing classroom management ideas and understanding their personal ability in the area of classroom management was another area identified from their CLC group. Laura indicated her CLC group members, "brought a lot to the table with ideas they had in their classrooms. It was interesting to see all the different ideas that other teachers use." CLC groups got together in the larger elementary block and according to Elizabeth, "made a little sheet that we came up with for engagement strategies, so you can bring everyone back together."

Participants in the study had areas of professional dispositions they discussed that had a favorable impact during the term. Based upon CLC group work, Elizabeth indicated,

I grew a lot in professional dispositions. You have to be careful about how you say things and what you say all the time and how you portray yourself in school and out of school. Especially in the elementary, they look at you like you are super important, that you've made no mistakes and so you kind of have to portray that and keep going. I definitely grew in being patient.

At times, participants sought advice from their CLC team for items related to professionalism; Claire shared a time when a fellow student was,

Texting us, asking if we could wear colored jeans, and asking if that attire was ok. Or at times what would you do in their position, it is just someone you could collaborate with wasn't necessarily a professor but you trust their judgment and so I always thought that was good if you were unsure, you could always turn to them.

Margaret indicated she gave advice to other CLC members who were not in a formal classroom management course, “we talked and I recommended Love and Logic to her.”

Qualitative research question 3. Qualitative question 3 was “What was the benefit(s) of participation in a Candidate Learning Community?” Participants indicated there were several benefits in their work as a team as stated in the personal interviews. Six stated they had an increase in ideas for teaching and learning, 8 discussed the benefits of collaboration and finally 10 of the 11 interviewees indicated they had a new level of support in their work during the clinical term. Ideas about lesson design, management techniques or creative ways to handle school situations were all part of the conversation in the qualitative phase. Maria suggested the idea of increased ideas stating, “everybody does things differently and it’s good, I really enjoyed the clinical experience, being in the classroom, but learning the new techniques like circle time, getting opened up to a whole different level of community within our classroom.” Beth indicated that she would, “try different things that my group members have done.” Pat continued, “I know from watching their videos I came up with some other great ideas of how to use classroom management in my class, different techniques to get their attention back.”

Sharing of ideas went back and forth, giving ideas to and taking ideas from each other. Sandy indicated that her CLC members,

did have some things I could learn from them I talked too and we just bounced ideas off of each other constantly. My teacher does a lot of the ‘class-class’, ‘yes-yes’ or other attention getters which are great because my students were rally squirmy and so when I told them about that they thought they could use it in their own lessons.

Participants also specified a benefit from the CLC approach was collaboration, which happened between candidates in their work both in the college course work as well as in the clinical experience. In the collaborative experience, eight of the interviewees indicated they cooperated with their peers on the work of learning to teach. Sandy indicated, “my CLC members were about the same grade level so we did a lot of ‘What are you going to learn this week?’ ‘How are you teaching this?’”

Emma said, “all our thinking came to a deeper level because of everybody else’s comments. You thought things through a lot deeper. I think in our collaboration we had in our classes was really good.” Laura agreed with the collaborative benefit, “We worked together to collaborate ideas and just get input on what we thought.” Pat established a level of collaboration within her CLC, “we worked really well together, we were a quieter group but it worked really well for us. So it’s one of those things that if it works, I wouldn’t change it much.”

Margaret remarked on the collaboration process,

The endless possibilities of what you can do because you’re just writing it up and you can modify it later. I think just coming up with the work and having so many ideas. I mean you come to class and everybody would be like, ‘oh, I thought about this for one chapter and I made a note here. Here’s this, look at this for the activity.’ And just all the ideas that were used to collaborate in that process.

Participants took note of the work each of their teams did and the collaboration that took place in both the courses and the classrooms.

Another participant noted a benefit was the support individual members felt from the members of the CLC. The majority of the participants in the interviews agreed that support was a large part of the benefit of having a CLC team.

Relationships within the teams of candidates were helpful to Elizabeth, she goes on to explain, “it was just really good to have the other people here, you know you can talk to your roommates that aren’t in your CLC or not even in elementary block, they don’t get it, they don’t care really. So it’s good to have those people, and they’re going through the same thing and understand, kind of, what’s going on. It was just really good to have conversations about it.

Participants were able to reach out to their fellow CLC members and Claire indicated, “you were able to just ask for more help when you needed it.”

Beth stated the same idea of support,

It’s always at your availability. You always have somebody that will back that up because you know you have your group and you can always Facebook them and ask questions. I love that and I love having the group behind you that you can go to at any point, cause we’re all going to be teaching. We’re all going to be first year at the same time.

Some support was more demonstrative in nature and immediate as Margaret shared,

I was lucky because one of my group members was right next door in my clinical experience, so we carpooled. We did a lot of things together. So, I think having just that to rely on and we were all together so we all knew the same people at the schools. We’d pass each other in the halls and we were able to talk.

Julie shared her CLC had similar relationships with support, “you had people to count on that you could just shoot a test to and say you were going to be gone. They would grab your stuff and do that for you, so that was really good.”

Emma found the support of the CLC team this way,

it was a support thing because we could share the burden. It wasn’t like we had to come up with everything ourselves. It was interesting because when you would have an assignment, sometimes you weren’t really sure how you would start it. Somebody else would have an idea then everybody else would just feed off of it from there and it just went until it saved so much time and stress because we would work together.

Participants noted the supportive benefits in their responses in terms of the work within the CLC groups.

Qualitative research question 4. Qualitative question 4 was “Within the Candidate Learning Community, what types of experiences were attributed to furthering the success of pre-service teachers as an individual as well as a member of a team?” Respondents in the interviews had some central ideas that they came back to which included: work in communication with their CLC teams, becoming a family or team, being able to work towards ideas that matter in the teaching and learning work, and being encouraging to one another. Candidate Learning Communities developed their own ideas of who they were as members of the team.

Four of the respondents to the interviews noted communication with the team members as a part of what makes a good team. One such respondent was Sandy who stated,

The CLC and all of that, all of our experience is just crazy. People across campus say things like ‘I took a nap at noon today’ and the people in our program say ‘I had a 20 minute lunch break today’. Our schedules are so packed and we have so many things that we need to do, we have to communicate to stay on top of everything.

This indicated a way in which communication with each other is more relatable than communicating with others across the campus. Communication within the group draws them to each other and participants find their peers were some of the only people who understood the work they were doing. Pat indicated the way in which communication drew the CLC together,

The CLC circle is great, but it’s just like it’s our own community. It’s the place I’ll go a lot of times if I’m having a problem with anything. I’ll go and talk to my little group, say ‘Hey, I’ve got this question’ or ‘I’m really struggling here with this student’ and it can really help me, they can help with the little circle, but it is also something that I can bring to the overall circle.

These examples indicated the communication for each of the CLC groups was key to growth in their relationships with members of their team.

These teams and the relationships of being a family and working like a family was another area the respondents indicated within their CLC. Ten of the interview participants related this idea. Sandy said,

I wish everyone, every education major could experience these teams. If you don't get that experience I don't know if you could really tell if you want to be a teacher. I don't know how people did it without ever doing elementary block or CLC because you don't get that experience until you actually get into the schools. So this CLC experience, well without this CLC I would have never really learned to like working with others.

Amelia continued with the idea of being close to her team,

I feel like the small group work inside of a whole group was a real positive for this semester and it brought everybody ten times close, not just in children's lit but in CLC. Those groups we're taking into the other classes and at the schools and it brought everybody close. I feel like it's just something that needs to continue and it's a real positive for this class. It's helped a lot and made us develop and grow with one another.

Drawing close to each other was one idea related by this participant. Pat also stated the same types of things,

And something I can build on and I've gotten a really good sense of feeling like I am part of the family and we're all really closer. I can talk to anybody in my group. It doesn't matter to me whenever we get a new little group project or something with a different person cause I'm comfortable with everybody and can get along with just about anybody in our classes now. I wasn't used to before or when I was taking a bunch of general courses.

Participants described these relationships to be a part of the long-term work of their college careers and relationships that will last into the future. Laura discussed her idea of this team.

We're really there cause we want to be the best teachers that we can be and that was so awesome to me. And the relationships, we had great relationships, I don't know that it's always this way, but boy it sure worked out this year. I feel very blessed to be a part of this group, because I know we will be, we will be connected, I think, forever.

Maria said, "I've gotten close with and built a stronger relationship with the other two where I texted them the other day. When I got my speeding ticket and got pulled over it was great just being able to have that relationship."

Claire also identified the long-term relationships which have created a family identity within the clinical experience. She stated,

Being with her all the time you develop even a friendship, it made me realize that it can be one that will last long. We have things in common and it will make connections when you're a teacher as well, just for collaborating and ideas. She's someone I know that I will know for years to come. When I'm a teacher if I can't think of something I can call and rely on them.

Participants identified the work within the CLC work as a real team and several respondents referred to the teams they created as family.

Another way in which the respondents identified themselves as working together is the ability to share a variety of ideas from working in their CLC groups. In some academic areas, the sharing of ideas does not lead to increased understanding for the individual, but in this context, idea sharing positively influenced the learning. Concerning being a teacher and sharing ideas within a Professional Learning Community, Emma indicated,

If you want to be able to grow, you have to have other people's ideas. I think when we get out there in the big scheme of it, in the real teaching world; I think that will really help us work with other people and our own PLCs.

Julie agreed that having a group to rely on to discuss ideas was a benefit, “it was really nice to have people to bounce ideas off of and I learned a lot from people in my group.” Beth indicated increased ideas as she would, “try new and different things that my group members have done.”

Participant Sandy added her work within the CLC gave her ideas to complete the tasks by sharing,

I wouldn't have had such a great experience and I wouldn't have built this friendship and I would have missed out on so many things if I didn't do elementary block or I didn't do CLC or I didn't have my practicum placement. I think without one of those components, how could you really thrive in the other two? So if I didn't have CLC, how could I have picked out those lessons that I've learned and the ideas I have gained working in the group.

Pat indicated,

I loved being able to work in my CLC group. In completing the assignments, it was wonderful being able to work together, get ideas from each other and find out where we think things would work well together. I think it was very beneficial to be able to work together as a group because I was able to learn more from collaborating with my group.

Student growth was enhanced with the collaborative efforts of the CLC group.

Encouragement in a difficult semester is another way in which participants described the experience of being in a CLC group. Encouragement in the work of the courses and with their own skill set. Emma stated, “my CLC was very supportive and great to be a part of.” Speaking of the work in one CLC group with a member who had a little difficult time on Sandy's team, Sandy described it this way,

One of my CLC people, she just felt like she was left out a lot and it was really hard because she wanted a lot of praise and we forget sometimes. As grown-ups that we still need praise and we still need people to tell us our thoughts are ok or our thoughts are good. It's just really hard to remember to say, 'you're doing a

great job' when we are trying to figure it out ourselves. But it's what she needed, so our group is encouraging.

Reassurance from the fellow learning community members as well as being encouraging to those same members was part of the work of the CLC and participants indicated in their understanding of this idea leading to increased success within the clinical term.

Finally, participants related the work they were doing in the larger context of the clinical experience as well as doing the real work of schools as they prepare to enter the teaching field. Some of the work as described in the semester about the real work of teachers is as follows; Elizabeth comments on the work of the CLC team, "I think it was cool to have a start to that (real work). We kind of know what we're doing now and how to make it effective and we'll know what we're doing later in life."

She went on to say, "I think the planning in elementary is much, much more; it's constant, especially in kindergarten. Every second of your day is planned out. We learned to work through this, just like we will with our own teaching jobs."

Amelia discussed the work of the CLC in terms as having to do the same kind of relationship building and personal interaction in schools. Working on the skills of these intricate relationships during her clinical term she described,

Just being able to learn from them and see what it's going to take. Discovering how we interact with each other because in the schools you're going to have to interact with your colleagues as well. This work in the Candidate Learning community has allowed us to practice that before we get in the schools. These people are like out colleagues.

Margaret sums up the sentiment of the CLC work when she indicated, "The CLC group experience gives the students real life practice working with others and how to work with others. I think that this experience will help me throughout my future teaching career."

Understanding the work of the team concept and knowing the CLC work helped participants work toward real world understanding for their own teaching careers and was a part of the discussion of the participants.

Summary

Participants identified in both their quantitative responses as well as the qualitative survey responses in the interviews an increase in teaching skill as well as disposition during the clinical term. The overall quantitative result indicated an effect size of 0.62 when considering all questions in the two-part survey. Teaching skills increased in lesson design according to the effect rate of 0.64 and 0.72 which can be found in Table 3. These effect rates were quite high and indicated increased understanding in this teaching skill for candidates. Also within the CLC construct participants identified classroom management understanding with an increase of 0.51 and 0.64 in the subset of teaching skills. Professional dispositions had a smaller effect rate with effect sizes of 0.51, 0.33, 0.22, and 0.52 as reported on that same table. Although these effect rates ranged from a medium to a high range the effect rates are at the lower end of the high effect rate, proportionally they were a much smaller effect rate than the teaching skills. The sample size of this study was relatively small with $n = 17$ which may impact the qualitative data and was part of the reason the researcher chose to do a mixed methods study.

Qualitative results helped to explain the effect rates. Participants reported lesson plan design and lesson plan implementation as an area in which they grew significantly due to the interactions with their CLC group members. Candidates increased their

capacity in terms of understanding what high quality lesson development looks like as well as writing well-developed lesson plans. Participants also noted increased understanding in implementation and design of classroom management techniques. Indications were that these increases developed from communicating and collaborating with their candidate learning communities. Within these interactions participants were able to gain valuable feedback from their learning communities with regard to their own teaching and management techniques. Interviews revealed participants felt less growth in terms of professional dispositions with their candidate learning communities. Although the participants indicated communication did occur within the candidate learning communities about specific professional behaviors. The comments from these participants indicated the communication between candidate learning community members on the issue of dispositions were specific clarifications regarding dress, demeanor, and behavior in public. Benefits described by participants who were involved in CLC teams during clinical term were largely around the camaraderie that existed in an intensive semester. Specifically participants indicated increased communication ability with their team, the support and encouragement from individual team members, the reliance on team members for collaborative efforts, and an overall feeling of highly connected relationship within their CLC teams.

Candidate Learning Communities helped increase the capacity of participants in the study. Candidates engaged in the work of Clinical semester within CLC teams significantly improved their teaching skills in lesson design and implementation as well as classroom management techniques and engagement strategies. Participants reported

the collegial efforts of their peers to be of great benefit to their own teaching and learning.

Chapter 5

Conclusion and Recommendations

Introduction

The purpose of this study was to examine the relationship between the perceptions of teaching skill and professional dispositions of pre-service teacher education candidates' understanding of their own teaching skills. An exploratory sequential mixed methods design was used, with quantitative data collected in the initial phase, at the beginning of the term and both quantitative and qualitative data collected in a follow-up survey at the end of the term. The study examined perceptions before and after the clinical experience while participating in a Candidate Learning Community (CLC). In this study, elementary and special education teacher candidates participated in Candidate Learning Communities, this group design was unique to Hastings College, with peers while enrolled in their experience. Elementary and Special Education majors were chosen as they participate in four courses together, as well as the clinical experience, allowing frequent opportunity to interact with their cohort as well as their own learning community.

Quantitative Research Questions

The following research questions guided this study's quantitative investigation.

- To what extent has there been growth in instructional skills understanding in the clinical term for elementary and special education pre-service teachers? If so, how much?

- To what extent has there been growth in professional dispositional understanding in the clinical term for elementary pre-service teachers? If so, how much?
- Is there a relationship between the amount of time spent by a pre-service teacher in a Candidate Learning Community (CLC) and the perception of the quality of the clinical experience?
- Does participation in a CLC impact a pre-service teacher's perception about specific teaching skills when enrolled in a clinical experience?
- Does participation in a CLC impact a pre-service teacher's understanding of teaching dispositions in a clinical experience?

Qualitative Research Questions

The following qualitative research questions were investigated during the study:

- How do pre-service teachers describe the way they were engaged in Candidate Learning Communities?
- What role did participation in a Candidate Learning Community play in increased personal and professional understanding of teaching skills and dispositions?
- What was the benefit(s) of participation in a Candidate Learning Community?
- Within the Candidate Learning Community, what types of experiences were attributed to furthering the success of pre-service teachers as an individual as well as a member of a team?

Methods and Findings

An exploratory sequential mixed methods design was used, with quantitative and qualitative data collected in the initial phase, at the beginning of the term and a follow-up survey at the end of the term. Quantitative data was collected using closed questioning survey methods and qualitative data was collected within the surveys with open-ended questions. After these results had been analyzed, eleven students were selected using a systemic selection process and the researcher interviewed these participants individually about the experiences in the CLC, to help give meaning to the results of the longitudinal quantitative study. In this study, pre and post survey data was analyzed to compare pre-service teachers' perceptions of their skill related to skill and professional disposition. The qualitative data was derived from both the survey information, at the beginning and end of the term, as well as the interviews at the conclusion of the clinical term and helped describe the impact of Candidate Learning Communities on the skills of the pre-service teacher. The reason for eliciting both quantitative and qualitative data was to validate results.

This study looked at both the quantitative and qualitative results; there were occurrences within the research in which both the quantitative and the qualitative results produced a similar construct. One of the ways in which the two types of data merged was in the understanding that the instructional skills gained during the clinical term were identified by participants as significant increases. Within the quantitative study using all instructional skills data a large effect size of 0.66 was identified. This data included lesson plan design and implementation as well as classroom management understanding.

This would be supported by qualitative question 2 in which the participants identified achievement in lesson plan design and implementation work at the highest level of competency and classroom management also having an increase for the participants. Clinical students were able to develop lessons with their candidate learning communities several times throughout the semester. Students also evaluated each other's classroom lessons in the peer review of videotaped teaching. While students were describing their experiences of both the collaborative efforts within their candidate learning community to develop lesson plans and also the way in which they interacted during the video discussions, these intensive experiences helped describe the reason the effect size was so large from the quantitative survey. As the participants unpacked their understandings during the interview sessions, many individuals revealed the increased competencies in developing lessons which were gained from creating lessons with their group, teaching lessons in the clinical placement, peer evaluations of fellow CLC team members lessons, and interactions with their cooperating teacher and professors.

It was these same experiences that also brought about a gain in classroom management understanding. The effect sizes were also in the large effect size range. The understandings which were shared by the participants and came through in both the qualitative items in the survey as well as the interview participants responses, which the researcher believed was key to increase understanding of classroom management, and peer reviews of each other's videotaped lessons. Candidates explained that not only did they get really high quality feedback from their CLC partners and cooperative teachers but also they gained understanding of alternatives for both management and engagement

strategies while watching their CLC members videotaped lessons. Essentially many of new lessons taught during the clinical experience had candidates working to aspire to the level of their cooperative teachers. However they only interacted with one teacher for the semester in their many hours in the classroom, however, by watching the videotaped lessons of their peers they were able to identify strategies the peers had picked up from the cooperating teachers and were using in their own teaching. This increased exposure to other highly competent teacher's classrooms which had a positive impact on the management strategies candidates implemented during their own teaching.

Another area, in which candidates grew while in their CLC groups, was professional dispositions. Although to a slightly lesser degree than the teaching skills area, candidates reported some growth from being able to communicate with their peers. In this area candidates were able to discuss professional demeanor, professional dress, and professional appearances in public. Having a small group of candidate teaching peers to rely on was an area the participants revealed in the interview during the qualitative portion of the study. During the quantitative portion of the study participants revealed some growth in the medium effect rate range. Candidates who participated in this clinical term had already been accepted into the teacher education program. Professional dispositions had been evaluated on each candidate and reviewed by the Teacher Education Policy Council. Less growth may have been recorded in this area as candidates must have already had some level of competency.

The findings of the researcher indicated the advantages to participation in the CLC group were not only increased teaching skills and professional dispositions, but also

increased collegial efficacy on the part of the candidate teacher. These candidates reported the advantages to being part of the CLC group shared by Emma, “a small circle inside the larger circle.” This was a reference to the small groupings of 3 to 4 individuals into candidate learning communities and their place within the elementary block which is part of the clinical semester. The benefits described by the participants were the idea that much like in the professional teaching field; candidates must be able to work effectively with other team members. Candidates reported the value of collaborative efforts to increased their understanding within the assigned tasks during the clinical term. Another area in which candidates believed that they benefited from their work within the CLC teams was increased communication ability. This happened due to positive communication interactions between group members as well as difficulties that arose during the semester which had to be worked out. Almost without fail, candidates described the opportunity to be part of the CLC groups as family. Participants revealed close personal relationships which they believed will last far beyond their college experiences and into their professional lives as a result of participation in the CLC groups during their clinical term. Participants had built ways to interact with each other in which proximity relative to geography of each other will not inhibit or enhance their communication. Participants had a group Facebook page as well as a communication system in which one person from each CLC group was identified as the technology contact and information was disseminated among the group in this ‘texting tree.’ The systems approach to communicating during this clinical term established a system in which the communication and collaboration may continue far into their professional

careers. This identification of the need of communication with each other resulted from their work in the elementary block and the CLC groups during their clinical term.

Significance of the Study

This study shows evidence of the positive results of having students work in small group learning teams within the larger context of a program at the undergraduate level. Candidate Learning Communities were a unique system within the Teacher Education Program at Hastings College in Hastings, Nebraska. These CLC groups had not been established in other teacher education or other undergraduate programs and had not been studied before this time. Practicing teachers worked in Professional Learning Communities (PLC) throughout the state of Nebraska and across the United States. Candidate Learning Communities were established to reflect the work of collaborative teams of teachers were already practicing in the field.

Working in tandem with other group members during an intensive semester, participants indicated their personal increased understanding as an individual on the skills being developed in the teacher education program increased dramatically. Although these outcomes were from a small sample of students in a small liberal arts college, using a similar model with another teacher education program at Hastings College or at another institution may result in similar positive results.

Another area of significance of positive effect indicated by the participants in the qualitative interviews were the results of watching each other's videotaped lessons. In the small CLC participants viewed their own teaching video as well as their peer teaching videos and did both self and peer reflection about the teaching and learning. One of the

ways in which participants described a positive outcome was added methods in especially classroom management and student engagement came from watching their peers teach. Participants indicated the peer evaluations of their own teaching were highly beneficial as peers were likely to respond with some complementary ideas about the teaching as well as some identifiable ideas for immediate implementation in the classroom. Individual participants noted their own self-criticism of the teaching and learning from their videotaped lessons was so highly critical that the encouragement boost provided by the peer was highly impactful.

Recommendations for Further Research

Several ideas for continued study of the CLC groupings as a result of this study include:

1. As participants in the CLC groups at Hastings College continue their professional career, surveying the impact that these CLC groups have as candidates enter their in-service teaching would be beneficial. This might include researching how candidates in their first few critical years of teaching interact with their colleagues. Finding out if the benefits of CLC groups as well as the collaboration and communication experience during their undergraduate opportunity extend into their teaching years will be critical. Also this researcher would be interested in knowing if administrators found these teachers competent in the ways in which they communicated and collaborated within their PLCs.

2. Another area of research interest would be to investigate if there would be similar benefits identified within the secondary block. Secondary content majors at Hastings College take a much smaller block of six credits in conjunction with their content methodology course of three credits. This researcher would be interested to know if Candidate Learning Communities impact their understanding of their teaching skills during their clinical term.
3. Further study of Candidate Learning Communities within the same Elementary Block for several years would also be of interest. Increasing the sample size by collecting data over time to see if the impact is similar consecutively or if there are increases or decreases within the teaching skills or the professional dispositions.
4. Finding out if other institutions with immersive undergraduate programs in which program organizers created Learning Communities with pre-service teachers have been successful and would add to the literature. A study in which the important skills were identified and the creation of small group systems dedicated to the increased understanding of these skills might have enough similarities to this learning community work to draw inferences about each program.
5. Redesigning the system of the pre-service education program in which cohorts of candidate teachers were able to establish CLC groups upon entering the teacher education program and remaining in the same CLC groups throughout the rest of their study may also be of interest. Investigating both the teaching

skills and the professional dispositions over a period of several semesters would also be interesting. Determining if one semester of time together or multiple semesters of time together increased or decreased the collegial understanding of CLC teams could be of interest.

Summary

The research of Candidate Learning Communities revealed a significant impact on teaching skill and a moderate impact on professional disposition of teacher candidates. The findings indicated that intensive interaction with a small group community like a CLC group during the clinical term for candidate teachers can develop an increase in professional skills. The quantitative data indicated a significant increase from the beginning of the semester to the end of the semester. The qualitative findings indicated that participants felt supported and encouraged in their work to become teachers by participating in Candidate Learning Communities.

References

- Archer, K. R. (2012). *The historical context and development of professional learning communities*. Ann Arbor, MI: ProQuest.
- Brower, A. M., & Dettinger, K. M. (1998). What IS a learning community? *ABOUT CAMPUS*, 15-21.
- Cooper, H., & Hedges, L. V. (1994). *The handbook of research synthesis*. New York: Russell Sage Foundation.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.
- Dewey, J. (1938). *Experience and education*. New York: Touchstone.
- Dolezal, S. (2008, May). *Professional learning communities: Preservice education programs*. (Doctoral dissertation, Walden University).
- Doolittle, G., Sudeck, M., & Rattigan, P. (2008). Creating professional learning communities: The work of professional development schools 2008. *Theory Into Practice*, 47, 303-310.
- DuFour, R. (2007). Professional learning communities: A bandwagon, an idea worth considering, or best hope for high levels of learning? *Middle School Journal*, 39(1), 4-8.
- DuFour, R. (2011). Work together but only if you want to. *Phi Delta Kappan*, 92(5), 57-61.

- DuFour, R., & DuFour, B. (2012). Building the collaborative culture of a professional learning community at work. *PLC At Work* (pp. 49-54). Orlando, FL: Solution Tree.
- DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Bloomington, IN: Solution Tree.
- Evenbeck, S., & Borden, V. M. (2001, July-August). Assessing the impact of learning communities: Research in progress. *Assessment Update*, 13(4), 4-9.
- Fullan, M. (2001). *Leading in a culture of change*. San Francisco, CA: Josey Bass.
- Goodlad, J. I. (2004). *A place called school*. New York: McGraw-Hill.
- Gordon, M. (2008, September/October). Between constructivism and connectedness. *Journal of Teacher Education*, 59(4), 322-331. Retrieved 01 22, 2013, from <http://jte.sagepub.com/sontent/59/4/322>
- Harris, A. (2011). System improvement through collective capacity building. *Journal of Educational Administration*, 49(6), 624-636.
- Hastings College. (2014). *2014-2016 Hastings College academic catalog*. Hasting, NE: Author.
- Hollins, E. R. (2011). Teacher preparation for quality teaching. *Journal of Teacher Education*, 62(4), 395-407. Retrieved January 22, 2013, from <http://jte.sagepub.com/cibtebt/62/4/395>
- Jaffee, D. (2007). Peer cohorts and the unintended consequences of freshman learning communities. *College Teaching*, 55(2), 65-71.

- Jetton, T. L., Cancienne, M. B., & Greever, B. (2008). The evolving roles of faculty learning communities: A university/high school literacy partnership. *Theory Into Practice*, 47(7), 327-335.
- Merriam, S. B. (2009). *Qualitative research*. San Francisco, CA: Jossey-Bass.
- Nattiv, A., Winitzky, N., & Drickey, R. (1991, May 1). Using cooperative learning with preservice elementary and secondary education students. *Journal of Teacher Education*, 42(3), 216-225. Retrieved January 22, 2013, from <http://jte.sagepub.com/content/42/3/216>
- Newmann, F. M., & Wehlage, G. G. (1995). *Successful school restructuring*. Madison, WI: Wisconsin Center for Educational Research.
- Rocconi, L. M. (2011, March). The impact of learning communities on first year student's growth and development in college. *Research in Higher Education*, 52(2), 178-193.
- Santos, J. R. (1999). *Cronbach's alpha: A tool for assessing the reliability of scales*. Retrieved 21, 2015, from Journal of Extension: <http://www.joe.org/joe/1999april/tt3.php>
- Terrell, S. R. (2012). *Statistics translated*. New York: Guilford.
- U. S. Department of Education. (1983). *A nation at risk*. Retrieved 05 04, 2014, from <Http://www2ed.ed.gov/pubs/NatAtRisk/risk.html>
- Walker, I. (2007). *Statistics for psychology*. Retrieved from Statistics for Psychology: <http://www.staff.bath.ac.uk>

Zhu, E., & Baylen, D. M. (2005). From learning community to community learning: pedagogy, technology and interactivity. *Educational Media International*, 42(3), 251-268.

Appendix A

Pre- and Post-Surveys

Q1 Study of Pre-service Teacher Skills and Dispositions

Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on the continuum.

[illegible]

[illegible]

Q4 Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on the continuum.

[illegible]

[illegible]

Q11 Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on each continuum.

[illegible]

Q12 Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on each continuum.

	Not Skilled 1 (1)	2 (2)	3 (3)	Slightly Skilled 4 (4)	5 (5)	6 (6)	Skilled 7 (7)	8 (8)	9 (9)	Very Skilled 10 (10)
Understanding classroom management techniques (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing classroom management techniques (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using classroom management techniques with students (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13 Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on each continuum.

	Not Skilled 1 (1)	2 (2)	3 (3)	Slightly Skilled 4 (4)	5 (5)	6 (6)	Skilled 7 (7)	8 (8)	9 (9)	Very Skilled 10 (10)
Displaying professional dispositions in and out of the classroom (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 Have you participated in a formal Candidate Learning Community (CLC)?

- ☐ Yes (1)
☐ No (2)

Q21 Please identify your current class year in school.

- ☐ Freshman (1)
- ☐ Sophomore (2)
- ☐ Junior (3)
- ☐ Senior (4)
- ☐ Graduate Student (5)

Q22 What is your gender?

- ☐ Male (1)
- ☐ Female (2)

Q23 What is your intended teaching endorsement(s)? Please check all that apply

- ☐ Elementary Education (1)
- ☐ Special Education (2)
- ☐ Early Childhood (3)
- ☐ English as a Second Language (4)
- ☐ Other (5)

Q24 Please enter your Hastings College ID number.

[illegible]

[illegible]

Q5 Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on the continuum.

	Not Skilled 1 (1)	2 (2)	3 (3)	Slightly Skilled 4 (4)	5 (5)	6 (6)	Skilled 7 (7)	8 (8)	9 (9)	Very Skilled 10 (10)
Confidentiality (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrity (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Punctual and attentive (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appearance, dress, and demeanor (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 The following questions will give you an opportunity to tell more about your educational experiences. Please answer openly, speaking from your understanding of the educational preparation you have encountered. Please describe your experience with training from professors with formal instruction on how to develop a Lesson Plan.

Q7 Please describe your experience with writing a lesson plan on your own.

Q8 Please describe your experience with writing a lesson plan as a group with other pre-service teachers.

Q9 Please describe the experience with any feedback from a cooperating teacher on your lesson plan development.

Q10 Please describe the experience with any feedback from a cooperating teacher on your lesson delivery to students

[illegible]

Q12 Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on each continuum.

[illegible]

Q13 Please rate your skill level in each of the following areas related to teaching by indicating the number 1 as NOT skilled to 10 as VERY skilled. Please select the number that best describes your understanding of your skill level on each continuum.

	Not Skilled 1 (1)	2 (2)	3 (3)	Slightly Skilled 4 (4)	5 (5)	6 (6)	Skilled 7 (7)	8 (8)	9 (9)	Very Skilled 10 (10)
Displaying professional dispositions in and out of the classroom (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 Have you participated in a formal Candidate Learning Community (CLC)?

☐ Yes (1)

☐ No (2)

If No Is Selected, Then Skip to Please write any additional com...

Q15 Please rate each item by indicating the number 1 as NOT helpful to 10 as VERY helpful. Please select the number that best describes your understanding.

_____ To what extent did your Candidate Learning community help you improve your teaching skills (1)

_____ To what extent did your Candidate Learning community help you improve your teacher dispositions (2)

_____ To what extent was your time with your CLC beneficial to your overall experience in clinical (3)

Q16 How much time did you spend on average with your CLC outside of class per week?

☐ 0-29 minutes (1)

☐ 30-59 minutes (2)

☐ 60-89 minutes (3)

☐ 90-119 minutes (4)

☐ 120+ minutes (5)

Q17 Please rate the following Candidate Learning Community activities and level in each of the following areas related to teaching by indicating the number 1 as NOT helpful to 10 as VERY helpful. Please select the number that best describes your understanding. Which activities provided you benefit when working with your CLC group?

- _____ Lesson plan writing (1)
- _____ Evaluation of teaching lessons (2)
- _____ Literature circles (3)
- _____ Informal discussions (4)
- _____ Disposition evaluations (5)
- _____ Projects (6)
- _____ Presentations (7)
- _____ Organization of learning (8)

Q18 Please describe your experience with completing assigned tasks with your CLC group.

Q19 Please describe the experience with any activity with your CLC group, which was not assigned.

Q20 Please write any additional comments that you would like to share.

Q21 Please identify your current class year in school.

- ☐ Freshman (1)
- ☐ Sophomore (2)
- ☐ Junior (3)
- ☐ Senior (4)
- ☐ Graduate Student (5)

Q22 What is your gender?

- ☐ Male (1)
- ☐ Female (2)

Q23 What is your intended teaching endorsement(s)? Please check all that apply

- ☐ Elementary Education (1)
- ☐ Special Education (2)
- ☐ Early Childhood (3)
- ☐ English as a Second Language (4)
- ☐ Other (5)

Q24 Please enter your Hastings College ID number.

Q25 Would you be willing to participate in an individual interview for this research?

☐ Yes (1) Indicate name here:

☐ No (2)

Appendix B

Interview Protocol

Interview Protocol

Project Title: A Study of Pre-service Teachers Participating in Candidate Learning Communities: A Mixed Methods Study

Time of Interview:

Date:

Place:

Interviewer: Barbara Sunderman

Interviewee:

Position of Interviewee: Student in ED 340

Timing of Interviews: This interview will take place at the conclusion of the semester. Students will be selected using a systemic selection based on the results of the quantitative survey. Six to ten individuals will be asked to participate in the interviews.

Purpose of the Study: The purpose of this study is to examine the relationship between perceptions of instructional pedagogy and professional dispositions of pre-service teacher education candidates' understanding of their own teaching skills in a Mid-western, private, liberal arts, church affiliated college. The study will look at perceptions before and after the clinical experience while participating in an Elementary Candidate Learning Community. In this study, teacher candidates studying elementary and special education will participate in Elementary Candidate Learning Communities with peers while enrolled in courses and clinical experiences. Elementary and Special Education majors were chosen as they participate in four courses together as well as the clinical experience allowing frequent opportunity to interact with their cohort as well as their own learning community.

Questions:

1. Please describe your experience with Candidate Learning Communities during the fall semester of this year.
2. Describe the relationship with your CLC group, comparing the beginning of the semester with the end of the semester.
3. Describe the impact your CLC had on your experience within the clinical term on your growth in terms of understanding the teaching of lessons.
4. Describe the experience with the CLC and any impact it had on your understanding of classroom management.
5. Describe the experience with the CLC and any impact on your understanding of professional dispositions.

6. Can you describe the overall experience of your semester?
7. What could be improved about the CLC work in the semester?
8. What did you like about the CLC work in the semester?
9. Is there anything else you would like to say about the experience that was not covered in these questions?

(Thank the individual for participating in this interview. Assure him or her of confidentiality of responses.)

Appendix C

Letter of Permission from Hastings College

Letter of Permission from Hastings College

**HastingsCollege**

Gary Johnson
Vice President for Academic Affairs
Dean of the Faculty

July 1, 2014

To Whom It May Concern,

Barbara Sunderman has permission to refer specifically to Hastings College in her research study for her doctoral dissertation. Please feel free to contact me if you have any questions.

Sincerely,

Gary C. Johnson
Vice President for Academic Affairs
Hastings College | 710 N. Turner Ave. | Hastings, NE 68901
o. 402.461.7346 | c. 402.984.7738 | f. 402.461.7778
gcjohnson@hastings.edu

**HastingsCollege**

Liberal Arts Since 1882

710 N. TURNER AVE. | HASTINGS, NEBRASKA 68901-7621 | (P) 402.463.2402 | WWW.HASTINGS.EDU

Appendix D

Permission from Dr. Aaron Bower

Letter of Permission from Dr. Bower

Sunderman, Barbara

From: Brower, Aaron <aaron.brower@uwex.edu>
Sent: Monday, March 09, 2015 1:16 PM
To: Sunderman, Barbara
Subject: Re: Use of Pyramid from Article

Yes, of course, and I assume you'll cite it appropriately. Good luck!

Aaron M. Brower, Ph.D.
 Provost and Vice Chancellor
 University of Wisconsin-Extension
 432 N. Lake Street, Rm 401
 Madison, WI 53706
 608.262.6151
aaron.brower@uwex.edu
<http://www.uwex.edu/academic-affairs/>

From: <Sunderman>, Barbara <bsunderman@hastings.edu>
Date: Monday, March 9, 2015 at 12:54 PM
To: Aaron Brower <aaron.brower@uwex.edu>
Subject: Use of Pyramid from Article

Dear Dr. Brower,

I am getting ready to complete my dissertation process on Learning Communities and their use at Hastings College. I am hoping I can still use your model of learning communities from your article, What IS a Learning Community? in About Campus from 1998. It works perfectly in my literature review section. My work is centered on the use of Learning Communities with pre-service teachers. Please let me know if I have your permission.

Thank you,
 Barbara Sunderman

Appendix E**IRB Letter**

3/9/2015

NUgrant Message - Official Approval Letter for IRB project #14571

NUgrant Message - Official Approval Letter for IRB project #14571

nugrant-irb@unl.edu

Sent: Wednesday, September 03, 2014 4:04 PM**To:** jisernhagen3@unl.edu; Sunderman, Barbara**Attachments:** email-letterhead-header.jpg (25 KB) ; email-letterhead-footer.jpg (12 KB)

September 3, 2014

Barbara Sunderman
Department of Educational Administration

Jody Isernhagen
Department of Educational Administration
132 TEAC, UNL, 68588-0360

IRB Number: 20140814571 EX

Project ID: 14571

Project Title: A STUDY OF PRE-SERVICE TEACHERS DURING CLINICAL TERM
WHILE PARTICIPATING IN ELEMENTARY CANDIDATE LEARNING
COMMUNITIES TO UNDERSTAND PEDAGOGY AND DISPOSITIONS: A MIXED
METHODS STUDY

Dear Barbara:

This letter is to officially notify you of the certification of exemption your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board's opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study based on the information provided. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as Exempt Category 2.

You are authorized to implement this study as of the Date of Exemption Determination:
09/03/2014.

1. Your stamped and approved informed consent documents have been uploaded to NUgrant (file with "Approved.pdf" in the form files). Please use these documents to distribute to participants. If you need to make changes to the informed consent documents, please submit the revised documents to the IRB for review and approval prior to using them.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- * Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- * Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- * Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- * Any breach in confidentiality or compromise in data privacy related to the subject or

<https://mail.hastings.edu/owa/?ae=Item&t=IPM.Note&d=RgAAAAANrJ%2foUOORJInoXWrydTOBwBzV7RbhBzFTbIg5bpWHGh8AAAw%2fz2AABzV7Rbh...> 1/2

3/9/2015

NUgrant Message - Official Approval Letter for IRB project #14571

others; or

* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

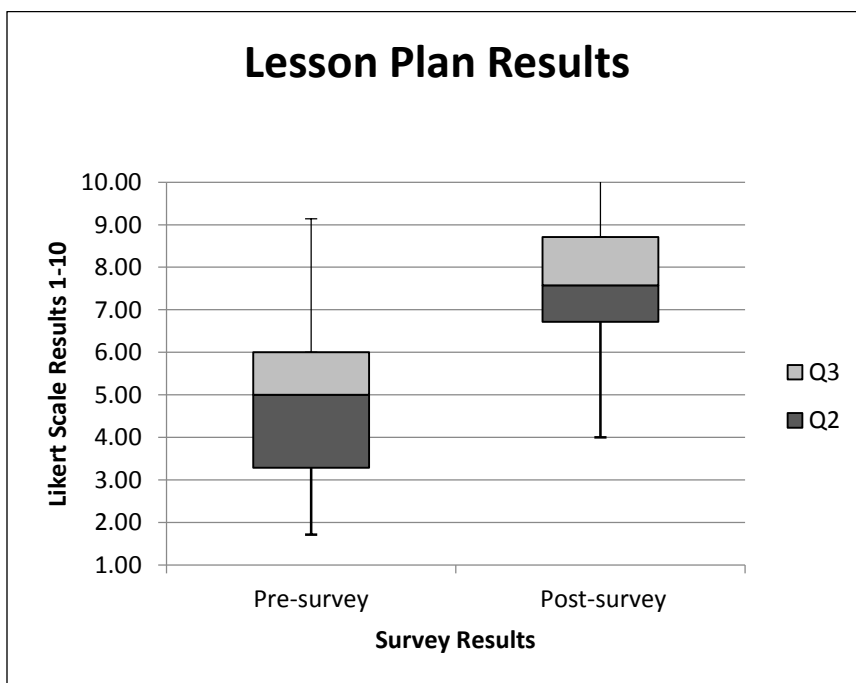
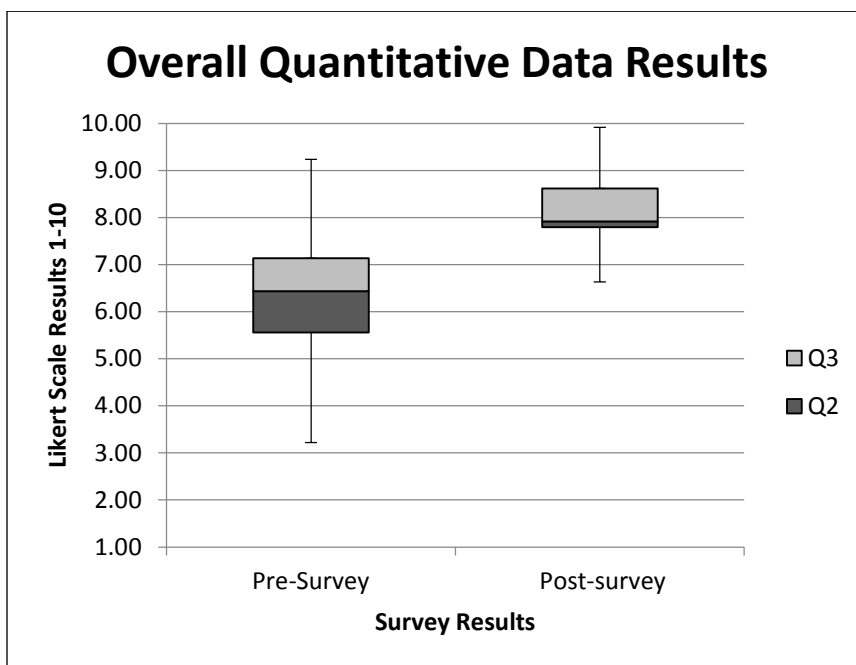
Becky R. Freeman, CIP
for the IRB

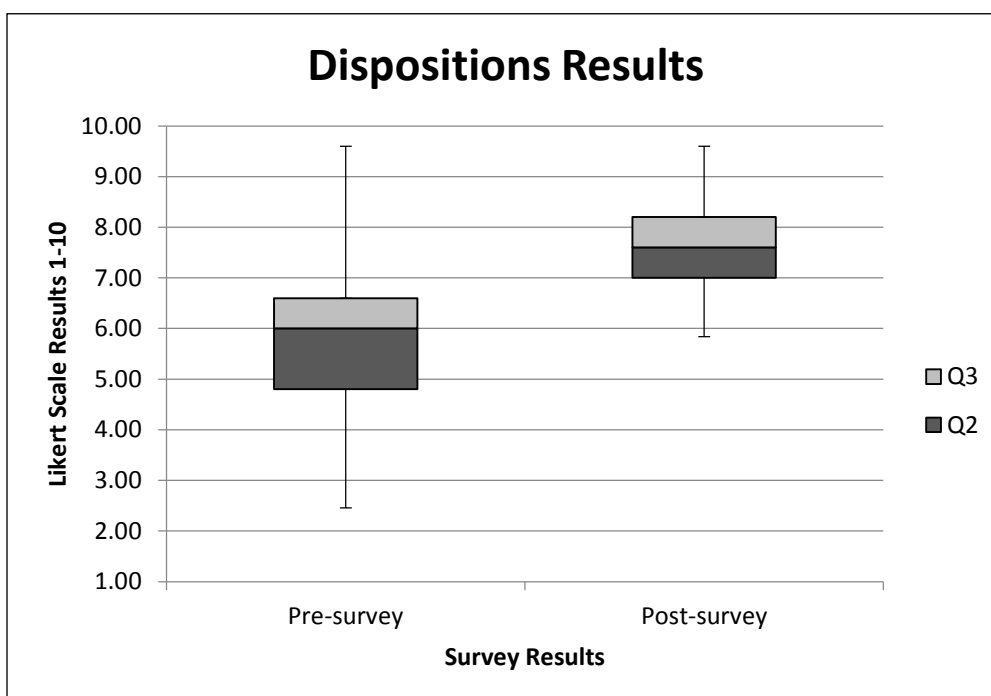
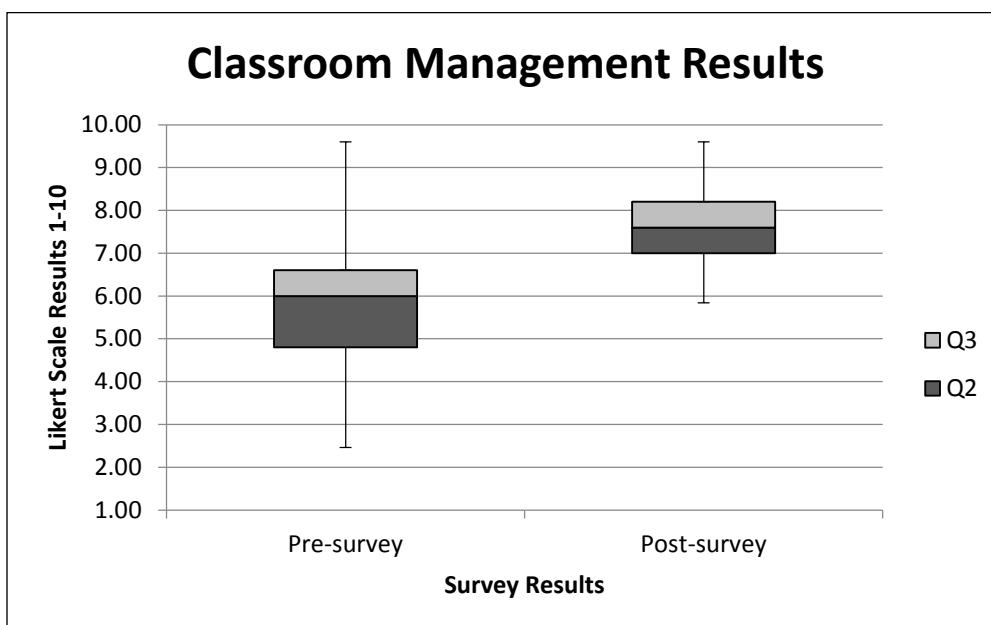


Appendix F

Quantitative Survey Results

Quantitative Results by Area





Overall Quantitative Survey Results Increase of Individual Mean from Highest to Lowest

Participants	Pre-Average	Post-Average	Increase
A	3.22	7.79	4.57
B	4.11	8.33	4.22
C	4.23	7.91	3.68
D	3.44	6.75	3.31
E	5.57	7.92	2.34
F	6.44	8.62	2.18
G	5.79	7.89	2.10
H	7.01	8.87	1.86
I	7.25	9.09	1.85
J	6.41	7.97	1.56
K	7.21	8.77	1.56
L	6.48	7.87	1.39
M	7.07	8.41	1.33
N	5.56	6.64	1.08
O	8.54	9.21	0.67
P	7.48	7.33	-0.15
Q	7.13	6.63	-0.50
Mean	6.06	8.00	1.95
Standard Deviation	1.52	0.81	1.39
Cohen's d			1.59
Effect Size			0.62
t-test			5.77
df			16.00
P Value			<.0001 considered extremely statistically significant
Min	3.22	6.63	
Q1	5.56	7.79	
Med	6.44	7.92	
Q3	7.13	8.62	
Max	8.54	9.21	