

NATIONAL BOARD CERTIFIED PHYSICAL EDUCATION TEACHERS: A
DESCRIPTIVE ANALYSIS

BY

JESSE L. RHOADES

DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Kinesiology
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2010

Urbana, Illinois

Doctoral Committee:

Associate Professor Amelia M. Woods, Chair, Director of Research
Associate Professor Kim C. Graber
Associate Professor Darla M. Castelli, University of Texas Austin
Associate Professor Elizabeth M. Delacruz
Associate Professor Lynn A. Barnett

Abstract

The Carnegie Task Force on Teaching as a Profession in 1986 released "A Nation Prepared". This seminal document was produced in an effort to improve instruction within the United States. Among its recommendations, the Carnegie foundation called for the establishment of a National Board that would certify highly qualified teachers. Subsequently, the National Board for Professional Teaching Standards (NBPTS) was established in 1987 to develop high and rigorous standards for public school teachers within the US. In 1995 the NBPTS began certifying teachers as National Board Certified (NBC). However, physical education was not originally among the disciplines eligible for NBC. It was not until 2001 that physical education teachers were offered certification by the NBPTS. National Board Certified Teachers (NBCTs) have been the subject of many investigations since the beginning of certifications by the NBPTS. Surprisingly, few studies have examined National Board Certified Physical Education Teachers (NBCPETs). This study examined NBCPET's task presentations, learning environments, efficacy, attitudes, dispositions, and participation in collaborative learning. Six NBCPETs were recruited from three school districts in South Carolina. The Qualitative Measures Teaching Performance Scale (QMTPS), Academic Learn Time-Physical Education (ALT-PE), Teacher Efficacy Scale (TES), open ended interviews, document analysis, and observations were utilized for data collection. Two site visits were conducted during November 2009 and January 2010. Community of Practice Theory was used as a theoretical framework for this investigation. Data were deductive analyzed to develop emergent themes, and then deductively analyzed to compare results with theory. Themes

that emerged were: reflection-in-action and reflection-on-action; instructional collaboration with other physical education professionals; perception of own quality instruction, and the perceived change in professional practices as a result of NBC. Participants exhibited high scores on QMTPS, ALT-PE, and TES. Further, results from observational instruments were supported by qualitative data. Participants demonstrated competency in task presentation, and usage of class time. Participants also exhibited a high degree of both general as well as personal teacher efficacy. Finally, data indicated that the NBPTS could be fostering a Community of Practice among its certified teachers.

For Becky Sue, Samuel Lee, and our
children yet to be born

Acknowledgments

It was six years, three months, and twenty seven days since I was consigned to the desert by Christian. A perilous journey which I could not comprehend lay before me. Uncertain was the path, and the doorway was unclear. In my time in the desert I met many people and learned much about the world. Old precepts of knowledge were wiped away and confounded with new scripts. However, on my journey I found that all knowledge is only a piece of the truth, which we will not find. We can only endeavor to understand our piece of the truth, and in that understanding try to comprehend a world which is non-linear in nature, and unpredictable by design.

Many people helped me along my path and to them I owe a debt of gratitude. Dr. Al Finch took me and showed me the path to a world of possibility. Dr. Darla Castelli, Dr. Kim Graber, Dr. Lynn Barnett and Dr. Elizabeth Delacruz, helped guide me along the final stretch, and unlocked the door. Dr. Amy Woods who saw potential in me long before my six years, to you I owe a debt, without your guidance I would not have found my way.

I would be remiss if I did not thank my parents, I could not have made this journey without the support they provided. When I made the decision to cross the wilderness, like good shepherds they cautioned me, but I persisted. Finally, when my mind was made they encouraged me through the times of doubt, congratulated me in times of victory, and always were there to support my endeavors.

To my Becky, while in the wilderness you were one of the brightest stars. Day or night you always were with me, you are my inspiration, my encouragement, and my touchstone. Without you I would not be who I am, I love you with all of my being, this

would not be possible without your love and support. My journey would not have been complete without you.

I feel as Odysseus returning from his twenty years. Now that my journey is complete I can say of my six years, three months, and twenty seven days, that the destination of this journey was not the green paradise I found on the other side. The Journey, the Adventure, was the real reward; the real prize was taking that first step into the unknown.

Table of Contents

List of Figures	xvii
Chapter 1: Introduction	1
Statement of Problem.....	5
Purpose of the Study	6
Research Questions.....	7
Chapter 2: Review of Literature	9
Carnegie Foundation.....	9
Educational Reform Movement: Documents and Legislation.....	10
A Nation at Risk: The imperative for educational reform.	10
A Nation Prepared: Teachers for the twenty-first century.....	13
Goals 2000: Educate America act.....	14
No Child Left Behind.....	16
National Board for Professional Teaching Standards	18
National Board Certification Process.....	20
Research on National Board Certified Teachers’ Effectiveness.....	22
National Board Certified Teachers’ Sense of Self-Efficacy	27
Successful Completion of National Board Certification	28
National Board Certified Physical Education Teachers.....	29
Expertise in Physical Education.....	32
Effective Instruction in Physical Education.....	34
Student engagement and practice.....	34
Instructional tasks.	37

Teacher feedback	39
Importance of Quality Daily Physical Education	39
Childhood obesity.	40
Motor competency and physical activity levels.....	41
Measurement and Evaluation of Instruction in Physical Education	43
Academic Learning Time – Physical Education.....	43
Qualitative Measure of Teacher Performance Scale.....	44
Teacher Efficacy Scale.	45
Research Guidance.....	47
Research model.....	47
Communities of Practice Theory	48
Summary	54
Chapter 3: Methods.....	55
Participant Recruitment	57
Measures	58
Interviews.....	59
Academic Learning Time – Physical Education.....	60
Qualitative Measures Teaching Performance Scale.	61
Teacher Efficacy Scale.	62
Document analysis.....	63
Procedure.	63
Data Collection Summary.....	64
Data Analysis	65

Trustworthiness.....	66
Triangulation.....	67
Peer debriefing.....	67
Negative case analysis.....	68
Member checks.....	68
Contextual journal.....	69
Investigator bias.....	69
Chapter 4: Results.....	71
Emma.....	71
Emma’s Demographic and Immediate Work Environment.....	72
Emma’s Task Presentations.....	74
Emma’s Use of Class Time.....	76
Emma's Attitudes and Dispositions towards the Five Core Propositions.....	79
Proposition 1: Teachers are committed to students and their learning.....	79
Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students.....	80
Proposition 3: Teachers are responsible for managing and monitoring students’ learning.....	81
Proposition 4: Teachers think systematically about their practice and learn from experience.....	82
Proposition 5: Teachers are members of learning communities.....	83
Emma's Sense of Teaching Efficacy.....	84

Emma and a Community of Practice	86
Mutual engagement.....	86
Shared repertoire.....	88
Joint enterprise.....	88
Summary.....	89
Eugene.....	90
Bliss Elementary	91
Spano Elementary	91
Eugene’s Demographic and Immediate Work Environment	92
Eugene’s Task Presentations.....	95
Eugene's Use of Class Time.....	97
Eugene’s Attitudes and Dispositions towards the Five Core Propositions.....	101
Proposition 1: Teachers are committed to students and their learning.	102
Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students.....	103
Proposition 3: Teachers are responsible for managing and monitoring students’ learning.	105
Proposition 4: Teachers think systematically about their practice and learning from experience.....	106
Proposition 5: Teachers are members of learning communities.....	107
Eugene’s Sense of Teaching Efficacy.....	109
Eugene and a Community of Practice.....	113

Mutual engagement.....	114
Shared repertoire.....	117
Joint enterprise.....	118
Summary.....	119
Richard.....	121
Richard’s Demographic and Immediate Work Environment	122
Richard’s Task Presentations.....	123
Richard’s Use of Class Time	126
Richard's Attitudes and Dispositions towards the Five Core Propositions.....	130
Proposition One: Teachers are committed to students and their learning.....	130
Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students.....	132
Proposition Three: Teachers are responsible for managing and monitoring students’ learning.....	133
Proposition Four: Teachers think systematically about their practice and learn from experience.....	134
Proposition Five: Teachers are members of learning communities.....	135
Richard’s Sense of Teaching Efficacy.....	137
Richard and a Community of Practice.....	139
Mutual engagement.....	139
Shared repertoire.....	140
Joint enterprise.....	140

Summary.....	141
Nathan.....	143
Nathan's Demographic and Immediate Work Environment.....	144
Nathan's Task Presentations.....	146
Nathan's Use of Class Time.....	149
Nathan's Attitudes and Dispositions towards the Five Core Propositions.....	153
Proposition One: Teachers are committed to students and their learning.....	153
Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students.....	155
Proposition Three: Teachers are responsible for managing and monitoring students' learning.....	156
Proposition Four: Teachers think systematically about their practice and learn from experience.....	158
Proposition Five: Teachers are members of learning communities.....	159
Nathan's Sense of Teaching Efficacy.....	160
Nathan and a Community of Practice.....	164
Mutual engagement.....	164
Shared repertoire.....	166
Joint enterprise.....	166
Summary.....	167
Jessica.....	168
Jessica's Demographic and Immediate Work Environment.....	169

Jessica's Task Presentations	170
Jessica's Use of Class Time	173
Jessica's Attitudes and Dispositions towards the Five Core Propositions	176
Proposition One: Teachers are committed to students and their learning.	177
Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students.	178
Proposition Three: Teachers are responsible for managing and monitoring students' learning.	178
Proposition Four: Teachers think systematically about their practice and learn from experience.....	180
Proposition Five: Teachers are members of learning communities.....	181
Jessica's Sense of Teaching Efficacy	182
Jessica and a Community of Practice.....	185
Mutual engagement.....	185
Shared repertoire.....	187
Joint enterprise.....	188
Summary.....	189
Sarah	190
Sarah's Demographic and Immediate Work Environment	190
Sarah's Task Presentations	192
Sarah's Use of Class Time	195
Sarah's Attitudes and Dispositions towards the Five Core propositions	199

Proposition One: Teachers are committed to students and their learning.	199
Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students.	200
Proposition Three: Teachers are responsible for managing and monitoring students' learning.	201
Proposition Four: Teachers think systematically about their practice and learn from experience.....	202
Proposition Five: Teachers are members of learning communities.....	204
Sarah's Sense of Teaching Efficacy	205
Sarah and a Community of Practice.....	208
Mutual engagement.....	208
Shared repertoire	211
Joint enterprise	211
Summary.....	213
Emergent Themes	213
Reflection-in-Action and Reflection-on-Action	214
Reflection-in-action	216
Reflection-on-action.	216
Instructional Collaboration with other Physical Education Professionals	220
Learning communities.	226
Perception of Own Quality Instruction	226
Perceived Changes in Professional Practices as a Result of NBC.....	233

Chapter 5: Discussion, Conclusions, and Recommendations	241
NBCPET Task Presentation.....	242
Preexisting or increased teaching effectiveness.....	242
Task presentation and the five core propositions.....	243
Richard’s performance on the QMTPS.....	244
NBCPET Use of Class Time.....	245
Use of class time and the five core propositions.....	247
Perceived planning and management changes as a result of the NBC process.....	248
Personal and General Teacher Efficacy	249
Personal and general teacher efficacy and the five core propositions. ...	251
Attitudes and Dispositions Towards the Five Core Propositions	252
Discussion of Communities of Practice	253
Mutual engagement and the five core propositions.	255
Joint enterprise and the five core propositions.	255
Shared repertoire and the five core propositions.	257
Participants, and a Community of Practice.....	258
Discussion of Emergent Themes	258
Reflection-in-action and reflection-on-action.....	259
Instructional collaboration with other physical education professionals.	260
Perceived changes in professional practices as a result of NBC.	261
Perception of own quality instruction.	262
Communities of Practice and the NBPTS.....	263

Implications for Physical Education	268
Limitations	269
Future Investigations.....	269
Closing	271
References.....	272
Appendix A: NBPTS Five Core Propositions and Tenets	293
Appendix B: Teacher Informed Consent Form	294
Appendix C: Parent’s Informed Consent Form	295
Appendix D: Child 8-17 Years of Age Informed Assent	296
Appendix E: Teacher Efficacy Scale (TES)	297
Appendix F: Academic Learn Time – Physical Education.....	299
Appendix G: November Interview Guide.....	300
Appendix H: January Interview Guide	302
Appendix I: Qualitative Measure of Task Performance Scale.....	304
Author’s Biography	305
Curriculum Vita	306

List of Figures

Chapter 2

<i>Figure 2.01</i> Community of Practice (Wenger, 1998).....	50
--	----

Chapter 4

<i>Figure 4.01</i> Emma's QMTPS scores	74
--	----

<i>Figure 4.02</i> Emma ALT-PE context level data.	78
---	----

<i>Figure 4.03</i> Emma ALT-PE learner level data.....	78
--	----

<i>Figure 4.04</i> Emma and a CoP.....	90
--	----

<i>Figure 4.05</i> Eugene QMTPS scores.	95
--	----

<i>Figure 4.06</i> Eugene's ALT-PE learner level data.	99
---	----

<i>Figure 4.07</i> Eugene's ALT-PE context level data.....	100
--	-----

<i>Figure 4.08</i> Eugene and a CoP.	120
---	-----

<i>Figure 4.09</i> Richard's QMTPS scores	124
---	-----

<i>Figure 4.10</i> Richard's ALT-PE context level data	127
--	-----

<i>Figure 4.11</i> Richard's ALT-PE learner level data.....	127
---	-----

<i>Figure 4.12</i> Richard and a CoP.....	142
---	-----

<i>Figure 4.13</i> Nathan QMTPS scores.....	146
---	-----

<i>Figure 4.14</i> Nathan's ALT-PE context level data.	150
---	-----

<i>Figure 4.15</i> Nathan's ALT-PE learner level data.....	150
--	-----

<i>Figure 4.16</i> Nathan and a CoP.....	168
--	-----

<i>Figure 4.17</i> Jessica's QMTPS scores.....	170
--	-----

<i>Figure 4.18</i> Jessica's ALT-PE context level data.....	173
---	-----

<i>Figure 4.19</i> Jessica's ALT-PE learner level data.	174
--	-----

<i>Figure 4.20</i> Jessica and a CoP.	190
<i>Figure 4.21</i> Sarah’s QMTPS scores.	192
<i>Figure 4.22</i> Sarah’s ALT-PE context level data.	195
<i>Figure 4.23</i> Sarah’s ALT-PE learner level data.	196
<i>Figure 4.24</i> Sarah and a CoP.	213
<i>Figure 4.25</i> Overall QMTPS accuracy of cues.	238
<i>Figure 4.26</i> Perceived changes as a result of the NBC process.	240
Chapter 5	
<i>Figure 5.01</i> Possible model for five core propositions and CoP.	264

Chapter 1: Introduction

Educational Reform in the United States has been a concern since a seemingly ordinary Wednesday in 1983. On Wednesday June 1st 1983, *A Nation at Risk* was released to the American public (NCEE, 1983). Over the past 25 years the educational establishment has seen a multitude of reform documents, acts, and legislation. Phases of educational reform have inundated the educational establishment yearly in the United States. Groups such as the Holmes Partnership and the Carnegie Foundation were promoting educational reform even before the introduction of *A Nation at Risk* (NEGP, 2008; PBS, 2008). However, in the aftermath of *A Nation at Risk* even these organizations increased their efforts.

The Flexner Report of 1910 began a wave of medical education reform. This report was sponsored and published by the Carnegie Foundation and represents one of the most notable educational reforms of the 20th century (CF, 2008; CTFTP, 1986). Flexner initiated a systemic evaluation of medical education within the United States, finding that the United States' medical education system was in dire condition (Flexner, 1910). He cited a lack of concern for public health as a major factor in the declining medical education system. Flexner made several recommendations including that medical schooling take no less than four years, and that a prospective physician have at least a high school diploma and two years of college before admission to medical training. Prior to the release of the Flexner Report these conditions were being met in less than 10% of the medical schools in the United States (Hyatt & Stockton, 2003). By 1920 over 90% of medical schools in the United States met these recommendations. As a result of this

reform, the United States' medical education system became second to none in the world (Hiatt & Stockton, 2003).

Another report produced by the Carnegie Foundation, *A Nation Prepared*, had much the same educational reform intentions as the Flexner Report of nearly 76 years earlier (CTFTP, 1986). In fact, *A Nation Prepared* specifically cites the Flexner Report and its accomplishments as part of the driving force behind many of the reform measures which are discussed in *A Nation Prepared*. One unifying theme within educational reform has been the need for quality teaching. Indeed quality teaching has been identified as the single most important factor in ensuring student achievement (Darling-Hammond, 1997; DeLeon, 2003; Goldhaber, 2002; Stronge, 1997). In 1986 the Carnegie Task Force on Teaching as a Profession (CTFTP) issued its report. Among its many recommendations, *A Nation Prepared* proposed that a national board for professional teaching standards be formed to increase the quality of education in the United States (CTFTP). The National Board for Professional Teaching Standards (NBPTS) was formed in 1987, one year after *A Nation Prepared* (NBPTS, 2008a). The purpose of NBPTS was three-fold: (a) to establish and maintain high standards for what teachers should know and be able to perform; (b) to create a voluntary certification system to identify teachers who meet these high standards; and (c) to improve the quality of schools in the United States by providing highly qualified teachers to the public education system. At the heart of this organization are five core propositions that state,

1. Teachers are committed to students and their learning.
2. Teachers know the subjects they teach and how to teach those subjects to students.

3. Teachers are responsible for managing and monitoring students' learning.
4. Teachers think systematically about their practice and learn from experience.
5. Teachers are members of learning communities.

In 1995 the NBPTS, after eight years of standards building, began certifying teachers as National Board Certified (NBC) (Goldhaber, Perry, & Anthony, 2004; Goldhaber, 2007). Teachers who achieve National Board certification have to complete four portfolio entries, two of which are video-recorded. These portfolio entries must illustrate that the candidate teacher knows and uses the standards set forth by the NBPTS (NBPTS, 2008a). Assessment center activities further probe the teachers' utilization of the standards which the NBPTS has established for each content area. NBC candidates must also demonstrate in both portfolio and assessment activities an underlying promotion of the five core propositions.

Only after a candidate demonstrates proficiency through portfolio entries and assessments is he or she granted National Board Certification. This designation indicates that these teachers have been identified as being of the highest quality. Certification activities reinforce reflective practices within the profession (NBPTS, 2008a). Reflection and reflective practices are encouraged throughout the process. Several studies over the past decade have found these teachers to be a great asset to the school districts in which they are charged with the education of children (Cavalluzzo, 2004; Freund, Russell, & Kavulic, 2005; Goldhaber et al., 2004; Goldhaber & Anthony, 2007; NRC, 2008). These studies have found a multitude of positive attributes which these teachers bring to their classrooms and schools.

Through all of the discussion about educational reform and the importance of raising standardized tests scores in math, reading, and science, there has been one constant: highly qualified teachers are the most important predictor of student achievement (Darling-Hammond, 1996; 1997; DeLeon, 2003; Stronge, 1997). The NBPTS did not certify physical education teachers until 2001. It took nearly six years to incorporate physical education as a discipline for certification by the NBPTS. Physical education has been hindered by a marginalization of the discipline, and an overall low standard expectation among school administrators. (Burgeson, Wechsler, Brener, Young, & Spain, 2001). This theme of physical education marginalization is evidenced even in the earliest educational reform documentation. *A Nation at Risk* discussed the overabundance of students taking physical education and health classes in high school as a major contributing factor to the decline of the education system (NCEE, 1983).

It has become increasingly evident that the marginalization of physical education may have dire consequences for its future. Our society has seen an increase in coronary heart disease, type-2 diabetes, and many other illnesses related to the obesity epidemic (Gordon-Larsen, Nelson, & Popkin, 2004; President's Council on Physical Fitness and Sports, 1996). The Surgeon General's Reports in 1996 and 2001 indicated that drastic changes should be made in preparation for lifelong fitness. The incidence of overweight and obesity have skyrocketed, which has led to both short- and long-term healthcare issues (USDHHS, 1996; 2001). These reports were further supported by the Centers for Disease Control (2000; 2005), that found similar results among the population of the United States. Olshansky et al. (2005) suggested that the students currently in our educational system will be the first generation to not outlive their parents. Studies have

shown that higher levels of physical activity during early childhood can have a positive effect on body composition of children during adolescence (Lynn, et al., 2003). With an emphasis on proper physical education, the creation of the motor-competent individual, and the promotion of lifelong fitness, our society could write this epidemic off simply as a byproduct of the information age which was effectively addressed. Could National Board Certified Physical Education Teachers (NBCPET) be one of the vital tumbler which could unlock the obesity epidemic?

Statement of Problem

A relationship between motor competence and perceived motor and physical activity has been long established (Crocker, Eklund, & Kowalski 2000; Fisher et al., 2005; Solmon & Lee, 1996; Stodden & Goodway, 2007; Woods et al., 2007; Telama, Nupponen, & Perion 2005). In the fight against childhood obesity, motor development, which instills a sense of motor competence, is an advantage to children who are predisposed to obesity. Effective physical education could have the desired effect of increased motor competence, or the perception of motor competence (Bailey, 2006). A positive consequence of motor competence could lead to more physically active children. Research has indicated that physically active or inactive children will repeat these tendencies as adults (Gordon-Larsen et al., 2004). A clear path has been set by this research, and we need only follow where scientific inquiry has pointed. As a nation we are in desperate need of highly qualified physical education teachers who affect high levels of student achievement (Bailey, 2006).

NBCTs in the classroom have been found to improve student achievement, have demonstrated high levels of self-efficacy, and have been identified as highly qualified

(Bond, Smith, Baker, and Hattie, 2000; Cavalluzzo, 2004; Freund, Russell, & Kavulic, 2005; Goldhaber & Anthony, 2007; Goldhaber et al., 2004; NRC, 2008; Sanders, Ashton, & Wright, 2005; Scharf, 2004; Smith, Gordon, Colby, & Wang, 2005; Vandervoort, Amrein-Beardsley, & Berliner, 2004). The problem which this study seeks to address is the limited amount of data with regard to NBCPETs. Little to no research has been conducted on these teachers (Phillips, 2008). Research, however, needs to occur to determine if a correlation exists between NBCPETs and student achievement.

Compounded with the limited data on the effectiveness of NBCPETs is the amount of money which is currently being used for the production and incentives of NBCPETs. It is estimated that as of 2004 \$637 million had been spent by federal and state sources in the production and incentives of the National Board process (Goldhaber & Anthony, 2007).

The problem with this level of funding is the unproven nature of NBCPETs (Stone, 2002). While it is true that several studies have shown that NBC teachers in the classroom environment are increasing student outcomes (Bond et al., 2000; Cavalluzzo, 2004; Goldhaber et al., 2004; NRC, 2008; Vandervoort et al., 2004), results have yet to demonstrate the effectiveness of the NBPTS process in the physical education environment. This raises the question: "In the fight against childhood and adult obesity, could funds be spent more wisely in preparing physical educators?" This question cannot be answered until studies on NBCPETs are conducted.

Purpose of the Study

This study sought to provide an in-depth description of NBCPETs and several aspects of their classroom environments. This examination was conducted utilizing naturalistic qualitative measures. NBCPETs' task presentation, learning environments,

lesson and unit planning, disposition, self-efficacy, and emulation of NBPTS rhetoric were investigated. In an interview with Education World Joseph A. Aguerrebere Jr., president of the NBPTS, touted its standards as a living document (Starr, 2004). This document is amendable; it can be changed in order to allow the flexibility needed for growth in a dynamic environment. Studies like this one will allow this living document to grow and evolve. This study serves as a foundation for future comparisons of NBCPET and their non-NBC counterparts.

Research Questions

With so little research on NBCPETs numerous questions emerge. The multitude of questions which need to be answered cannot be addressed in one study. For this reason it was necessary to limit the scope of this investigation. Specifically, this investigation was limited to what Dunkin and Biddle (1974) referred to as “process variables,” or what Graber (2001) referred to as “the ecology of the gym.”

The following research questions guided this study:

1. How do National Board Certified Physical Education Teachers present tasks in their lessons with regard to demonstrations, clarity, number of cues, accuracy of cues, and quality of cues?
2. How do National Board Certified Physical Education Teachers create learning environments with relationship to time indices, i.e. motor appropriate practice, motor inappropriate practice and off-task behavior?
3. Do National Board Certified Physical Education Teachers’ motivations and dispositions reflect the five core propositions of the National Board?
4. What are NBCPETs senses of personal and general teacher efficacy?

5. Do NBCPETs exhibit traits that would be consistent with them being members of a Community of Practice?

Chapter 2: Review of Literature

It is difficult to discuss the NBPTS without first addressing educational reform within the United States. In this section the educational reform phenomena within this country over the past 25 years is outlined.

Though there had been rumblings of reform within education since before 1980, the proverbial earthquake which awoke the academic community did not strike until 1983. This quake appeared in the form of a report titled *A Nation at Risk* which was released by the National Commission on Excellence in Education (NCEE) on April 26, 1983 (NCEE, 1983). The NCEE was created on August 26, 1981 by the Secretary of Education Terrell H. Bell (NCEE; PBS, 2008). The NCEE soon after its creation began to examine the school systems. Though this report was far reaching and described a condition that many educators had known to exist for some time, many within the educational community believed that the shockwave of this report would die down in time (Gardner, 1994). This was not the case; nearly 25 years after *A Nation at Risk*, the educational community is still feeling the aftershocks (Gardener, 1994). Statements about the wellbeing of the educational system initially made by *A Nation at Risk* have been reiterated in subsequent educational reform legislation.

Carnegie Foundation

The Carnegie Foundation (CF) has had drastic effects on the teaching establishment for over a century. Initially chartered by an Act of Congress in 1906, this organization has at its core an agenda of advancing professional instruction within the United States (CF, 2008). This advancement includes the concept of professionalization, which is a process by which a profession is elevated in status among other professions

within a society. It has often been the goal among educators that teachers would achieve the same status as a person in the medical field (Quinn & Bobbit, 1996).

Some of the most noteworthy contributions of the CF to the educational establishment include the Flexner Report of 1910, the establishment of the Carnegie Classifications of Higher Education, the creation of the Educational Testing Service, and the creation of the NBPTS.

Educational Reform Movement: Documents and Legislation

Throughout the past half century, academia has seen revolutionary changes within our public education system (AEH, 2008; PBS, 2008). Some of the more noteworthy changes are *Brown vs. Board of Education, the Elementary and Secondary Education Act, A Nation at Risk, A Nation Prepared, Individuals with Disabilities Education Act, National Education Goals, The Higher Education Act, Goals 2000, and No Child Left Behind* (AEH, 2008 ; PBS, 2008). Though all of these educational reforms have been influential, it would be a challenge to describe them adequately in one document. This section will, however, describe four of the most influential reform documents. The first is *A Nation at Risk*, which sparked our contemporary model of reform. The second is *A Nation Prepared*, which played an integral role in the creation of the NBPTS. The final two pieces of reform legislation presented will be Goals 2000 and No Child Left Behind. These two are the most recent and demonstrate the politicization of the reform movement. All four documents represent the overall reform movement of the past 25 years quite well.

A Nation at Risk: The imperative for educational reform. This document is one of the most far-reaching and controversial pieces of educational reform within the

past 25 years. Secretary of Education T. H. Bell called for this report on August 26, 1981, and it was subsequently published in March of 1983 (NCEE, 1983). The report was supposed to give an accurate portrayal of the educational system in the United States. It was to also give recommendations for the correction of problems within the education system (NCEE, 1983). *A Nation at Risk* began to focus Americans on the public education system, and initiated a mindset of accountability for quality education (Viteritti, 2004). One of *A Nation at Risk*'s most important findings was that curricula in the secondary school system had become "homogenized, diluted, and defused," so much so that curricula had no central purpose (Deleon, 2003). *A Nation at Risk* found that too many general education courses were being offered. The report of the high rates of functional illiteracy among adults in the United States highlighted a growing concern among business and military leaders over the increasing amount of funding required in educating employees who lacked basic skills (Deleon, 2003).

Another interesting finding of this report with reference to physical education was that too many high school juniors and seniors were taking physical education and health courses (NCEE, 1983). *A Nation at Risk* itemized recommendations, among which were strengthening curricula, encouraging merit pay, and making concerted efforts to increase the quality of instructors in our schools (NCEE, 1983). This document, while shocking to the American public, drew skeptics who questioned the validity of the report. Darling-Hammond (1994) disputed the overarching argument of the document that schools are getting worse. She argued that US schools had improved, and the expectations for graduates had increased. The situation of employment in the US had changed. No longer were a majority of students going on to do unskilled labor, they were moving into skilled

professions that required much more education (Darling-Hammond, 1994). This proposition was supported by Guthrie and Springer (2004), who also believed that the report was misleading. However, Guthrie and Springer (2004) contended that there were two major positive outcomes in the wake of this document. First was the move away from judging schools' performance on the amount of resources they receive, to for the purpose of measuring student outcomes. Second, it was posited that though the performance gap between low-income and minority students was barely mentioned in *A Nation at Risk*, this performance gap had become of paramount importance in light of this report (Guthrie & Springer, 2004). The main concern of *A Nation at Risk* seemed to be with the preservation of the productivity of the nation. However, along the way of reform, the more pressing issue of gaps in student performance became an overwhelming social issue. This is evident in much of the reform legislation over the past 25 years (Guthrie & Springer, 2004). Guthrie and Springer also cites some negatives that resulted from *A Nation at Risk*. First, the federalization of school systems was a major detriment to local schools' creativity, in that accountability typically overshadows any new or innovative instructional design, in favor of a design which is proven to get results (Guthrie and Springer, 2004). Second, Guthrie and Springer indicated that the overutilization of standardized test scores to define student achievement was a detrimental after-effect.

While it is true that some may dispute the claims of *A Nation at Risk*, and this document remains a controversial report, one truth does present itself in the literature. *A Nation at Risk* changed the fundamental way educational reform is viewed, and the way

in which education is administered in the US (Darling-Hammond, 1994; Deleon, 2003; Guthrie & Springer, 2004; Wong, Guthrie, & Harris, 2003; Wong & Nicotera, 2004).

A Nation Prepared: Teachers for the twenty-first century. *A Nation Prepared* was a direct response to *A Nation at Risk*. Without the former reform documentation, the latter would not have been necessary. This is interesting because the origins of the NBPTS can be traced directly to the Carnegie Foundation report *A Nation Prepared*. Therefore both the 1983 reform document and the 1986 reform document must be examined as the birthplace of the NBPTS.

A Nation Prepared called for sweeping changes throughout the education establishment (CTFTP, 1986). One claim of this report was that if teachers took a leadership role in curriculum design, instruction, and assessment they would more readily implement strategies that would be effective in student achievement (Lieberman & Miller, 2000). Recommendations also included improved salaries, incentives for student achievement, the development of new teacher education curricula, and the restructuring of schools to provide a professional environment (CTFTP, 1986). Many of these recommendations reflected the Carnegie Foundation's continuing pursuit of professionalization within the teaching profession (Deleon, 2003). One of the most lasting of these recommendations was the creation of a National Board for Professional Teaching Standards. As envisaged by *A Nation Prepared*, this board would be charged with the creation of high and rigorous standards that teachers should be expected to meet (CTFTP, 1986). These standards would specify what teachers should know and be able to do. The board would also create a voluntary certification program for the identification of highly qualified teacher who met their standards (CTFTP, 1986). This board was

envisioned to be a teacher's version of the medical field's certification board (Vandevoort et al., 2004). In 1987 the NBPTS was established, chartered with the tasks laid out for it by the Carnegie Foundation in *A Nation Prepared* (Goldhaber et al., 2004), with the hope that the NBPTS would gain the trust of the American public, which had been lost with *A Nation at Risk*, and establish a culture of quality instruction. This culture of quality would create a justification for quality teachers, and high standards of excellence for instructors in the United States (NBPTS, 2002).

Goals 2000: Educate America act. A truly unique theme among contemporary education acts is the involvement of multiple presidential administrations. Goals 2000 has the distinction of being administered by three presidents, two political parties, and a father and son. This act had its conception in 1990 in the National Education Goals 2000, (NEGP, 2008; PBS, 2008) which originally contained six standards for education in the United States and eventually contained eight standards (Campbell, 2003; Goals 2000 Partnership, 1996; NEGP; PBS). The eight standards that constituted the Goals 2000 Standards were:

1. All children will start school ready to learn.
2. The high school graduation rate will increase to at least 90%.
3. All students will become competent in challenging subject matter.
4. Teachers will have the knowledge and skills that they need.
5. United States students will be first in the world in mathematics and science achievement.
6. Every adult American will be literate.
7. Schools will be safe, disciplined, and free of guns, drugs, and alcohol.

8. Schools will promote parental involvement (Goals 2000 Partnership, 1996; NEGP, 2008).

These goals were originally set by President George H. W. Bush in 1989 and were announced in February 1990 (Rothstein, 1999). In a non-partisan action President Bill Clinton endorsed these standards and subsequently Congress adopted the Goals 2000 initiative in March 1994 (Goals 2000 Partnership, 1996; Rothstein, 1999). President Clinton described this bill as one of the most far-ranging education reform acts (Clinton, 1994). The comprehensiveness of this educational reform act made it truly unique (Rink & Williams, 2003). Goals 2000 set for the first time specific standards of what students should know and be able to do upon graduation (Clinton, 1994; Goals 2000 Partnership). There have, however, been many critics of this act and many describe frustration at the lack of accountability (Campbell, 2003; Holland, 1999). Accountability is an interesting concept in that a majority of reform documents make recommendations, but fail to enforce any responsibility for the implementation of these recommendations. While it is true that Goals 2000 addresses assessment and accountability, it sets out no clear mode of evaluation of these standards (Campbell, 2003). This failure to create any clear method of evaluating the goals set forth in this document is one of its major drawbacks. Rothstein among others had already called Goals 2000 a failure a year before the date of its goal, indicating that the education act was an overwhelming waste of taxpayers' dollars and legislative power.

Goals 2000 led to the implementation of the No Child Left Behind Act, that took the strengths of Goals 2000 and combined them with accountability measures to correct what many felt was its major shortcoming.

No Child Left Behind. The No Child Left Behind Act set forth some of the most rigorous education standards and school accountability of any reform legislation to date.

The basic premise of this education act is based on four pillars.

1. Stronger accountability for results: Schools must provide evidence of accountability in the form of a yearly report card. This report card is based on standardized test scores and assesses the progress of a school. Schools that do not meet adequate yearly progress must make changes to address issues within their school. Title I funding can be affected if a school continues to fail (USDE, 2003; 2008).
2. More freedom for states and communities: Under this education act schools are allowed exceptional flexibility for the use of their federal funds. Schools are able to use this money quite liberally in an effort to make improvements (USDE, 2003; 2008).
3. Proven education methods: Research funding is to be diverted to programs that develop the most effective educational practices (USDE, 2003; 2008).
4. More choices for parents: A student who is “trapped” in a failing school has the option of transferring to a school that is not failing (USDE, 2003; 2008).

Though the No Child Left Behind Act seemed to be legislation that should appease many in the educational community, this bill had no shortage of detractors.

Franklin (2007) said of this legislation that it had promise; however it would only achieve its potential if properly implemented and funded. Many detractors cite the lack of funding as a major problem with this legislation (Darling-Hammond, 2007b; Franklin, 2007).

Compounding this lack of funding is the inflexibility of this legislation (Franklin, 2007).

So in essence the act is under-funded, schools are being held accountable for achievement that they cannot attain without proper funding, and the legislation that holds the accountability is extremely inflexible. This cycle of failure is difficult if not impossible to break out of. This has led to disquiet among educators and administrators.

Finally, one of the most controversial effects of this legislation was the introduction of high-stakes testing. Yearly standardized testing, utilized in determining a school's academic progress, has become an overwhelming concern of many school administrations (Amerin & Berliner, 2003). One major drawback to this type of testing is the changes to curriculum that have taken place. Schools have started to limit arts-related time, i.e., music, art, and physical education, to make more time for core subjects (Amerin & Berliner, 2003; Darling-Hammond, 2007a; 2007b; Franklin, 2007). Further, schools are forced to teach to the standardized tests. One example of this is the quadratic equation, which is often not included in standardized testing (Amerin & Berliner, 2003). As a consequence, many high school algebra classes are forgoing its instruction. Omitting non-tested topics allows teachers more time to teach the items that will be on the standardized test. Subsequently, this assists their school in making adequate progress, and in many cases is encouraged by the school's administration (Amerin & Berliner, 2003; Darling-Hammond, 2007b). A final concern about high-stakes testing is the increase in dropout rates, and the number of students in special education, who are not counted towards yearly academic progress. No Child Left Behind has in essence provided schools with an incentive to push low-performing students into special education classes where their scores will not count (Darling Hammond, 2007a; 2007b).

Though No Child Left Behind has had its fair share of problems, and critics continually pummel this legislation, the underlying assumptions still holds true. Quality instruction is essential to student achievement. When discussing No Child Left Behind and the problems associated with funding, Darling-Hammond (2007b) states that the most important funding should be devoted to hiring highly qualified teachers and leaders. Again it could be speculated that the only problem with this reform is the implementation and funding.

National Board for Professional Teaching Standards

The NBPTS was established in 1987 as a direct result of the publication of *A Nation Prepared* a year earlier (Goldhaber & Anthony, 2007; Goldhaber, 2007). This organization was founded in cooperative efforts among the Department of Education, the Carnegie Foundation, and the Rockefeller Foundation (Wise & Liebbrand, 2000). The NBPTS was given the daunting task of establishing high and rigorous standards for educational professionals in the United States. Some believed that the establishment of high and rigorous standards would help to establish a culture of professionalization within the field of education (CTFTP, 1986). The NBPTS started its plan of action by developing five core propositions to define the organization and what it stood for.

The first proposition is that teachers would be committed to their students and learning. Darling-Hammond (1994) states that teacher's knowledge of their content areas and ability to teach that content adequately is of paramount importance. She acknowledges the role that the NBPTS has taken in insuring appropriate instruction for the students entrusted to the education system. A primary belief in the equity of education is an underpinning of the first proposition. The NBCT must believe that all students can

learn, understand how students learn, and be aware of cultural factors that are of concern in the classroom.

The second proposition is that teachers would know the subjects they teach and how to teach those subjects to students. This proposition is concerned with the teacher's content knowledge. Teachers must be aware of different types of instructional strategies, and know how to close skill gaps in their classrooms. Further, the teacher must be able to provide instruction in such a way as to emphasize real world application of key disciplinary concepts. (NBPTS, 2008d).

The third proposition is that teachers are responsible for managing and monitoring student learning. Effective instruction is the major concern in proposition three. An NBCT must be fluent in many teaching strategies, which are utilized to keep the student involved and create a more productive learning environment. This proposition also mandates that a NBCT be able to assess individual students as well as the entire class. These evaluations should utilize differentiated methods of assessment. Further, the teacher must be able to explain this assessment to parents (NBPTS, 2008d).

The fourth proposition is that teachers think systematically about their practice and learn from experience. This proposition makes it clear that the NBCTs must be a good role model for the students in his/her charge. The NBCT must project what is valued in education, the motivation to ask questions, and moreover the fortitude to find the answers. This is critical in the reflection process. This proposition also seems to indicate that the NBC teacher frequently utilizes reflective practices. Reflective practices and the application of reflection in practice, and post practice are extremely important in the daily preparation and planning of NBCTs instruction (NBPTS, 2008d).

The fifth proposition is that Teachers should be members of learning communities. This final proposition is related to the creation of a collaborative effort. This collaborative effort is a macro-example of reflective practice. The reflection teachers have in their own practice is transmitted through communal interaction. Proposition five also mandates that the NBCT teacher work collaboratively with parents to create a more productive learning environment. This proposition goes further in its assertion that a NBCT should be part of the overarching school based learning community and should take part in the planning and assessment of the overall learning environment. Further, an NBCT should be able to work collaboratively with the parents of their students in an effort to provide the most optimal learning environment. (NBPTS, 2008d).

These propositions form the base of the NBPTS, and while each area of concentration has its own distinct content standards, all of the standards are based in part on the five core propositions (NBPTS, 2008d). In doing this the NBPTS is able to promote all five universal propositions across all content areas, and subsequently is able to assess whether the candidate lives up to these propositions.

National Board Certification Process

In *A Nation Prepared* the Carnegie Foundation called for the NBPTS to design a voluntary certification process (CTFTP, 1986). In 1995 the NBPTS began certifying teachers as NBC (Goldhaber & Anthony, 2007; Goldhaber, 2007). This certification signified that a teacher had completed the National Board process and had been found to embody what the NBPTS determined to be a highly qualified educator. The NBC process takes about three years to complete. It is a professional development that re-enforces reflective teaching practices, which are monitored through videotaped lessons and

reflective journal entries that are incorporated into a professional portfolio (NBPTS, 2008a). Candidate teachers also go through a formal evaluation in which their teaching skills are tested through a series of classroom situations. Teachers are assessed utilizing a standardized scoring guide. The scoring guide is utilized by no fewer than 12 teachers who have been highly trained by the NBPTS to evaluate prospective National Board teachers (NBPTS, 2008b). The certification process is rigorous, with an approximate 45% success rate. (NBPTS, 2008a). Upon successful completion of the NBC process the teacher is granted a 10-year certification that is reciprocal in most states. The certification must be renewed every 10 years (NBPTS, 2008a).

By the end of 1995, the first year of certification, less than 100 teachers nationwide had been certified. However by 2003, over 32,000 NBCTs were working in the United States (Goldhaber & Anthony, 2007; NBPTS, 2008). The NBC process is not inexpensive; it costs nearly \$2,500 to complete (Bond et al., 2000; Cavalluzzo, 2004; Goldhaber et al., 2004). Many states offer strong incentives for the pursuit and completion of certification (Lieberman, 2002; Southern Regional Education Board, 2003). One of the more unique incentives is the reciprocal relationship many states promote as part of becoming NBC. Thirty-three states allow NBCTs to move between states without the license transfer hassles that usually occur (Kelly, 1999). Among these is South Carolina, which according to the NBPTS (2008), is a leading state in total number of NBCTs and offers a \$7,500-per-year incentive for attaining NBC. Incentives, however, vary widely among states (NBPTS, 2008). Yet another powerful incentive that many states offer is the reimbursement of certification costs. As of 2004, nearly 637 million dollars had been spent at the state and federal levels to provide incentives and

reimbursement of certification costs for NBC (Goldhaber & Anthony, 2007). With the growing number of NBCTs, and the resultant increasing cost to the state and federal education budgets, several studies have investigated the advantages of this certification (Goldhaber & Anthony, 2007; NBPTS, 2008a; Salzman, Denner, Bangert, & Harris, 2002).

Research on National Board Certified Teachers' Effectiveness

Numerous studies have examined the effectiveness of NBCTs. (Bond et al., 2000; Cavalluzzo, 2004; Goldhaber et al., 2004; Goldhaber & Anthony, 2007; NRC, 2008; Sanders et al., 2005; Smith et al., 2005; Vandervoort et al., 2004). This is not surprising in light of the enormous amount of money that is spent annually on this process. Nearly all of the literature on NBCTs deals with classroom teachers. The reason for this is that outcome measures are more readily available for classroom instruction. The primary source for many of these studies is student achievement data and annual achievement tests. Several investigations have utilized these standardized test scores in endeavors to determine differences between NBCTs' and non-NBCTs' instruction (Goldhaber & Anthony, 2007; Goldhaber et al., 2004; Cavalluzzo, 2004; Vandervoort et al., 2004; Sanders et al., 2005).

In 2000 the United States Department of Education (USDE) produced one of the first NBCT investigations. The USDE study began by examining research in the effort to identify key attributes of effective teachers. In this study's review of relevant literature the authors determined 13 attributes associated with expert teaching (USDE, 2000). These attributes are: use of knowledge, deep representations, problem solving, improvisation, classroom climate, multidimensional perception sensitivity to context,

monitoring learning, testing hypothesis, a passion for teaching, respect for students, challenge, and deep understanding (USDE, 2000). Systematic observations were utilized to determine the extent to which subject teachers employed the 13 key attributes. Sixty-five teachers were observed; of these 31 were NBC. The study found that the NBCTs outperformed their counterparts in all 13 categories. Closely following the DOE's study on NBCTs was a study conducted by Bond et al. (2000). This study was the first major large-scale investigation to be conducted on NBCTs. Bond et al., (2000) examined whether classroom practices of NBCTs differed from those of teachers who attempted NBC but failed. A primary purpose of this research was to determine if students who are taught by NBCTs have higher quality work than those who are taught by a teacher who attempted but failed NBC. Comparisons in this study utilized the Narrative Running Record and Observation Protocol instruments. A distinct passion for their work was found to be present in NBCTs who had achieved certification. Bond et al. (2000) stated that the NBC process is not a minimum competency test but a certification of teaching excellence.

While Bond et al. (2000) did confirm the aspirations of the NBPTS, there were vocal detractors. Podgursky (2001) condemned the work of Bond et al. by attacking the methods of their investigation, stating that no actual achievement gains had been documented in the study. Pool, Ellett, Salvatore, and Carey-Lewis (2001) presented similar assertions. Their study utilized multiple case studies and determined that there was considerable variability in the quality of NBCTs. Many issues observed with several of the NBCTs in this study were reminiscent of mistakes of neophyte teachers, even though these teachers had been identified as expert. These were problems associated with

classroom management, structure of content, and a lack of higher-order thinking (Pool et al., 2001).

Stone (2002) utilized the Tennessee Value Added Assessment System to assess NBCTs. Sixteen of the total 40 NBCTs in the state of Tennessee were part of this investigation. No comparisons between NBCTs and non-NBCTs were made. This investigation descriptively examined only NBCTs. The author found that 16 teachers in this study should not be considered exceptional. Stone concluded that future studies must be conducted in order to fully understand the capabilities of teachers. The author went so far as to say that it may be necessary to suspend funding for NBC until such time as an independent review of the process could be conducted. This call for further NBC research was seemingly answered in 2004, when several large-scale investigations were published.

Goldhaber and Anthony (2007) investigated student outcomes as measured by the North Carolina accountability system. The authors hoped to add to the NBC debate by providing the first large-scale investigation to utilize quantitative outcome measurements. This lack of outcome examination had been a major concern of both Pedgursky (2001) and Pool et al. (2001). Goldhaber and Anthony (2007) hoped to add significant information about what NBCTs were actually producing. Results of their study indicated students of NBCTs had significantly higher scores on end-of-year mathematics and reading examinations. Goldhaber and Anthony (2007) concluded that in light of the small amount of previous quantitative research, their own research seemed to indicate that the NBPTS were identifying and certifying highly qualified instructors.

Two further studies by Cavalluzzo (2004) and Vandervoort et al. (2004) found similar results to those of Goldhaber and Anthony (2007). Cavalluzzo (2004) examined

ninth and tenth graders' mathematics outcomes, while Vandervoort et al. (2004) examined Stanford achievement test outcomes. Across the board these studies found that students of NBCTs had significantly higher test scores. The 2004 studies countered arguments made by critics of the NBC process.

Smith et al. (2005) examined the depth of responses on writing assignments of students instructed by NBCTs and those instructed by teachers who had attempted certification and failed. They also examined the teaching practices and the ability of classroom teacher to elicit deeper responses in writing assignments. Student writing samples and standardized writing assessments were utilized in these comparisons. Qualitative analysis utilizing the Structure of Observed Learning Outcomes taxonomy was conducted. Statistical comparisons were made between quantitative data obtained by the standardized writing assessments (Smith et al., 2005). This study found that students of NBCTs had significantly higher outcome measures than those of teachers who had attempted NBC but failed and that NBCTs foster a deeper understanding of the material presented.

Sanders et al. (2006) examined end-of-year math and reading scores within the state of North Carolina. North Carolina is repeatedly utilized in many of these studies. It should be noted that North Carolina currently employs the largest number of NBCTs nationwide (NBPTS, 2008). Sanders et al. examined approximately 5 years of test data in their extensive, state-wide study. Their findings indicate that students of NBCTs had no significantly greater rates of academic success than did their counterparts who were not instructed by NBCTs. Sanders et al., 2006 concluded that there was no discernable difference between these two sets of teachers. Findings from this study were supported by

data from Strong (2008). Using regression analysis, Strong utilized end-of-year math and reading scores to determine factors contributing to NBC student achievement. Subjects for this study were 25 NBCTs and 282 non-NBCTs, an imbalance that limited the power of statistical analysis in the study (Strong. 2008). Surprisingly, a factor analysis of student achievement variables found that NBC was not a significant factor as a teacher achievement indicator. This finding is inconsistent with many of the previous studies. Further, NBCTs were found to be indistinguishable from non-NBCTs in certain quantitative comparisons. NBCTs were, through qualitative comparison found to score higher in pre-instructional and dispositional variables, However, this result could be explained by the limited statistical power (Strong, 2008).

Hakel, Anderson-Koenig, & Elliott (2008) published their findings on NBPTS in a report titled “Assessing Accomplished Teaching: Advanced-Level Certification Programs.” This report cited several positive outcomes of the certification process. Among these outcomes were a positive effect on professional development and on teaching practices, as well as increased student test scores and increased teacher retention (Hakel et al., 2008). This study also called for more research to be conducted in these areas, in order to replicate the results and affirm their validity. With regard to cost effectiveness, it is interesting that the NRC found that the NBPTS process is cheaper than other professional development programs (e.g. achieving a master’s degree) (Hakel et al., 2008).

Literature on NBCTs effectiveness gives a mixed picture of the NBPTS. So, are NBCTs more effective than non-NBCTs? What we know is there is considerable evidence that NBCTs provide effective instruction. Process as well as product variables

have rendered these results. However, these results have been refuted as recently as 2008 (Strong, 2008). Does this affect National Board Certified Physical Education Teachers? The studies presented in this section typically utilize classroom teachers, and classroom product results. The primary reason for a concentration of NBC research in the classroom is the lack of end-of-year testing in physical education. Further, there is no section on the Stanford Achievement Test which assesses physical education. So what do these results mean to physical educators? These studies indicate that research needs to be conducted. No doubt, research on NBCPETs is warranted.

National Board Certified Teachers' Sense of Self-Efficacy

While literature on NBCTs effectiveness is quite abundant, a few investigations have studied NBCTs self-efficacy, finding that NBCTs hold a high sense of self-efficacy (Scharf, 2004; Freund et al., 2005). NBCTs have reported a higher sense of personal and general self-efficacy, they have higher esteem, and have a greater sense of their own efficacy (Scharf, 2004). In one of the first comprehensive studies, Freund et al. (2005) compared NBC candidates who had achieved NBC and those who had failed the NBC process. The teacher efficacy scale (TES) developed by Gibson and Dembo (1984) was utilized to examine teacher's sense of self-efficacy in this study. NBCTs were found to have a significantly higher sense of personal teacher self-efficacy (PTE) (Freund et al., 2005). There were no significant differences in general teacher efficacy (GTE) between NBCTs and non-NBCTs. Freund et al. concluded that a relationship exists between teacher efficacy constructs and the achievement of National Board certification. In a similar case-study analysis, Scharf, (2004) found that teachers who achieved NBC had a higher sense of self-efficacy than those who had attempted certification and failed. These

two studies present convincing evidence that either the NBPTS is selecting teachers with a higher sense of self-efficacy, or teachers are achieving a higher sense of self-efficacy as a result of the certification process.

Successful Completion of National Board Certification

In a deviation from previous NBC research, Goldhaber et al. (2004) worked to identify factors that increase the application for and successful completion of NBC. This study examined teachers of all disciplines in North Carolina. Goldhaber et al., (2004) found peer encouragement increased the likelihood of successful completion of NBC. Further, African American applicants were 33% less likely to successfully complete NBC than their Caucasian counterparts. This study also found that successful applicants will primarily come from the upper echelon of teacher quality (Goldhaber et al., 2004). Goldhaber (2007) added to these results by finding that disadvantaged school districts populated by minority and low-performing students were less likely to have access to NBCTs. Further, aspects of school district policies including financial incentives, mentoring, and administrative support of NBC affect teachers' completion of certification within any school district (Lieberman, 2002; Southern Regional Education Board, 2003). Though Lieberman and the Southern Regional Education Board found several policy factors that led to successful completion of NBC, these reports emphasized financial policies as a major factor on completion of NBC. Further, Lieberman concluded that mentoring programs and administrative support within the school district had a significant effect on successful NBC completion.

National Board Certified Physical Education Teachers

The NBPTS did not develop a complete set of standards for physical education until 1999 (NBPTS, 2008a; Phillips, 2008). As a consequence of the late introduction of physical education standards, no NBCPETs predate the year 2000. Unlike most state boards of education that certify physical educators K-12, the NBPTS certifies two levels of physical education teachers (NBPTS, 2008b; 2008e). The first level of certification is early to middle childhood; this certification generally applies to elementary physical education teachers (NBPTS, 2008a). The second level is early adolescence through early adulthood; this certification applies to middle school and high school physical education instructor (NBPTS, 2008a). The physical education NBC, like other disciplines, is guided by the five core propositions. The five core propositions create the fabric on which the National Board's physical education standards are based. There are 13 basic standards in which all NBCPET must fully demonstrate competency: (a) knowledge of students; (b) knowledge of subject matter; (c) sound teaching practices; (d) student engagement in learning; (e) high expectations for learners; (f) learning environment; (g) curricular choices; (h) assessment; (i) equity, fairness, and diversity; (j) reflective practice and professional growth; (k) promoting an active lifestyle; (l) collaboration with colleagues; and (m) family and community partnerships.

The NBPTS physical education standards are closely aligned with the National Association for Sport and Physical Education (NASPE) standards. NASPE standards generally outline what teachers of physical education should know and be able to do nationwide. These standards are: (a) content knowledge; (b) growth and development; (c)

planning and instruction; (d) management and motivation; (e) learner assessment; (f) diverse learners; (g) communication; (h) reflection; and (j) collaboration.

Physical education candidates for NBC follow the same procedures as other disciplines. The certification process includes a four-entry portfolio and assessment center activities (Bond et al., 2000; Cavalluzzo, 2004; Goldhaber et al., 2004; Vandervoort et al., 2004). These portfolio entries are to provide clear, consistent, and convincing evidence for which a four-level rubric is utilized to assess the entry (NBPTS, 2008; 2008e). The standards for National Board Certification in the discipline of physical education, in the elementary level are as follows:

The first entry, Instruction to Facilitate Student Learning:

provides clear, consistent, and convincing evidence that the teacher is able to plan and implement sequenced motor skill instruction that develops the cognitive understanding of students, builds on previous learning in an environment that promotes meaningful, maximum participation for each learner, and encourages a physically active lifestyle. (NBPTS, 2008b, p. 19; NBPTS, 2008e, p. 19)

The second entry, Assessment for Student Learning:

provides clear, consistent, and convincing evidence that the teacher is able to facilitate and support learning for all students and use assessment to inform instruction and improve teaching as students actively engage in learning an important physical education goal. (NBPTS, 2008b, p. 26; NBPTS, 2008e, p. 26)

The third entry, Creating a Productive Learning Environment:

provides clear, consistent, and convincing evidence that the teacher is able to use effective classroom management skills and routines that encourage equitable

access to student learning in a physically, socially, and emotionally safe environment, challenge all students regardless of differences, and promote an active lifestyle.(NBPTS, 2008b, p. 35; NBPTS, 2008e, p. 35)

The fourth entry, Documented Accomplishments:

provides clear, consistent, and convincing evidence of the teacher's ability to impact student learning through work with colleagues, professionals, families, and the community, and as a learner. (NBPTS, 2008b, p. 45; NBPTS, 2008e, p. 45)

The second portion of the certification process is assessment center activities.

During the assessment center activities candidates must demonstrate proficiency in six areas: (a) exercise science; (b) biomechanics and motor learning; (c) safety, equity, and fairness issues; (d) students with disabilities; (e) movement forms; and (f) integration of technology and interdisciplinary approaches.

During assessment center activities, a candidate is tested in all six areas. NBCPET candidates are assessed utilizing a standardized scoring guide. This scoring guide is utilized by no fewer than 12 assessors who have been highly trained by the NBPTS to evaluate prospective National Board teachers (NBPTS, 2008b; 2008e). Once these assessors have compiled portfolio scores and assessment center scores a determination on certification is made. Teachers who are successful are granted a 10-year NBPTS physical education certificate, which must be reviewed every 10 years (NBPTS, 2008a).

In a review of literature targeting NBCPET, only one article was located. Phillips (2008) utilized data from the South Carolina Physical Education Assessment Program (SCPEAP). South Carolina annually collects data that is reported on statewide school report cards. SCPEAP data contains four distinct performance indicators. These

indicators are a quantitative measure of what students should know and be able to do (Phillips; SCPEAP, 2008). In this study performance indicator data were compared between NCBPET and non-NBCPET. Performance indicator comparisons showed students of NBCPETs to have higher competencies in all four performance indicators. Phillips concluded that results of this study indicate that the NBPTS is successful in the identification of highly effective teachers. The scholar further suggests that state and local governments should continue to sponsor incentives for the completion of certification.

Expertise in Physical Education

The discussion of expertise in physical education has been a topic of several investigations within the past two decades. Siedentop and Eldar (1989) discuss at length the differences between expertise, experience and effectiveness. One of the key aspects that Siedentop and Eldar (1989) tie to the concept of expertise is what Bloom (1986) referred to as “Automaticity.” Bloom’s concept of automaticity refers to the ability of an instructor to respond quickly and effectively to instructional situations which arise. This is described by Siedentop and Eldar (1989) as the ability to look ahead and anticipate problems that may occur before they arise. This ability to address issues within the educational setting would be of obvious advantage in instruction.

Berlinger (1988) described five phases or levels of expertise. His five levels, are: novice, advanced beginner, competent teacher, proficient teacher, and expert teacher. It must be noted that Dodds (1994) indicates that expertise and experience are mutually exclusive terms. Although an expert teacher must have a degree of experience, an experienced teacher may not be considered an expert. The novice is rigid in their practice,

typically the novice is in their first year of teaching (Berlinger, 1988; Dodds, 1994). The advanced beginner is in the second or third year and begins to demonstrate more independent thinking about their context based upon deciding what works and what will not work within their particular context. The competent teacher, described as being in their third or fourth year, is more proficient at coordinating the instructional process. The competent teacher is able to have a degree of autonomy without fear in their learning environment. The proficient teacher is described as examining the learning experience in a more holistic manner. S/he is able to achieve what Bloom (1986) described as a sense of automaticity. This level of instruction is one in which the teacher has total control of the class and are able to change from learning activity to learning activity without much thought. Finally, the expert teacher is described as being a "cut above" other teachers. This level of instruction is said to be only reached by a select few instructors. The distinction between an expert teacher and a proficient instructor can be difficult to discern (Berlinger, 1988; Dodds, 1994).

One major aspect of teacher expertise that has been found through research has been the ability of expert teachers to establish routines. The establishment of routines allows a practitioner to deliver content knowledge in a more organized fashion. Further, through this establishment of routines in the learning environment an instructor is able to distinguish patterns. This allows an expert teacher to more effectively answer instructional issues that arise (Pineiro, 1989). Block and Beckett, (1990) found that expert physical education teacher augmented their lessons in a manner that benefited their students.

Finally, a key comparison in many studies has been the differences between the non-specialist and the specialist physical education teacher (Block and Beckett, 1990; Behets, 1995; Faucette, Mckenzie & Patterson, 1990). This conflict is generally seen in the elementary level of instruction because of financial concerns.

Effective Instruction in Physical Education

Describing effective physical education is a complex undertaking (Graber, 2001). For this reason, this section of the chapter will introduce research on effective physical education in the areas most applicable to the questions this study endeavors to answer. This review of physical education literature should not be considered an all-inclusive representation of research in physical education, but rather a targeted review. Topics relevant to the current study are student engagement and practice, instructional tasks, and teacher feedback.

Student engagement and practice. Physical education is a unique discipline, as physical educators spend a majority of their instructional time developing the psychomotor learning domain. To achieve these psychomotor goals students' active engagement in practice is critical. Much research has been conducted on effective instruction and the amount, type, and quality of practice that students experience in physical education.

Silverman (1985) studied quality of practice with relation to product variables of 102 students from five intermediate swimming classes at a state university. The Academic Learning Time – Physical Education (ALT-PE) was utilized to assess process variables. Professional skill raters were utilized to assess skill on the five components of the breast stroke. With these data compared quality of practice to student outcomes,

Silverman found that student engagement in physical education was not a significant predictor of student achievement. In essence, simply being active in physical education did not predict success or the achievement of learning objectives, instead whole appropriate practice trials were significant predictors of achievement. Also, inappropriate practice trials were negatively associated with achievement. Academic learning time, practice time, and time on task have been established in the instructional effectiveness literature (Walberg, 1986). These engagement traits have often been examined by means of observational analysis instruments. In particular, the ALT-PE has been utilized repeatedly to determine student engagement in physical activity at the appropriate difficulty level.

In a subsequent study, Silverman (1990) utilized 202 students from 10 middle and junior high schools to examine practice variables in volleyball. Participants were pre- and post-tested on serve and forearm pass tests. Tests utilized were the Brumback forearm pass test and the AAPHERD serve test. A systematic observation instrument was utilized to measure appropriate, inappropriate, and total trials practice trials. Silverman (1990) found a relationship between total practice trials and student achievement, however, during the course of observation, appropriate practice trials outnumbered inappropriate practice trials. Silverman (1990) suggested that this may have caused an overall positive effect, giving the appearance that the number of practice trails had an influence on student achievement. Notably, a negative relationship was found between inappropriate practice and student achievement (Silverman, 1990). These findings suggest that quality of practice is of greater concern than quantity of practice.

Expanding on this line of research, Silverman (1993) examined the initial skill level of several students to determine the effect of initial skill level on appropriate and inappropriate practice trials and on student achievement. This study utilized the same data pool as his previous study in 1990. Silverman found that student skill level was related to the effects of inappropriate practice, demonstrating that low-skilled students are greatly impacted by both inappropriate as well as appropriate practice. This impact was less for highly skilled students. Silverman suggested that as skill increases, task complexity should increase to allow for more appropriate practice trials. This study indicates that teachers should monitor low-skilled students closely to allow for the maximum amount of appropriate practice trials.

Ashy, Lee, and Landin (1988) studied appropriate practice as well. Subjects in this study were 10 fourth-grade students who were taught two lessons by eight pre-service physical education teachers. Pre-and-post skill assessments were made, and every lesson was videotaped to collect data on appropriate/inappropriate practice trials. They found a moderately high relationship between practice with correct technique and student achievement. These findings support the findings of Silverman (1985; 1990).

French et al. (1991) found similar results in their study of practice formats. They examined sequenced, criterion-based, and test-based practice utilized on volleyball skills. The AAPHERD volleyball skills test was used as a product measure in this study. Students in the sequenced practice followed a predetermined sequence of learning tasks, at their own pace. During criterion practice, students had to achieve an 80% success rate at a task before being allowed to continue to the next task. The final group used the AAPHERD volleyball skills test as the format for practice. The sequenced and criterion

practice were more advantageous than practicing the test. Interestingly, this study found that if a student wasn't working at the appropriate difficulty level none of the conditions had an effect on achievement (French et al., 1991).

Instructional tasks. Instructional tasks are any type of communication between teacher and student which communicates directions or some form of instruction (Graber, 2001). One specific type of instructional task presentation is direct instruction (Rink, 1993a). In direct instruction the teacher provides instruction in small steps, giving explicit instructions on tasks that students are to perform (Rink, 2003). The teacher must maintain a task orientation and teacher-monitored environment. Student engagement, immediate feedback, and content development remain high in direct instruction (Rink, 2003). Studies have typically found positive relationships between direct instruction and student achievement with relation to volleyball skills (Sweeting & Rink, 1999). These findings are important because of the support they provide for direct instruction and its effect on student achievement (Rink, 1993a). Monitoring elements of direct instruction through various observational instruments could provide a measure of factors leading to student achievement. Many studies of physical education have examined sequencing, refinement, and discrete trials (Buck, Harrison, & Bryce, 1990; French et al., 1991; Masser, 1987). Teaching traits such as sequencing, refinement, and discrete trials are often indicative of constructs present in direct instruction (Rink, 2003). Not surprisingly, studies investigating sequencing, refinement and discrete trials have revealed that teachers who appropriately sequence their lessons, provide appropriate refinement cues, and break skills into discrete trials, are found to have greater effectiveness (Buck et al.; French et

al., 1991; Masser, 1987). These results indicate that some traits relating to direct instruction are an effective teaching strategy.

Werner and Rink (1989) utilized case study measures to examine task presentation. The Qualitative Measurement of Teacher Performance Scale (QMTPS) was employed to measure teacher task presentation and teacher impact behaviors. Four experienced physical education teachers were participants in this study. These teachers taught six lessons on jumping and landing. Force production was measured for jump trials pre and post instruction. Findings indicated that appropriate cues and the use of appropriate visual demonstrations, in conjunction with verbal explanations, improved teacher effectiveness. It was further found that inaccurate information or information which was too generalized was not advantageous to students and in many cases resulted in inappropriate student performance (Werner & Rink). These cases studies indicated that the number of practice trials was related to the effectiveness of instruction, and generally more effective teachers had students who performed more practice trials during the class period. Overall Werner and Rink determined that quality practice opportunities and adequate teacher content knowledge were of greatest importance.

Goldberger and Gerney (1986) examined different styles of teaching using 328 fifth-grade students. Using performance scores on hockey tests, this study compared three instructional types. The first type provided corrective and evaluative feedback after every trial. The second type, feedback was provided by the partner after every trial. The third instructional type was more flexible in that the students were allowed to choose a difficulty level of the task performed (Goldberger & Gerney, 1986). Findings indicated that the first and third instructional style were optimal, but for different types of students.

Students with a high aptitude for a topic thrived in an open environment which the third instructional type fostered. Students who were less skilled preferred and performed better when continuous feedback was provided (Goldberger & Gerney, 1986).

Teacher feedback. Concerns in public education have had mixed research findings (Graber, 2001). Silverman, Tyson, & Karpitz (1992) examined instructor feedback in relation to student achievement in which 202 students from 10 classes were participants. This study pre- and post-tested the serve and forearm pass test, using the Brumback forearm pass test and the AAPHERD serve test. Silverman, Tyson, and Karpitz (1992) found no relationship between teacher feedback and student achievement. However, a previous study conducted by Silverman, Tyson, and Morford (1988) that found that time spent in practice in combination with teacher feedback was related to student achievement. These findings identify a major problem with feedback research results are inconsistent from study to study. It is possible that practice is a key component of achievement, and practice is augmented by feedback. A reason for these mixed findings may be the difficulty of conducting research on feedback Graber (2002) cites several reasons. These reasons range from the brevity of research to the multiple factors that convolute the study of feedback. For these reasons much of the research on feedback is mixed, however it is possible that unforeseen or uncontrolled-for factors are undermining this research.

Importance of Quality Daily Physical Education

The physical education profession is poised to take the lead in the fight against childhood obesity. This section presents literature on the obesity epidemic and the urgent

nature of the situation. Also this section presents literature dealing with motor competence and its relationship to physical activity.

Childhood obesity. Childhood obesity is becoming an increasing concern as the incidence of obesity among youth in the United States is on the rise. The Surgeon General's Report (SGR) (1996), as well as the report of the Centers for Disease Control (2000) entitled Prevalence of Overweight among Children and Adolescents have illustrated this epidemic as a major concern in the coming century. The Surgeon General's Reports of 1996 and 2001 made startling revelations about the state of children's health in the US (President's Council on Physical Fitness and Sports, 1996). The National Center for Health Statistics cited a 16% increase in incidence of childhood obesity since 1984 (CDC, 2000). It is speculated that the generation currently progressing through the public schools will be the first generation to have a shorter life expectancy than their parents (Olshansky et al., 2005). National databases, like the Youth at Risk Behavior Surveillance System (YARBSS), were established in light of the SGR of 1996, in an effort to preemptively determine factors which lead to at-risk behavior. YARBSS (2007) reported that 13% of students nationwide were obese, and 15.8 % were overweight. Nearly 45.2% of students were trying to lose weight. One of the more shocking findings in 2007 was that only 30.3% of students K-12 nationwide have physical education on a daily basis. Some have proposed that the physical education classrooms are on the front line in the effort to combat childhood obesity (Olshansky et al., 2005), however, only 30.3% of students receive daily physical education.

These reports described above have indicated that lifelong fitness should be taught at home, however society must endeavor to correct this problem in public

institutions (McKenzie, Marshall, Sallis, & Conway, 2000). Teaching lifelong fitness must become a priority within public schools, as Gordon-Larsen et al. (2004) concluded that patterns of behavior that lead to inactivity in the majority of youth tend to continue into adulthood. In essence, sedentary children become inactive adults. These trends of inactivity create lifelong health issues. In response to these trends, physical education teachers have begun to address the issue of lifelong fitness. Several states have taken initiatives to increase teacher effectiveness by mandating annual assessment of students. Most recent is the development of assessment-based curriculum within the state of South Carolina (Rink & Williams, 2003).

Motor competency and physical activity levels. Motor development and competency have become an increasing focus of physical education researchers. This increase in attention comes in the light of several studies that have shown that motor competent children, or children who perceive themselves to be motor competent, tend to be more physically active (Crocker et al., 2000; Fisher et al., 2005; Solmon & Lee, 1996; Stoden & Goodway, 2007; Telama et al., 2005; Woods et al., 2007). Telama et al. (2005) studied 1,439 Belgian and 789 Finnish children to assess their physical activity levels with several lifestyle factors and found that perceived motor competence was positively related to a physically active lifestyle. Fisher et al. (2005) found that motor competence and perception of motor competence were related to physical activity. They found that students who lack a perception of motor competence are less likely to seek out physical activity. Solmon and Lee (1996) found that students who had adequate motor competence as well as good perception of motor competence were much more engaged than their peers. These students were also able to more accurately predict and correct errors in their

performance, and had a higher level of motivation for physical activity (Solmon & Lee, 1996). Collectively these studies establish the link between motor competence/perceived motor competence, and physical activity. This rationale is that people who feel good about using their bodies will likely move their bodies and those who believe they are good, or have fun, at an activity will be more likely to participate in that activity.

With respect to motor competency, BMI, and physical activity, Stodden and Goodway (2007) presented a conceptual model in which they describe the negative and positive spiral of engagement. The positive spiral of engagement is characterized by motor competence or perception of motor competence. Perception of motor competence is related to physical activity in this conceptual model. This relationship affects the amount of physical activity in which a child will participate. The amount of physical activity affects healthy or unhealthy weight through the increase in caloric expenditure. In the model, healthy or unhealthy weight connects back to motor competence: Consequently motor competence is affected by body composition. This is reflected in several studies that have identified a relationship between motor competence and BMI (Marshall & Bouffard, 1997; Okely, Booth, & Chey, 2004). With this Conceptual model, Stodden and Goodway (2007) have with given physical educators a very clear view of the relationship between and among motor competence, physical activity, and body composition.

In summary, the obesity epidemic is real. An increase in physical activity may have an effect on this problem, quality physical education may have a positive effect of the amount of daily physical activity that public school students participate. Quality

physical educators such as NBCPET may have a key role in developing motor competence in our children.

Measurement and Evaluation of Instruction in Physical Education

In the quest to describe effective physical education a number of different measurement instruments have been developed (Darst, Zakrajsek, & Manchini, 1989; Rink, 1993a). These instruments measure presage variables, process variables, product variables, student outcomes, among others. This investigation used several such instruments.

Academic Learning Time – Physical Education. A popular and well-studied measurement of mediating constructs in physical education is the Academic Learning Time – Physical Education (ALT-PE). This instrument assesses the amount of time that students are engaged in motor activity at an appropriate rate of difficulty (Rink, 1993a). ALT-PE describes student engagement in two manners: the contextual level and the learner involvement level. The context is the setting in which the individual student's behavior or engagement is occurring. This level is separated into the subcategories of general content and subject matter content. General context measurements consist of (a) transitions, (b) management, (c) break time, and (d) warm-up activities. Subject matter content is separated into nine different types measured in amount of time engaged in during the lesson: (a) technique, (b) strategy, (c) rules, (d) social behavior, (e) background, (f) skill practice, (g) scrimmage/routine, (h) game, and (i) fitness (Darst et al., 1989). Learner involvement is measured in two subcategories: (a) motor-engaged time, and (b) not-motor-engaged time. Not-motor-engaged time measures the amount of time spent in interim activities, waiting time, off-task behavior, on-task behavior, and

cognitive processing time. Motor engaged measures the amount of time in motor-appropriate activity, motor-inappropriate activity, and supporting activity (Darst et al., 1989, Rink, 1993a). The ALT-PE instrument has been utilized in numerous process measure studies. This instrument has been found to be both valid and reliable. Silverman, Divillier, and Ramirez (1991) found that the ALT-PE was a valid instrument for the measurement of student achievement. Specifically it had a partial substantiation with process measures of achievement (Silverman et al., 1991). Siedentop and Metzler (1979) indicated that they considered the ALT-PE to be one of the principal instruments predicting teacher effectiveness in the gymnasium.

Qualitative Measure of Teacher Performance Scale. The QMTPS was developed to measure teacher process data (Rink, 1993a). The QMTPS is divided into four major constructs: (a) type of task, (b) task presentation, (c) student responses, and (d) teacher congruent feedback. Type of task is divided into five types of tasks: (a) informing, (b) refining, (c) extending, (d) applying, and (e) repeating. Five aspects of task presentation are examined: (a) clarity, (b) demonstration, (c) appropriate number of cues, (d) accuracy of cues, and (e) qualitative cues provided (Darst et al., 1989). Unlike ALT-PE which is scored on time-based observation, the QMTPS is used to determine number of occurrences within the four major constructs (Darst et al., 1989, Rink, 1993a). Gusthart, Kelly, and Rink (1997) found the QMTPS to be a valid measure of teacher effectiveness. In this study, volleyball forearm pass and serve were taught over the course of nine lessons (Gusthart et al., 1997). Students were pre-and-post tested utilizing the AAHPERD volleyball skill test. Correlations were found between total QMTPS scores and student skill test scores for forearm passing at $r = .77$ ($p < .008$). Correlation between

mean achievement scores for the serve and the forearm pass were significant at $r = .73$ ($p < .01$). This study confirmed that the QMTPS is a valid instrument for assessing teacher effectiveness. However, although the QMTPS is related to teacher effectiveness, it should not be used as a direct measure of teacher effectiveness. Gusthart et al. (1997) support the use of the total QMTPS score over the course of several lessons. The reason for this is that some teachers are weaker or stronger in certain constructs; a weaker teacher may appear stronger simply by the content being taught. So it is necessary to have a total cumulative score over a number of lessons in order to give an accurate picture of a teacher's effectiveness (Gusthart et al., 1997). QMTPS scores are calculated based on the cumulated occurrences within each category. The percentage for each score based on the best category is summed; this sum is then divided by the number of categories. The division by categories then allows for a cumulative score to be rendered. An overall score above 55 on the QMTPS has been determined as an indicator of effective task presentations (Gusthart, Kelly & Graham, 1993).

Teacher Efficacy Scale. The study of teacher efficacy deals with teacher's feelings about instructional abilities. Bandura (1977) held that self-efficacy beliefs were an effective predictive measure of future behavior. Within education settings, self-efficacy is seen as a two-dimensional construct: GTE and PTE (Ashton & Webb, 1986; Gibson & Dembo, 1984; Moeller & Ishii-Jordan, 1996). GTE involves an instructor's beliefs about teaching and learning with respect to the student's outside environments. PTE deals with an instructor's beliefs about the degree to which and how they can personally affect student learning through their teaching (Gibson & Dembo, 1984). One

example is a teacher's belief that he or she can get through to even the most difficult students in the classroom.

Teachers with a high sense of general as well as personal self-efficacy are more effective at attaining positive student outcomes (Chase, Lirgg, & Sakelos, 2002; Henson, 2001; Ross, 1998; Tournaki & Podell, 2005; Tschannen-Morgan, Wookfolk, & Hoy, 1998). These positive outcomes are not limited to the traditionally labeled cooperative students, as teachers with a high sense of self-efficacy tend to create learning environments that allow students who are uncooperative to experience positive academic gains (Tschannen-Morgan et al. 1998). Further, low-achieving students have greater achievement gains and a better learning experience with a teacher who possesses a high sense of self-efficacy (Ashton & Web, 1986). Chase et al. (2002) describe teachers with a high sense of self-efficacy as providing more instructional time as well as more positive feedback.

In the scope of this investigation it would be interesting to examine the self-efficacy of the teachers being studied. The instrument which this study employed for the measurement of efficacy is the Teacher Efficacy Scale (TES) which was developed by Gibson and Dembo (1984). This is a 16-question six-point Likert Scale instrument that measures both GTE and PTE. Gibson and Dembo (1984) initially developed a 30-item instrument and on which a construct validity study was conducted. As a result 16 items of the original 30 were found to have acceptable reliability coefficients. These coefficients ranged from $r = .45$ to $r = .65$. The retained questions consisted of 7 that measured general teacher self-efficacy and 9 that measured PTE. When the data from this study were reduced to the 16 items, internal consistency measures for PTE were reported at

Cronbach alpha of .78, for GTE at .75, and an overall alpha score of .79, indicating this instrument to be reliable overall.

Research Guidance

Scientific examination by its nature requires guidance from a research base. This section presents literature on a research model and theoretical perspective that guided this study. Research modeling and theoretical perspectives presented in this section are Graber's (2001) research on physical education model, and Communities of Practice Theory (COPT).

Research model. Graber (2001) developed one of the most complete models for research in the physical education classroom to date. Graber's model incorporates key concepts from previous models such as Dunkin and Biddle (1974) and Silverman's (1991) streams. In Graber's model of research on teaching, previously known product variables are referred to as outcomes. Pre-impact, teacher competencies, and teacher characteristics are descended from the earlier known presage variables. The "black box" described by Dunkin and Biddle has become the "ecology of the gym" in Graber's depiction of research on physical education. Student characteristics are much as in Dunkin and Biddle's model contextual variables that add to the ecology of the gym. An interesting addition Graber made to her model is a feedback loop spurred by outcomes and post-impact behaviors. Through this feedback loop, post-impact behaviors have an effect on pre-impact behaviors. In turn, pre-impact behaviors affect the ecology in the gym. Student and teacher behaviors in this model, therefore, have effects on the ecology of the gym.

Graber's (2001) model incorporates many qualitative aspects of research on physical education. This is a departure from Dunkin and Biddle (1974), whose model was highly quantitative in nature. Graber's view on research is that many aspects of the gym cannot be quantified. According to Graber, qualitative aspects of the research spectrum are more suited for portions of research in the gymnasium. Graber's model accounts for these qualitative aspects quite effectively, and consequently describes research in physical education. Graber's model has become a predominant research model in physical education. The current study is positioned in the ecology of the gym. The qualitative or naturalistic research which this study proposes flows quite well with this model. This investigation seeks to describe certain process variables which exist within the ecology of the gym: (a) types of interaction, (b) types of task presentation, (c) time spent in appropriate practice, (d) lesson planning and execution, and (e) self-efficacy of the instructors. It is hoped that observation of these process variables will make it possible to predict student outcomes.

Communities of Practice Theory

Wenger (2008) defines a Community of Practice (CoP) as a "community which is formed by people who engage in a process of collective learning in a shared domain of human endeavor (p.1)". Several such individual CoPs may be tied into a larger conglomerate of communities (Wenger, 2008). As a social learning theory, the Communities of Practice Theory (CoPT) has been utilized to describe learning in the workplace, and professional development (Coskie & Place, 2008; Lave & Wenger, 1991; Palincsar, Magnusson, Marano, Ford, & Brown, 1998). CoPT will be utilized as a lens by which results of his study will be viewed. It is possible that the NBCTs through their

common goals, common practices, and engagement in the NBPTS process are participants in a CoP.

Wenger (2008) explains that learning within these communities does not need to be the primary reason for their formation. Learning can be an unforeseen product of the communities' existence. The NBPTS was established to identify highly qualified teachers (CTFTP, 1986; NBPTS, 2008). Wenger (2008) describes three crucial characteristics of a CoP. First, a CoP must have an identity which is defined by Wenger as "The Domain". This shared domain is the expertise of its members that distinguishes this community from people outside it. Wenger (1998) describes this shared domain as a joint enterprise between community members. Wenger (1998) does not simply define this joint enterprise as a commonality; rather it is a pursuit of the community. Rodgers (2000) describes this pursuit as the creation of a communal product which differs from initial starting point. Reflection is a key element in the establishment of a joint enterprise, in that community members mold their practices based on reflection. (Rodgers, 2000, Wenger, 1998). Second, members of a CoP must have interaction. Interaction is essential to the creation of a community. However, the interaction does not have to be extensive or on a regular basis (Wenger, 1998). This interaction can be formalized by a central body, or be informal among its members. This informal interaction can occur simply as a result of identification with the CoP. This is much like NBC candidates having support groups for the process, as well as mentoring programs. Henderson & Bradley (2008) additionally described this interaction as mutual engagement. The third essential element is practice a CoP must have a unifying practice which is implemented by the community's members. This unifying practice has a shared repertoire of experiences and tools (Henderson &

Bradley, 2008). This common repertoire encourages unique ways of acting and thinking about practice, which inspires the creation of knowledge about a practice (Coskie & Place, 2008). The interaction of all three elements is illustrated below in Figure 2.01.

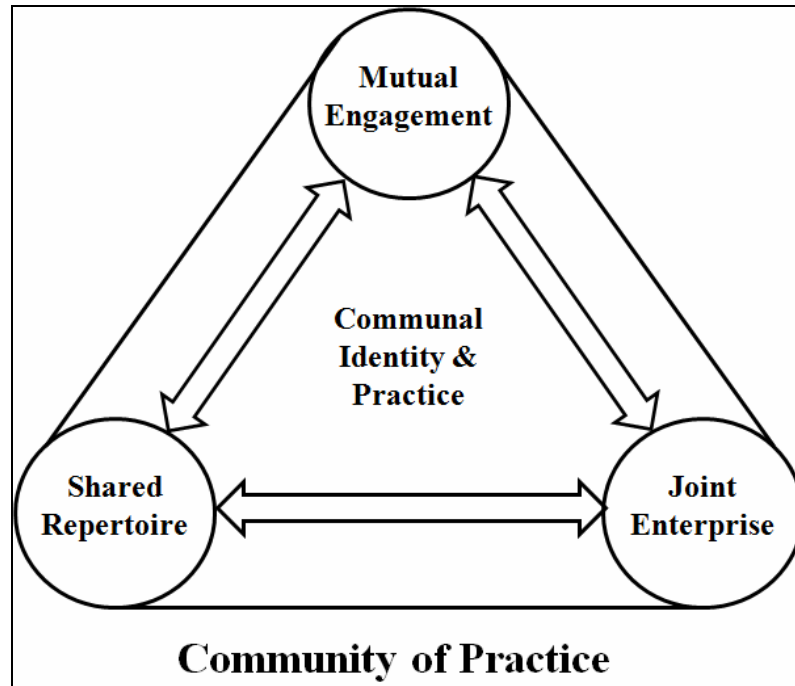


Figure 2.01 Community of Practice (Wenger, 1998).

The study of CoP has been utilized in the investigation of professional development (Coskie & Place, 2008; Lave & Wenger, 1991; Palinscsar et al., 1998). Studies of NBPTS have also been guided by CoPT as well (Burroughs, Schwartz, & Hendricks-Lee, 2000). The NBPTS establishes standards, promotes five core propositions, and creates a process by which this information is disseminated. The organization distributes a mass newsletter, mass e-mails to update and inform its entire membership (NBPTS, 2008a). The NBPTS promotes mentoring programs and support networks for NBC candidates. Communication and collaboration are promoted throughout the NBC process and post-certification (NBPTS, 2008a). This organization is

domain-specific within its disciplines, and only practitioners are part of this community. Community of Practice Theory (COPT) explains that members of a community learn through several different modes. Learning occurs as a result of the sharpening of skills, the development of a shared repertoire, and the creation of innovative forms of mutual engagement (Wenger, 1998).

Increasing or sharpening of skills is achieved through the alignment of members' practices with the rhetoric produced by the community. This increase of skill is described by Wenger (1998) as the joint enterprise of the CoP. The portfolio plays a key role here, in that it mandates that a teacher demonstrate the ability to perform a desired behavior (Coskie & Place, 2008). A candidate must examine his or her current practice, understand what is expected, and then emulate it. In this way the NBPTS by setting high standards and a set of core propositions, has decreed the communities unifying goals. Members of the NBPTS community must align their practice with these unifying goals in order to achieve certification and maintain standing within the CoP (Wenger, 1998).

Wenger (1998) states that once a person comes to identify himself or herself with a community, to maintain his or her identity within that community, the member must maintain and continually align with the practices of that community. Through the portfolio and assessment process the NBPTS candidates are aligned with the five core propositions, and the content standards for their particular discipline. This alignment creates a community understanding of what it means to be a highly qualified instructor (Coskie & Place, 2008). As a member of the NBPTS community the candidate feels pressure to continually align his or her practices with those of the NBPTS. This continual reevaluation of practice and realignment with standards set by the community allows the

NBC candidate to successfully hone his or her skills to meet the expectations of the NBPTS.

The NBPTS has through its practice also set up a community repertoire (Coskie & Place, 2008). The community repertoire begins with the portfolio. The NBPTS portfolio consists of four journal entries governed by several questions that serve to frame the candidate's responses. These questions inspire the candidates to analyze their practice, determine strategies for instruction which allow them to meet standards, and answer portfolio questions to the satisfaction of the NBPTS. This process leaves the teacher with a conceptual toolbox of pedagogical tools. These tools are based on the questions asked in the portfolio as well as the propositions on which portfolio entries themselves are based, and the standards which the practices represent (Coskie & Place, 2008). These teachers in essence have a common repertoire and common pedagogical tools. These common tools create a basis for the NBPTS CoP, and also inspire a sense of community discourse which is productive in allowing the community to learn new and innovative techniques (Wenger, 1998).

Evolving forms of mutual engagement are central to the formation of a CoP (Lave & Wenger, 1991; Wenger, 1998). These engagements however do not have to be regular or extensive, and they change over time. Within the NBPTS, engagement has evolved over the past 13 years. Initially there was limited contact between candidates. However, eventually candidates began reaching out and creating support networks. Candidates started to identify themselves in cohorts. States have begun creating mentoring programs for certification (Freund et al., 2005). A newsletter is circulated on an as needed basis to all members of this community. An online list serves to facilitate conversations between

candidates. Further, regular mass e-mails are sent to NBC teachers and candidates (NBPTS, 2008). The identities of these community members are even posted on the Internet (NBPTS, 2008a). These elements constitute a mutual engagement which is evolving between members of this community.

Coskie and Place (2008) studied five NBC elementary teachers in an effort to examine the effects of the NBC process on instruction. This study utilized the CoP as a theoretical framework. The contention of this study was that there is some sort of learning taking place throughout the process (Coskie & Place, 2008). Indeed, CoPT predicts that there will be learning that takes place as a result of the NBC process (Wenger, 1998). Through a 2-year examination, this study determined that learning had occurred during the process, and that the process had a positive impact on teachers' practice. This study found that some institutional as well as personal factors have an effect on this learning. Specifically, the authors found that these factors in some instances inhibited the teachers' ability to align with the standards which had been promoted by the CoP (Coskie & Place, 2008).

CoPT predicts that the type of professional development provided by the NBPTS is not that of simply providing standards. Rather, through the process of portfolio compilation and assessment activities, the NBPTS has set up a CoP. These activities have put in place what Werner (1998) describes as a regimen of competence. This regimen of competence provides a basis for members to compare their practices. Alterations to the practice of the individual are based on the template of excellence provided by the community. The NBPTS CoP alters the individual member's practice in a fundamental

way, so much so that it affects the member's identity as a professional (Coskie & Place, 2008).

Summary

The review of literature in this chapter identified several educational reform acts. These acts have had lasting effects on education in the United States. The most important impact on this study has been the creation of the NBPTS, and the certification of teachers as highly qualified. The NBPTS was thoroughly outlined in this chapter. This chapter has also outlined some aspects of quality physical education, as well as the need for highly qualified physical education teachers. Also illustrated in this chapter are several common measures utilized in the assessment of physical education. Finally, a guiding research model and a theoretical framework were outlined. This review of literature was designed to give a guided explanation of studies which pertained to the goals of this investigation.

Chapter 3: Methods

Methods for any scientific inquiry must be carefully considered, weighed, and balanced. When investigating instruction, unique concerns arise. These methodological concerns are inherent in the study of any human interaction. As Jones (1985) described, humans are not like atoms in chemistry, in human research too many variables must be accounted for, too many unknowns currently exist, and empirical, quantitative methods are difficult to implement (Swandt, 2000). This is evident in the deeper meaning of a smile, which is discussed by Jones as something that cannot necessarily be quantified. A great strength of naturalistic research is that it examines a phenomenon in the setting in which it exists. Quantitative research tends to create artificial environments in which to conduct experiments (Chadwick, Bahr, & Albricht, 1984). Rink (1993b) states that educational research has undergone a major paradigm shift in the past two decades. This shift has been from an empiricist or logical positivist standpoints, to a more phenomenological or naturalistic approach (Rink, 1993b).

This shift is evident in the evolving models of educational research. Dunkin and Biddle (1974) presented a model which was empirically based. This model relied heavily on quantitative data which would be analyzed to render empirical results (Dunkin & Biddle, 1974). Early process-product educational research was based on the Dunkin and Biddle model. This type of research examined outcomes to make inferences about teaching. Gage and Needels (1989) described many of the criticisms of process-product research. This type of research to some extent neglected to recognize that the human condition is different from other traditionally empirical scientific pursuits. Much of the

quantitative data that was collected during process-product research lacked deeper meaning of conditions in the classroom (Gage & Needels, 1993). With the present state of research in physical education, a logical first analysis of NBCPETs should be a descriptive study. This descriptive study of mediating constructs and impact behaviors will allow future NBCPET research, qualitative and quantitative, to move forward in a succinct manner. With the limited funding, resources, and time which a doctoral dissertation permits, methods must be found that fit within these constrictions. It is apparent that a nationwide observation of NBCPETs is outside the scope of this study. The massive undertaking of nationwide systematic observation of hundreds of teachers is not feasible in terms of time, work effort, or funding. A more reasonable observation may lie in a random sampling of teachers in one state. Through this more feasible approach this study attempted to answer the following research questions:

1. How do National Board Certified Physical Education Teachers present tasks in their lessons with regard to demonstrations, clarity, number of cues, accuracy of cues, and quality of cues?
2. How do National Board Certified Physical Education Teachers create learning environments with relationship to time indices, i.e. motor appropriate practice, motor inappropriate practice and off-task behavior?
3. How do National Board Certified Physical Education Teachers' motivations and dispositions reflect the five core propositions of the National Board?
4. What are NBCPETs senses of personal and general teacher efficacy?
5. How do NBCPETs exhibit traits that would be consistent with their being members of a CoP?

Participant Recruitment

The NBPTS maintains a database of all individuals who have achieved NBC. This database is accessible via the NBPTS web site, and is kept current annually. Functions within this database allow the delineation of the teacher's state of employment and certificate type. This database was utilized in the recruitment of participants for this study. NBCPETs from the state of South Carolina with certificates in early and middle childhood were recruited for participation in this study. At present there are several school districts within South Carolina which employ large numbers of NBCPETs. For this reason this state and these school districts are optimal for data collection and recruitment of participants. As many NBCPETs from school districts in South Carolina were recruited until six had been selected and agreed to participate in this study.

After participants had given verbal consent to participate in this study, their school administrators were contacted for further permission. After district level permission was gained, participants in this study were mailed an informed consent document which they signed, dated, and returned to the investigator. This process proved to be incredibly difficult. Participant selection and recruitment for this study was a time intensive and arduous task. After receiving university level IRB approval for the project, the investigator began sending recruitment e-mails to one school district in South Carolina who had a large population of NBCPETs. These e-mails went largely unanswered. In response, the investigator expanded recruitment to several other school districts within the state of South Carolina who also had large populations of NBCPET. Again these e-mails went largely unanswered. However, after several more e-mailings to these districts a participant pool of six willing participants was established.

The six NBCPET's were located in three separate school districts which were geographically located in different areas of the state. After willing participants were established, the investigator attempted to receive permission from the administrators at the individual schools and districts. This again was difficult because some districts did not allow video recording in their classrooms, while others required an extensive review process. To further complicate the process was the fact that while we received permission from the NBCPETs in some cases, the administration would be unwilling to have researchers in their buildings. At the end of this process which took approximately four months, the investigator had agreements from administration and teachers to observe all six NBCPETs classes. In addition the investigator were able to video record three of the NBCPETs. Video recordings only took place on the second visit. These video recordings represented approximately 27% of the overall observations made. Informed consent was received from all participants, parents and students prior to any data collection, these consent forms are displayed in Appendices B, C and D.

Measures

Several measures were utilized in this study to answer the questions for which this investigation was conducted. By answering these questions this study sought to create an accurate description of the practices and abilities of NBCPETs. Measures utilized in this study consisted of open-ended interviews, the ALT-PE, the QMTPS, the TES, and document analysis of lesson and unit plans. Data were collected on two separate occasions per NBCPET. During these visits participants were observed for an entire day, and all lessons taught during the two days were utilized for data collection. Data collected during visits included videotaped lessons, open-ended interviews, live coded ALT-PE

and QMTPS observations and the collection of documents. Documents which were collected consisted of curricula planning, lesson planning, and personal teaching philosophies written by the participants

Interviews. Interviews allowed for an in-depth analysis of participants. For this study formal standardized open-ended interviews were employed. The open-ended interview allowed flexibility in the interviewing process (Patton, 2002). Interview data were collected from each participant during the site visit data collection. Each interview was voice-recorded and later transcribed for data collection.

Open-ended interviewing in this study employed a standardized interview guide. The interview guide approach allowed for all questions to be standardized, and also allowed for the sequencing of questions (Patton, 2002). Also, the interview guide allowed for consultation on interview questions prior to the collection of data. Interview guides for the November and January series of site visits are displayed in Appendices G and H. It has been noted that a major problem with the standardized open-ended interview is the lack of the naturalness that an informal conversational interview allows (Patton, 2002). One strategy for limiting the lack of naturalness is the use of probing questions. Probing questions are questions that are utilized to elicit a deeper response from the participant. There are five distinct approaches of probing questions: (a) the direct probe; (b) the additional information probe; (c) repetition of the original question; (d) echo of the respondent's answer; and (e) the silence approach (Jones, 1985). Jones explained that silence should be utilized sparingly because it has been found to disrupt the interview process. Probing questions and strategies were employed where necessary to gain a deeper understanding of responses which arose.

The standardized interview guide for this study examined the motivations and dispositions of the participants. Further, the interview guide probed teachers' beliefs and strategies which pertain to certain mediating constructs and impact behaviors. The mediating constructs which were examined are: (a) academic learning time; (b) appropriate practice; and (c) engagement. Impact behaviors which were examined were: (a) instructional tasks; (b) managerial tasks; (c) teacher expectations; and (d) teacher feedback. Finally, several of the questions during the interviews probed efficacy beliefs of the participants.

Interviews were recorded and transcribed verbatim. As part of member checking the interviews were then e-mailed to participants to make sure that the participants agreed with the transcription. It should be noted that only three of the six participants responded to multiple e-mailings of these transcripts.

Academic Learning Time – Physical Education. ALT-PE data were collected by live coding as well as videotaping selected classes held during each day of data collection. Prior to field observations the researcher trained with an expert on this instrument and an inter-observer agreement of above 80% was achieved prior to any field observation. Overall there were twenty-eight ALT-PE observations made during the course of this study. During the process of participant recruitment certain school districts within this investigation would not allow video recording within their schools, therefore live coding only was employed. Video analysis utilizing the ALT-PE instrument took place at a later time. These video recorded data were coded simultaneously. Simultaneously recorded data for the ALT-PE were 32% of the overall data collected. The ALT-PE which was utilized in this study is displayed in Appendix F.

One primary concern in the application of the ALT-PE is the proper training of individuals employing the instrument. The researcher, as well as the laboratory observer was fully trained. Training took place in a six-step process. This process was completed by the investigator in this study. The ALT-PE training steps were as follows: (a) instruction and clarification; (b) introduction to coding sheets and observation procedures; (c) discussion of typical examples for each category; (d) practicing coding on a variety of practice videotapes verbally with each investigator; (e) practicing silent coding individually, and then comparisons between investigators; (f) comparisons of silent coding continued until an 80% inter-observer agreement was achieved for all investigators. The scored interval method of was employed to determine inter-observer reliability (van der Mars, 1989).

These procedures were utilized by Shute, Dodds, Placek, Rife, & Silverman (1982) in order to assure quality observations utilizing the ALT-PE instrument. An in-depth ALT-PE journal was kept during all of the coding to document any special cases as needed. When utilizing observation instruments some activities that were observed did not fall into any one category and a decision had to be made. These decisions were entered in the journal to insure consistency across all decisions.

Qualitative Measures Teaching Performance Scale. The QMTPS was utilized to measure teacher mediating constructs and impact behaviors. This instrument is displayed in Appendix I. Prior to field observations the researcher trained with an expert on this instrument, and an inter-observer agreement of above 80% was achieved prior to any field observation. There were a total of twenty eight QMTPS observations made during the course of this investigation. This observational instrument is used to describe

task presentation, teaching cues, and feedback. The collection and training procedure for this instrument was the same as for the ALT-PE. Data were initially collected either by video recording or live coding and were analyzed later. During recruitment it became apparent that certain school districts within this investigation would not allow video recording within their schools. The schools which wouldn't allow video recording were live coded. Video analysis for the schools allowing video recording, for the QMTPS instrument took place simultaneously, at a later time. These video recorded data were coded simultaneously. Simultaneously recorded data for the QMTPS were 21% of the overall data collected. The field investigator, as well as the laboratory observer were fully trained. The training procedure for ALT-PE was broad enough to be utilized in the training for the QMTPS, and the same principles of training were applied to this instrument: Instructions were discussed; coding instruments must be examined; common examples of categories were discussed; and practice occurred prior to implementation. Also, an 80% inter-observer agreement was achieved. The scored interval method of was employed to determine inter-observer reliability (van der Mars, 1989). The same six-step training was applied to the QMTPS as to the ALT-PE. Again, a journal of decisions regarding coding was kept to maintain consistency between any coding decisions (van der Mars, 1989).

Teacher Efficacy Scale. The TES was administered to participants during both data collection visits. This efficacy survey is displayed in Appendix E. Participants completed this survey in private. The investigator waited in an opposite room while the participant finished their responses. The TES was designed to examine a teacher's sense of self-efficacy (Gibson & Dembo, 1984). Specifically this instrument is broken into two

constructs: GTE and PTE. GTE is the degree to which a teacher believes that his or her efforts in the classroom will have a positive influence on the students' learning, in spite of any outside environments. A statement that is consistent with a teacher having a high sense of GTE would be: "The influence of a student's home experience can be overcome by good teaching." PTE is a belief that a teacher can positively influence a child. A statement that could be identified with a high sense of PTE would be: "When I really try, I can get through to the most difficult students." The participants completed the TES after the scheduled observations each day. Each participant teacher was allowed as much time as he or she needed to complete the instrument.

Document analysis. Several documents were collected during data collection visits. The documents collected from each participant were daily lesson plans, one unit plan, public blogs, and professional websites. Daily lesson plans were collected to provide an adequate sample of the teacher's daily preparations. It is recognized that lesson planning does change with experience, however each teacher was asked to provide some sort of lesson plan which outlines his/her daily practices. The unit plan was collected for comparisons between how the unit is organized and how the lessons are organized. Websites, and blog posts will allow for deeper examination of practices and collaboration which these participants take part. These documents were utilized both as stand-alone data, and as supportive data in triangulation.

Procedure. Data were collected by a consistent process across all of the participants. The researcher arrived at the participant's school, and begin taking contextual notes almost immediately. Prior to the first lesson of the day the participant and the researcher met for approximate ten minutes to discuss the lessons that would be

taught during the site visit. For live coded lessons the researcher alternated between data collection via the ALT-PE and QMTPS instruments. During the participants' plan period, each participant completed a TES survey in private. Following the TES completion an interview was conducted, and documents were collected at the completion of the interviews. This data collection procedure was used with all participants in this study.

Data Collection Summary

Participant recruitment took approximately four months, due to school district level approvals that needed to be gained. Further it was noted that many of the districts seemed resistant to any research being conducted in their school district. Overall, school districts which were approached to take part in this research seemed quite uninterested.

The researcher spent seventy hours with teachers in this study. Seven and a half hours of interview data were collected and transcribed. Close to one hundred documents were collected and analyzed from both online as well as in paper formats. Nearly 100 pages of field notes were made during observations at these schools. Twelve TES surveys were completed by participants. Fifty six total classes were observed during the course of this investigation, resulting in twenty eight QMTPS observations, and twenty eight ALT-PE observations. Nine of these QMTPS and ALT-PE observations were videotaped and simultaneously observed. Inter-observer agreements for these simultaneously coded lessons ranged from 81% - 89%. In cases where there was not 80% inter-observer agreement the researcher and lab observer discussed disagreements, and recoded the same lesson. This process was repeated until at least 80% inter-observer agreement was achieved for each lesson.

Data Reduction

Data were reduced in a holistic manner. Each piece of data was coded with a unique tracking number. This number indicated where the data came from, when it was collected, and the participant from which it came. These codes were then uploaded into a spreadsheet and examined for common themes. This examination process was aided by a concordance program which counted individual wording occurrences. The frequency of words and phrases within each piece of data aided in open coding of all data collected. Open coding was utilized to assign these codes and later aided in analysis of the reduced data.

Data Analysis

This study accumulated data from several sources: interviews, systematic observations, and document analysis. All data were deductively analyzed. The data were examined in a holistic manner to draw conclusions about the participants. Several steps were taken in the data analysis. First, each data source was analyzed independently of the other sources. ALT-PE, QMTPS, and TES data were analyzed to produce descriptive statistics. Transcripts of open-ended interviews were segmented by question. This allowed comparisons between participants, as well as cumulative responses between answers. This study employed constant comparative measures for interview data (Patton, 2002). Emergent themes were deductive produced. After individual analysis of data, the data were triangulated to attempt cross-data analysis. This allowed the investigator to have multiple observations of any phenomena which were present in any one portion of the data. This multi-observation process allowed strengthening of any results which were produced. Deductive reasoning was further utilized to establish whether results of this

investigation fall within the theoretical framework of its scope. That is to say, do the results of this study reflect what CoPT predicts about the NBC process?

Trustworthiness

Schwandt, Lincoln, and Guba (2007) describe comparisons between rigor and trustworthiness in qualitative and quantitative data. Quantitative data has traditionally been subject to four major criteria by which it is judged as rigorous. Criteria for rigor in quantitative research are internal validity, external validity, reliability, and objectivity. There are parallel dimensions of criteria between qualitative and quantitative data (Lincoln & Guba, 1985; Schwandt et al., 2007; Schwandt, 2000). In quantitative data unique measures are taken to assure all four elements of rigor are met. In the same fashion there are measures that can assure trustworthiness of qualitative data. The four parallel or analogous criteria for qualitative data discussed by Lincoln and Guba (1985) are: (a) credibility (internal validity); (b) transferability (external validity); (c) dependability (reliability); and (d) confirmability (objectivity). Several measures can be implemented to increase the probability that these criteria are met. Credibility can be established by utilizing, prolonged engagement, persistent observation, triangulation, peer debriefing, negative case analysis, and member checks. Transferability is established through thick descriptive data; typically these thick data create a narrative of the context in which the study is taking place (Schwandt et al., 2007). This narrative is developed in order for an outside observer to determine the extent to which the findings are applicable elsewhere. Finally, dependability and confirmability can be established through an external expert audit (Schwandt et al., 2007; Lincoln & Guba, 1985). This study employed triangulation, peer debriefing, negative case analysis, and member checks to

establish credibility. Finally, a contextual journal was kept throughout data collection in order to establish transferability.

Triangulation. The practice of triangulation was previously discussed in the data analysis section. The utilization of triangulation adds credibility and rigor to a qualitative inquiry (Jones, 1985; Patton, 2002). Jones describes triangulation as the process of comparing data from multiple sources. It is preferable that these data sources come from distinctly different methodological approaches. The reason for this is that the greater the difference between methods the lesser the chance of these methods sharing the same biases. Any phenomena which were to arise could then be identified as true phenomena and not a product of instrumentation bias (Jones, 1985). These comparisons can also reveal inconsistencies in the data. These emerging inconsistencies can either be utilized to alter findings accordingly, or allow a deeper understanding of the phenomena which have emerged (Patton, 2002). Triangulation in this study was conducted between interview data, systematic observation data from the ALT-PE and the QMTPS, and document analysis. Triangulation is an important first step in the creation of credible findings.

Peer debriefing. A fellow graduate student of similar standing to the investigator of this study review data and findings in this study. This peer debriefing assisted in the establishment of credibility for data and conclusions met by this study (Lincoln & Guba, 1985). Peer debriefing is the process of allowing an un-invested individual access to the data and conclusions of an investigation. The un-invested party allowed insights into the data that may have not occurred as possibilities to the investigator. Lincoln and Guba (1985) explained that the peer debriefer should be a person who is of the same standing

as the investigator. The reason for this is that an inferior debriefer's opinion may be easily dismissed, and a superior debriefer's opinion may be considered a mandate. Further, peer debriefing allows for an assessment of injected bias into the study. This investigation by the debriefer was described by Lincoln and Guba (1985) as playing the devil's advocate. Clarification of meanings, biases, and interpretations are developed through the process of peer debriefing. Peer debriefing also allows the investigator to clear his or her mind of unproductive emotions which may serve as an impediment to the study. These feelings and emotions about the work may have a detrimental effect on the investigation. Lincoln and Guba (1985) described this effect of the peer debriefing process as a "catharsis" effect (p. 308).

Negative case analysis. A negative case is an instance of data that seemingly does not fit the other data that has been collected (Patton, 2002). This is much like an outlier in quantitative research. In qualitative research, instead of discarding this outlier from the data set, which can occur in quantitative research, the naturalistic inquirer embraces it. In comparing data against theoretical foundations, the outlier (negative case) can be accounted for, and thus be explained. These negative cases allow the researcher to amend his or her hypothesis (Lincoln & Guba, 1985). Patton describes these negative cases as the exception that proves the rule, or broadens the rule, or casts doubt on the rule. This study sought out these negative cases to create a broader understanding of any phenomena which may have arisen. Patton describes negative cases as a "centerpiece" of analytic induction.

Member checks. Yet another vital check in assuming credibility within a qualitative data set is the practice of member checking. This practice is also referred to by

Patton (2002) as a review of data and findings by participants. Member checking is the process by which the researcher presents the findings to the participants. The checking of data by the participants allows a new perspective on the findings. Patton states that member checks are not only important in the confirmation of findings, they are also important to the validation of the questions on which the findings are based. This study, in an effort to insure the credibility of findings performed member checks with all participants prior to the finalization of results.

Contextual journal. A journal of all observational sites was maintained. This journal contained entries for each day of observation, as well as contextual notes which were taken after the site visits. The main purpose of this journal was to aid in the transferability of the study's data. Thanks to accurate description of the contextual setting of this examination, others within the field of physical education may be able to apply the findings to their own context. This concept of transferability within qualitative research is much like generalizability in quantitative research. Within a large-scale quantitative study, the authors might want to generalize the study to the population via statistical methods of probability. Within a qualitative study, a case must be made for the transference of the knowledge produced. By providing an accurate context of this study through a contextual journal, a case for transference begins to form.

Investigator bias. It is necessary in any naturalistic inquiry to acknowledge investigator bias (Patton, 2002). This bias is part of all investigations however as a check on this bias an acknowledgment of it serves as a filter by which the conclusions of this investigation can be processed. The primary investigator for this study is a Pedagogical Kinesiology graduate student at the University of Illinois. This presents a bias in that the

investigator may see the NBPTS as an avenue for the creation of highly qualified teachers. However, it also must be noted that the researcher also believes that the NBPTS has usurped some of the responsibility of the universities in the education of instructional professionals. This too may add to bias inserted on the part of this investigator. Additionally, it must be noted that the investigator chose this population to study. This presents a bias in that the researcher determined that this population is worth studying.

Chapter 4: Results

Participants were six National Board Certified Physical Education Teachers (NBCPET)s from the state of South Carolina. Each teacher was assigned a pseudonym in an effort to maintain their anonymity. Emma, Eugene, Nathan, Jessica, Sarah, and Richard were employed at three different districts throughout South Carolina. For the purpose of this study these districts will be referred to as Morris, Kapowski and Powers School Districts. These names are pseudonyms and have no relationship to the actual identity of the individual school districts.

Emma

Emma teaches in Morris School District. Her school will be referred to as Belding Elementary. The average teaching salary at Emma's School is \$42,486, which is approximately 4% lower than the Morris School District average salary. Dollars spent per student at Belding Elementary were 7,358 which was 3% lower than the average Morris School District student. The student teacher ratio at Emma's school is 16.6 : 1 which is lower than the state median of 18.5 : 1. Student retention rate is 1.5%. Belding Elementary failed to achieve Adequate Yearly Progress last year, and is currently in "Continued School Improvement". This school achieved a "Good" growth rating for the previous year, and a "Below Average" Absolute rating. Emma's school has 243 students enrolled, 52% are Caucasian, 30% are African American, 2% are Asian American/Pacific Islander, 15% are Hispanic, and >1% are Native American.

Emma's Demographic and Immediate Work Environment

Emma was a Caucasian female, who has been teaching physical education for twenty four years. During the first observation Emma wore an Army tee shirt and sweats. However, during the second observation she wore a collard tee shirt with her schools logo on it. She is the only physical education specialist at Belding Elementary. Emma stated several times during her interviews that she had no desire to complete National Board certification (NBC), but was encouraged by other NBCPETs and that enabled her to eventually start the process. She achieved NBC in 2008, and it took two years for her to finish. She failed at her first attempt to achieve NBC. Emma indicated that the librarian at her school was a major factor in her successful completion of NBC.

Emma also utilized many forms of online communication, to stay up to speed on the discipline, both with NBCPET, as well as Non-NBCPETs. These forms of communication varied from Face Book, to the National Board for Professional teaching Standards (NBPTS) web site for teacher interaction. Emma instructed grades K-5, she instructs' each of the students in the school once a week. She had an emphasis on lifelong skill acquisition in her physical education classes. She emphasized enjoyment of physical education through the acquisition of skills. On the days that students in Emma's school did not have physical education, they had a "recess" time with their home room teacher. Emma took it upon herself to supply her colleagues with equipment for e "recess" time. This equipment was aligned with the instruction that she was covering at the time. So in this fashion, she was able to support practice time for her students outside of the physical education context. Emma indicated that the teachers in her school were supportive of this effort.

The administration was welcoming to the researcher during field observations, as were the other faculty within the school. The principal of Emma's school has been in that role for eight years. The gymnasium was extremely clean and organized. There were several jump rope for heart banners which lined the walls of the gymnasium spanning the past decade. An interesting phenomenon that occurred was that Emma preferred to be called "Coach." her web site referred to her as Coach, even her radio she carried with her for office communication, was labeled with the word Coach. This seemed especially odd because she doesn't coach any sport or activity.

Emma utilized a grid system which was color coded to set up squads during instruction, and it worked well during her classes. Her classes were well organized, and the students were well prepared for the expectations that Emma had. One of the key elements Emma employed was the utilization of music. She had two standing "orders" with her students: when the music was playing this was "their time," but when it wasn't playing it was "her time". This strategy worked exceptionally well, and was evidenced by an incident that occurred during the second observation. The students were engaged in skill development with long handled implements. They were practicing to music, and when the music changed from one song to the next, there was a slight pause. The students, all at the same time, dropped their implements, because they thought that the music had stopped, and they knew that it was "her time". This was telling that the students followed her instructions, even when the specific instruction as given.

With regard to behavior management, Emma developed her own behavior rubrics that were independent of the behavior rubrics that the school had instituted. Emma indicated that the school had instituted a "School Obedience Program" in which the

school had created a school wide behavior rubric. She explained that instead of her rubric being in conflict with the overall goals of the school wide initiative, her rubric supported it. In this way the administrators actually admired her independence.

Emma's Task Presentations

During both of my field visits I was able to observe several of Emma's classes. During these visits Emma utilized direct instruction, which she indicated that she utilized on a daily basis. Her proficiency with task presentation became evident through her Qualitative Measures Teaching Performance Scale (QMTPS) results. QMTPS data were collected on four of Emma's classes. QMTPS scores for these classes were 85, 73, 61, and 89. Emma's QMTPS data is displayed below in Figure 4.01. Generally a teacher is considered to be effective in increasing student achievement if she/he scored above 55 on the QMTPS (Gusthart, Kelly, & Graham, 1995), Emma consistently scored above the 55 level, and her overall average QMTPS score was 77.32.

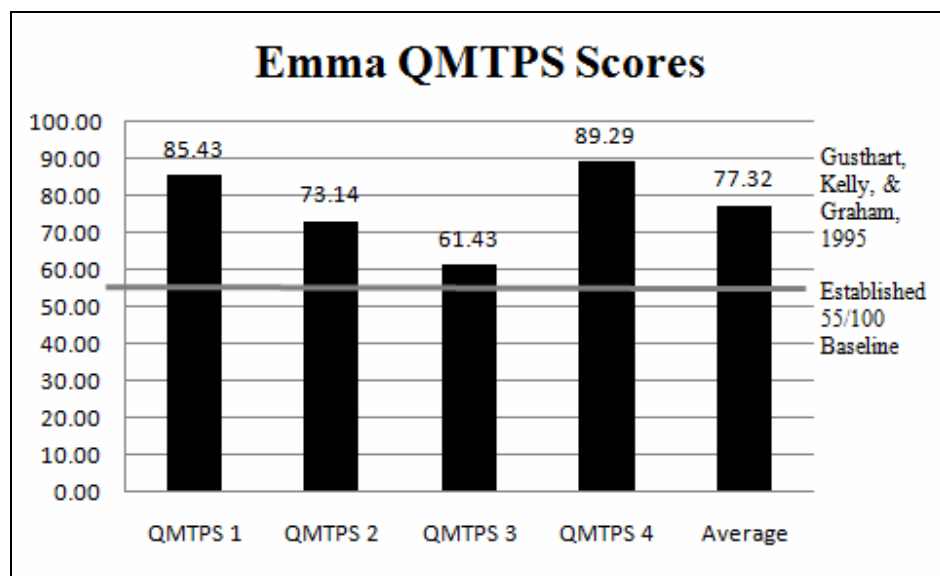


Figure 4.01 Emma's QMTPS scores

Additionally, during interviews Emma discussed how she utilized demonstration and maintained clarity:

I will usually go to them individually, but if the whole class is kind of off-task then it is obviously, it was my instruction, then I will usually stop and re-discuss, or re-demonstrate what they should be doing.

Emma demonstrated that she strived to achieve clarity through demonstrations of tasks, and if Emma is unable to achieve clarity on the first demonstration, she will re-demonstrate. Further, she explained that when clarity isn't achieved she will revise and add an additional demonstration if necessary.

Further, several observations were made during the site visits; Emma's instruction revealed how well her direct instruction was conducted. Observations indicated that she provided demonstrations, and the descriptions of tasks were clear. Her classes were orderly, and the class generally gave responses to her task presentations. In support of Emma's task presentation are her lesson plans that list critical elements to developed task presentation. Further, these lesson plans listed teaching cues that Emma planned to use during her lessons. These cues were present in many of her lesson plans. In describing her feedback interactions with students, Emma said I try to let the kids give me more feedback than I give them.

I kind of let them guide a lot of the conversation. I think the more that they can put it into words or demonstrate it, instead of me doing all of the talking or me doing all of the demonstrating, and then I think that they will get a lot more benefit out of that than just me being the director of the lesson. I kind of let them have leadership roles in that avenue.

This quote demonstrates how Emma was concerned with student interactions, and overall her attitude towards student feedback worked well for the QMTPS specific congruent feedback area of assessment. While Emma's QMTPS scores, lesson observations, and interview data indicated that she presents a task well, of special interest is that Emma supported her perception that her task presentation had changed as a result of her achievement of NBC.

It (task presentation) has changed, I would have to say that I am a lot more in-depth and as far as trying to educate the kids on the concepts and the skills. I think that it has made me a much better teacher on making sure I am reaching these kids on why we are doing what we are doing. Not just participating but why we are participating.

She had reflected on and determined that one of her goal was to reach every child by pondering the best presentation she could deliver.

Emma's Use of Class Time

Throughout data collected during Emma's site visits it became evident that Emma had an amount of organization in her classes. Repeatedly lesson observations revealed that her classes were organized, and that students knew what was expected of them. In her classes she attempted to emphasize a high amount of practice time, that facilitated by a high sense of order, or organization. Emma utilized a grid system that was denoted by dots on the floor and walls of the gymnasium. The dots were color coded, and intersected on lines of the gym floor grid. The children come in and sit down for classes quickly. Emma utilized music effectively during classes she described this usage in a quote from an interview.

And that is, that (Music), keeps me from, I don't have to yell, but obviously in a gym as big as this gym is your voice has to be loud enough to where everyone hear you. It is just a great little discipline thing that I use, that when the music is on they are active, if the music is off, then they know that it is my time. And either it is a safety issue that I need to address or it something that I need to re-discuss that they are doing wrong.

Her lesson plans were orderly they outlined what activity would be performed that day, what the teaching cues were for all of the activities, and how long each activity was to take. Her lesson plans also included the standards that she would be addressing during that day. Emma also allowed for warm-up and closure time in her lesson planning.

Emma's beliefs about organization and the effects that it has on time management became apparent.

Sometimes I think I'm over the top as far as organizing, but I think that the more organized you are the quicker you can be on task, the more efficient you can be with your lesson. I'm pretty over the top as far as my organization.

Time management was quantified for this study by the use of the Academic Learning Time in Physical Education (ALT-PE) instrument. The ALT-PE allowed a close scrutiny of Emma's learning environment. The ALT-PE was employed during four of Emma's classes. Contextually Emma's time management data revealed Emma's classes were involved in fitness activities approximately 11% of the class period, skill practice 28%, management time 22%, warm-up 20%, and technique work 17% of the time. Contextual data are illustrated in

Figure 4.02. At the learner level, students were involved in motor engaged activity 47% of the class period, off-task time 4%, waiting 7%, interim time 22%, and cognitive time 19%. Learner level ALT-PE data are illustrated in Figure 4.03.

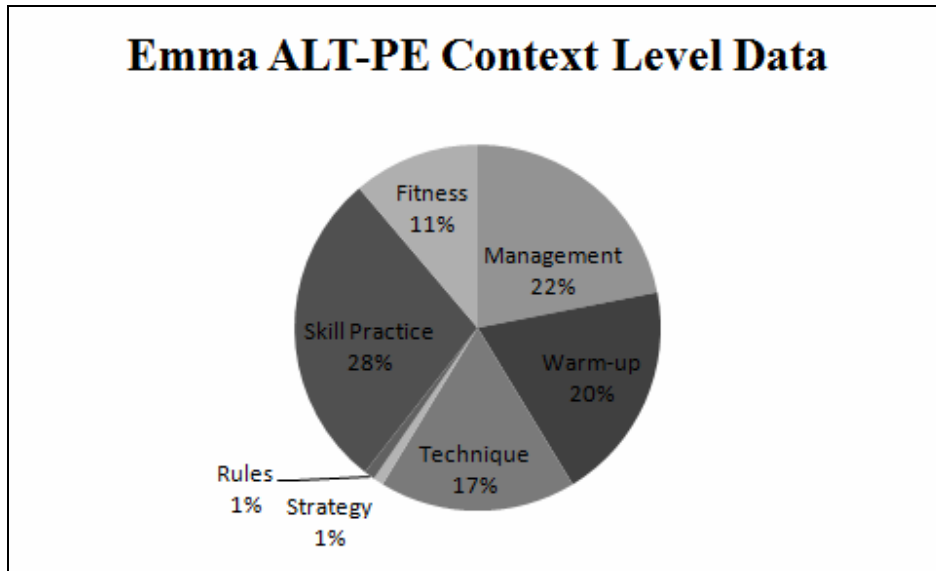


Figure 4.02 Emma ALT-PE context level data.

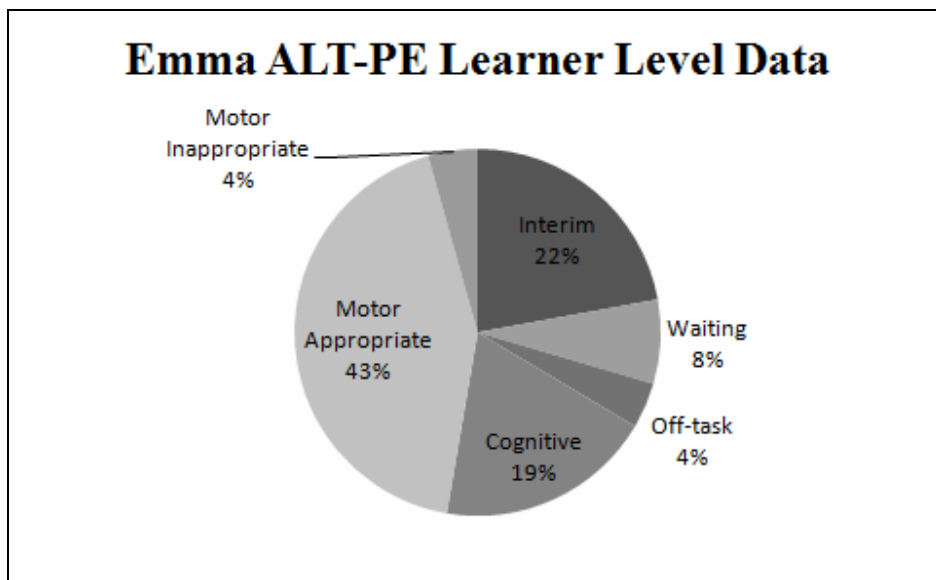


Figure 4.03 Emma ALT-PE learner level data

Emma indicated that she perceived that her time management or classroom environment had changed as a result of the NBC.

I think that I've always had a pretty good environment. I think that I have learned a few things differently as far as what other National Board Teachers did, and I incorporated some of their things. But I think that I have always had a pretty good safe learning environment. Just because I am and have been so organized

She believed that her environment had always been fairly safe and organized; however her discipline had been “honed” through her mutual engagement with other teachers, in which she incorporated other techniques that may have worked better than before. This did indicate a change in her learning environment.

Emma's Attitudes and Dispositions towards the Five Core Propositions.

The researcher attempted to elicit responses from Emma that would produce insights about her attitudes and dispositions. During interviews she was probed regarding her perceptions of the NBPTS propositions. Additionally, Emma was presented with a copy of the propositions and asked if she could describe her practice in those propositions. In this section Emma’s attitudes and dispositions towards the five core propositions will be outlined.

Proposition 1: Teachers are committed to students and their learning. A preliminary indication that Emma is committed to her students came up when discussing her involvement in coaching. Emma coached for seven years at the beginning of her teaching career. She indicated that she stopped coaching to be able to concentrate on teaching in the elementary setting, so she gave up her extra income from coaching to focus on her practice. Further, she developed a behavior rubric, independently of the

school-wide behavior plan. This was in response to what she perceived as a better way to reach the students in the physical education setting. Her perception of knowing her students was again shown in the thorough interview data dealing with feedback. She not only provided feedback, she allowed students input in the instructional process. This process of allowing the students a hand in the learning process was deemed to be a highly committed act in their learning process.

Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students. Emma demonstrates her disposition towards content knowledge in several ways. First she indicated that she has a fairly good grasp of her content knowledge, however she reported that she has some limitations that are generally a result of lack of equipment.

Yes, there are still areas that I have weaknesses in, a lot of that has to do with our equipment, we had obviously the basketballs and the footballs and you know a lot of that kind of equipment because it is a lot less expensive to purchase those ... tennis racquets and golf equipment that kind of stuff the more expensive stuff you don't spend as much time on that stuff because you don't have the equipment, so once the equipment comes in, then I have to go back and re-educate myself and get more familiar on the topic that I am fixing to teach.

So though she may have a weakness in certain content knowledge, Emma was committed to her students' learning and seeks out new content knowledge to bolster her instructional technique in an effort to reach all of her students. However, though she illustrated a possible weakness in content knowledge, she did demonstrate a high degree of content

development, and expertise, both in her lesson planning as well as in her classroom performance. These results were evident in both QMTPS scores and the interview data.

While Emma demonstrated some proficiency in both management and task presentation, she failed to discuss learning styles or acknowledge learning styles as a major concern, even though she was repeatedly prompted by learning style questions. She instead reverted to her high sense of organization to indicate that students need to have a stable learning environment, and in designing rules to assist in this.

Proposition 3: Teachers are responsible for managing and monitoring students' learning. Emma was a strong manager of her students' learning environments. This was evident in QMTPS, ALT-PE, interview data, lesson planning documents, and field note observations. Student responses were generally appropriate, as indicated by the ALT-PE results showing only 4% off-task time. This was further observed through high student appropriate response in Emma's QMTPS results. Further, in interview data, Emma discussed how she perceived that her management had changed as a result of the NBC process:

My management has changed probably. I do have to be a lot more consistent about everything. Probably in the past there were days that I was a little more lax than others, and I would have to pay for it the next day, but I would say that I am a little more consistent, all the way across the board.

Emma indicated the NBC process may have permitted her to more effectively focus on the management of her classroom. Her disposition towards management had shifted somewhat to represent the third proposition of the National Board. To further the concept

of Emma's belief in a change in her management, she was asked to discuss any changes in her planning as a result of the NBC process:

Yes, I do plan more. I plan better. I think I utilize my task time a lot better going through national board. I think I am a lot more organized. and like I said it was a lot of the things I was doing, national board has just helped me to focus in an reflect on what I was being successful with and what I wasn't being successful with. So I could chuck that out.

Emma is a teacher who believes that their management had changed as the result of the NBC process. Data from interviews dealing with her change, and her account of her change combined with positive ALT-PE data provide a picture of a teacher that may have changed their practice or disposition to more closely meet with those of the National Board.

Proposition 4: Teachers think systematically about their practice and learn from experience. The fourth proposition of the National Boards addresses the concept of professional reflection. Reflection became an important theme in Emma's data. Reflection was related by Emma as a central role in her instructional process. For example, Emma spoke to her ability to reflect on her practice.

Well, I can tell from one lesson to the next, what lesson worked, and what didn't work, just by the (students) interacting, and their attitude when they leave here. So if I feel good about their attitude and their involvement, then I think it has been a good lesson. If I feel that their attitude was bad, or if I had a lot of discipline problems, then I think that came from me. I don't think it necessarily came from the children. I know that they have bad days, but I think a lot of time the more

organized I am the better planned that I was with my lesson the more I'm going to get out of my students.

Further, Emma stated when presented with Kolb's (1984) experiential learning cycle:

...active experimentation, and reflective observation. I always try to reflect after I get through with my lesson. How I feel like that lesson went over, or what I did wrong, or like when I guided those kids to the black line and what was specific, you know. And the active experimentation, I always try to just reflect on whether I gave them enough time to experiment what I was trying to tell them.

Her interviews were riddled with instances of reflective thought, and reflective practice. In her normal interview conversation, the concept of reflection was reiterated. When prompted by questions dealing with the experiential learning cycle (Kolb, 1984), she was able to place herself in the cycle and explain her role as an instructor in reflection.

Proposition 5: Teachers are members of learning communities. This proposition deals with a teacher's ability to build relationships throughout the school and bridge gaps in student learning between teachers and subjects. Emma's disposition towards collaboration with members of her learning community was demonstrated through her emphasis on motor skill learning/physical fitness throughout the school. Emma regularly provided equipment for classroom teachers to use during their "recess". This equipment was generally in line with the current unit in physical education. Provision of physical education gear, on her part, allowed her to foster physical education principles by the other teachers. Further, Emma utilized the CATCH curriculum developed by McKenzie, Nader, Strikmiller, et al. (1996). Emma promoted and made this

curriculum accessible to parents, colleagues and students via the school internet site. Parents were allowed to look at what was happening in the school, and how Emma was conducting her classes. Emma discussed her collaboration with other teachers throughout the school.

We try. I'm not going to say I am always on top of that. Just because of the business of the school day. We try to have grade level meetings, and we try to meet, our related arts teams try to meet with different grade levels several times throughout the year just to make sure that we are all kind of on the same page.

Emma's Sense of Teaching Efficacy

To determine a teacher's sense of self-efficacy for this study, the TES (Gibson & Dembo, 1984) was employed. The TES survey was completed twice by each of the participants, once during the November site visit, and once during the January site visit. During each of these visits, Emma's average TES score was a 2.2 for general teacher efficacy (GTE), and 1.9 for personal teacher efficacy (PTE) (on a seven point Likert scale). Emma's scores indicated that she agreed strongly with statements aligned with a high sense of both personal and GTE.

These data, while compelling, are limited without additional consideration of the interview and observational data. In Emma's case it seemed that her sense of general teaching efficacy was lacking. In response to the question, "How do parents of your students effect their learning?", she stated:

Negatively they effect it because they don't do a whole lot with their students as far as their learning. They don't have time, they're not educated. As to how we teach things verses when they (student's parents) were in school.

However, when she was asked “How much does your teaching influence student achievement?”, a question addressing PTE, Emma responded:

Greatly, I mean I really think it does because if I'm excited about what I'm doing then I think it makes a difference as to whether the children are excited or not... if I could show them why I do what I do will make a difference in their life. I think they'll want to learn. This statement could indicate that she has high sense of PTE. Further, these statements echo her responses to General and Personal Teacher efficacy. However, when asked if her perceptions about efficacy had changed as a result of going through the National Board process, she indicated:

Yes I do. I think that, I think that before I did national board I had values of how I was going, and thoughts, about how I was going to reach kids. But I think going through the National Board process brought out my strong points, and what I was good at. Yet it made my confidence level a lot better.

Her sense of GTE may be lower than her PTE, however she did believe the National Board Process had a positive effect on her overall view of students and student learning. Overall, TES and interview data revealed that Emma had a relatively high sense of teacher efficacy. Additionally Emma demonstrated a high degree of self confidence about her effectiveness in the classroom.

I would say that after 24 years it ought to be close to ten! (out of 10). But I would say in the eight or nine range, I think that there is always room for improvement, and I still to this day even though I've been teaching for 24 years, I still learn new stuff every year.

This is a fair generalization of much of Emma's data while she believes that she is effective, she acknowledges her weaknesses, and utilizes self improvement opportunities to try to increase her effectiveness. Further she seemed to have a more realistic outlook on her instruction, which is exhibited by her lower GTE scores.

Emma and a Community of Practice

When dealing with the question of Emma's involvement in a NBPTS CoP, it is necessary to understand that there are three areas of a CoP: mutual engagement, shared repertoire, and joint enterprise. While some aspects of Emma's practice relate directly to the NBPTS, some are more generalized. The following section outlines aspects of Emma's practice that either fall in line with COPT, or tend to exclude Emma from such a Community.

Mutual engagement. Emma described a unique type of mutual engagement in that she regularly interacted with teachers via the internet. Emma explained that she was a member of the NBPTS site that hosts discussion boards. There interaction generally dealt with the National Board Process, or teachers who have achieved NBC discussed teaching practices. The researcher tracked publicly accessible online blogs that stretched back to when Emma was going through the certification process. The discussions showed where she sought ideas for her portfolio entries, and also searched for informal mentoring. Through her interactions and document analysis, it became apparent that she was able to receive mentoring through her mutual engagements. These engagements changed when she achieved NBC. At that point she indicated that she became a mentor to others. Since her certification she indicated that she had mentored several other NBCPET candidates.

When further discussing mutual engagement Emma described her classroom management and how she learned from other NBC mentors and incorporated certain practices. This is an example of perfecting her practice through the incorporation of instructional strategies promoted by other NBCPETs. This form of mutual engagement allows NBCPETs to create a tool box from which many members can draw to assist in their instructional practices. When discussing interactions that happened within her school district, Emma gave an example of the sharpening:

A lot of times the NBCTs conduct workshops which helps bring out some of the good practices or the best practices which we do for our classes. So we collaborate all of the time as far what works best ...

Emma clearly indicated that there is an increased effectiveness of their practice, through mutual engagement, and the dissimilation of good practices. Further, Emma discussed mutual engagement on a national level:

When we (the physical educators in Morris School District) get a chance to get-together, like I said with our county PE meetings, we will talk to them and see if they are doing anything different. Or you know, a lot of the times we will have a couple (teachers) that will go to the Southeastern convention for the National Board, and they will come back and bring new ideas, ... I'm always getting E-mails, and even phone calls from people in other states that are going through the process, who want to interview me or get some ... mentorship I guess

Mutual engagement at both a local and a national level occurred. This mutual engagement was serving the purpose of adding to Emma's practice, and that of all of the other teachers involved. Further, this mutual engagement assisted other teachers in the

completion of the NBPTS process in such a way that they could pass successfully through the process.

Overall, Emma's interview and document analysis revealed that Emma had a considerable amount of NBPTS mutual engagement. Mutual engagement functions as a primary dissemination point for new ideas, and can be thought of as an engine in the CoP paradigm. This NBCPET specific mutual engagement is thus a strong indicator of the presence of an NBCPET CoP, which effected Emma's performance.

Shared repertoire. Shared repertoires are goals and practices that are common throughout a CoP. These shared practices help facilitate a communal creation of knowledge and application of the communal tool box. The possibility of Emma participating in the development of a shared repertoire was raised during Emma's interviews. Specifically Emma explained: “a lot of times the NBCTs conduct workshops which helps bring out some of the good practices or the best practices which we do for our classes. So we collaborate all of the time as far what works best”. This explanation of how “what works best” was developed through mutual engagement is described by Wenger (1998) as the development of a shared repertoire. These data would indicate the possibility of a shared repertoire being developed as part of Emma's integration with other professionals.

Joint enterprise. The joint enterprise within a NBCPET CoP is physical education. There is little direct evidence of a joint enterprise in Emma's case other than that she is a physical education teacher. Emma, however, repeatedly indicated that the NBC process had reinforced reflective practices. She indicated several times that she was more reflective in the process, and that she felt reflection was essential in appropriate

practice. The development of reflective practices has been described as a process by which joint enterprise can be fostered. By developing individual responses to instructional situations through reflection, individual members of a CoP are able to bring locally developed tools to the community that can eventually be developed into a shared repertoire.

Summary. Figure 4.04 represents a CoP as shown with Emma's characteristics. It reveals that Emma shows a strong mutual engagement within the NBCPET community. This mutual engagement is evident in her online activities, professional meetings, and interpersonal contacts. She indicated that this mutual engagement had changed her practice. As predicted by CoPT, it was expected that a member of a CoP will change his/her practice in accordance with community findings. This was the strongest area to support the contention that Emma was a member of a NBCPET CoP. Weaker evidence was present in the shared repertoire, and joint enterprise categories of CoP. Overall, it appeared that Emma was a part of a CoP and she regularly engaged in the adaptation, reflection, and integration of communal tools into the honing of her practice.

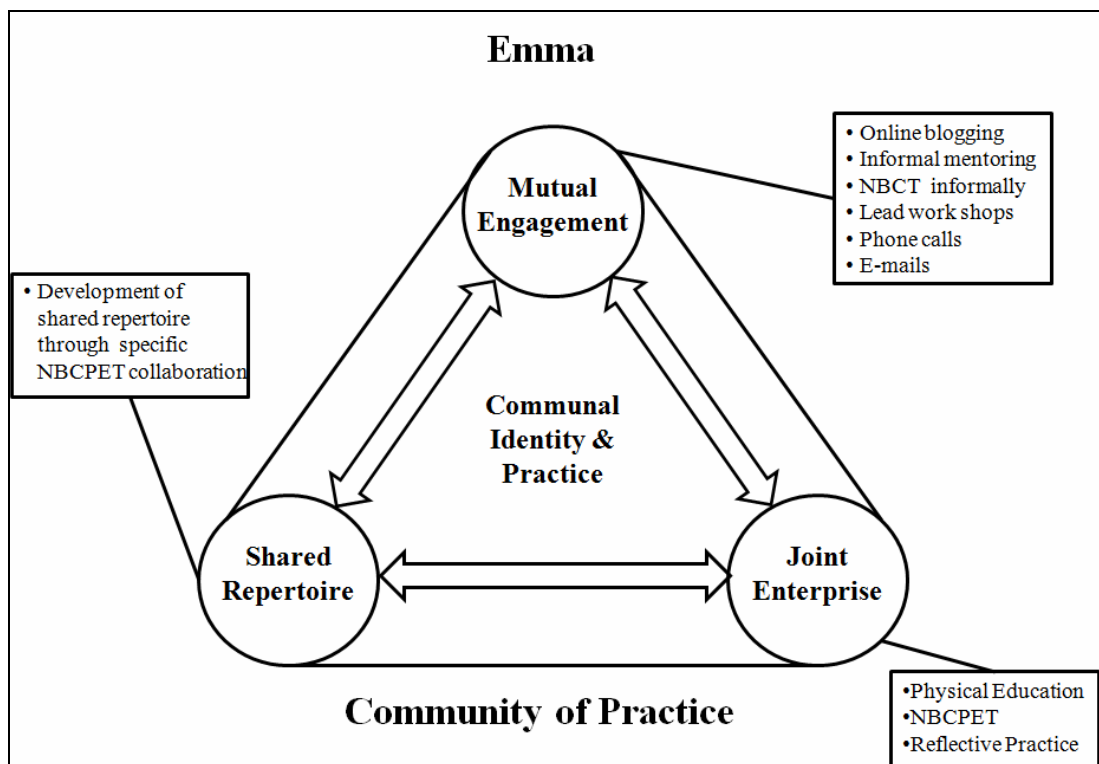


Figure 4.04 Emma and a CoP.

Eugene

Eugene taught in Morris School District, the same district as Emma. Eugene, however, taught at two different schools within Morris School District. Eugene's two schools will be known for this study as Bliss and Spano Elementary. Eugene taught at Bliss Elementary on Tuesday and Thursday at Spano Elementary on Monday, Wednesday, and Friday. At Spano Elementary, Eugene was the only physical education specialist who worked in the building. Spano Elementary had only one physical education class per period in the gymnasium. Bliss Elementary had two classes per period on Tuesday and Thursday, necessitating Eugene assisting at Bliss Elementary, and this was the impetus for his dual placement within this district. On many days Eugene and the other teacher at Bliss Elementary functioned as team teachers, combining their classes

and making use of the entire gym space. On the day of observations, Eugene team taught, however, he took the lead on the class section. Observations were made on his task presentation and time management during these classes. At Spano Elementary, Eugene taught by himself and the class size was about one half of that of Bliss Elementary. Spano Elementary's gym was about the same size as the gym at Bliss Elementary.

Bliss Elementary

The average teacher salary at Bliss Elementary is \$43,749, which is 1% lower than the district average salary. Surprisingly, dollars spent per student in Bliss Elementary are only \$5,101 which is 44% lower than the district average. Bliss Elementary's student to teacher ratio is 22.2 : 1 which is higher than the state median of 18.5 : 1. Bliss Elementary has failed to achieve Adequate Yearly Progress for this school year. This school has a below average growth rating and a "Good" absolute rating. Student retention rate for this school is 1.2% Bliss Elementary has a relatively low diversity in student population. Of the 430 students enrolled in Bliss Elementary, over 320 (74%) are Caucasian. Bliss Elementary has 50 (12%) African American students, 36 (8%) Asian American/Pacific Islander, 22(5%) Hispanic, and >1 % Native American Students.

Spano Elementary

Spano Elementary has far fewer students than Bliss Elementary. Spano Elementary has only 133 which is approximately a 69% lower than Bliss Elementary. While this seems to represent a significant difference between the two schools in which Eugene is employed, there are other striking differences as well. The average salary at Spano Elementary is \$47,120, which is approximately 6% greater than the school district

average salary, and almost 7 % higher than Bliss Elementary. Student teacher ratio for Spano Elementary is 14.7 : 1, which is lower than the state median of 18.5 : 1. Again this shows a difference from the higher Student Teacher Ratio of 22.2 : 1 at Bliss Elementary. Spano Elementary failed to achieve Adequate Yearly Progress this year. This school's absolute rating was “Below Average”, which is a step down from the previous year of average absolute rating. Spano Elementary has an at-risk growth rating that has stayed consistent for a few of the previous years. The student retention rate for this school is 3.9% which is higher than Bliss Elementary’s rating of 1.2%. Finally, Spano Elementary has a slightly more diverse population. Of the 133 Students, 57 (43%) are Caucasian, 33(25%) are African American, and 43 (32%) are Hispanic.

Eugene’s Demographic and Immediate Work Environment

Eugene is a Caucasian male who has taught for six years. He successfully completed his NBC in 2006, and was successful in his first attempt at NBC. It should be noted that approximately 46% of teachers attempting certification are successful on the first attempt. During each field observation Eugene was professionally dressed in school logoed polo shirt. His demeanor was kind and welcoming, and when he was teaching he was professional. Eugene indicated that he became a physical education teacher because of his love for working with children. Further, Eugene expressed a concern for instilling a sense of lifelong fitness and enjoyment of fitness in his students. Also, he explained that he has not coached any sports at either the high school or the elementary school but instead has concentrating on intramural coaching, which requires less time. It was interesting that everyone in both schools referred to Eugene as “Coach” even though he did not coach in any formal setting. He emphasized that his main concern and effort

focused on his physical education instruction. Eugene also discussed the coaching/teaching dilemma in which some coaches draw 90% of their pay from teaching, but spend 90% of their time in coaching activities. It was apparent through conversations with Eugene that he felt the teaching/coaching dilemma was a major concern for the profession. When asked about his responsibility to his students Eugene responded:

I feel like, especially at the elementary level, we just need to expose them to different activities. You know let them try a whole bunch of different things, and see which ones they enjoy, and also get them moving that's something that is main thing, it's getting to where there is more and more testing, and there is less opportunities for the kids to get out and get exercise.

Eugene was genuinely concerned with lifelong fitness and the enjoyment of physical activity by his students. This concept of lifelong fitness was evident throughout his gymnasium where there were seven Jump Rope for Heart banners hanging. Eugene's web site had several pages that were devoted primarily to lifelong enjoyment of physical activity. In particular, there was a picture of Eugene at a baseball game. This seemed to illustrate Eugene's attitude about enjoyment of physical activity.

Eugene had posted the South Carolina state standards throughout both of the gymnasiums he utilized on a weekly basis. Further, both gymnasiums made use of a color coded grid system. Eugene utilized this grid system effectively in taking attendance and in the application of management tasks. Eugene utilized music as a method of controlling classroom behavior, however, Eugene also utilized a whistle for cues other than start and stop signals. This combination of whistle and music seemed to work remarkably well for classroom management. During the observation of Eugene at Bliss Elementary, the

students were well organized. His classes in Bliss Elementary were in a dance unit, and during their practice and skill progressions it seemed like these children were part of a dance group. It should be noted that there were sixty children in the classes Eugene taught at Bliss Elementary. It was an impressive sight to see sixty children moving in relative unison. It was apparent that Eugene had control over this classroom.

While this classroom setting technically could be considered team teaching, in all reality Eugene provided a majority of the instruction during the lesson. His team teacher assisted in providing some feedback. Eugene indicated several times, as also recorded in field notes, which he preferred not to team teach. He preferred instruction at Spano Elementary because he was able to teach on his own. Also, class sizes at Spano Elementary were less than half that of Bliss Elementary, which was an advantage with class management.

Administrators at both of Eugene's schools were welcoming. They met the researcher in the morning and were cooperative. The administrators at both Bliss and Spano Elementary were complimentary of Eugene, and seemed generally concerned about physical education within the school. However, in Morris School District, students only received physical education one class period per week. The principal at Bliss Elementary had been working in that school for six years, and the principal at Spano Elementary had been employed for ten years.

Morris School District had one of the highest percentages of NBC teachers in the country. As a result, most of the ninety schools in the school district had several NBC teachers. Schools Two and Three were no exception there were several NBC teachers employed in both of these schools. The researcher was able to sit in on the related arts

team lunch at Bliss Elementary. The related arts team included teachers from music, art, media arts, and physical education. Several of these teachers had either achieved their NBC or were pursuing NBC. Interestingly, the other physical educator at Bliss Elementary was going through the NBC process during the time of site visits.

Eugene's Task Presentations

Eugene demonstrated task presentation during his QMTPS observations. This was reflected by his five QMTPS results, (these scores were 72, 78, 89, 83, and 67) for an average QMTPS score of 78.1. Gusthart, Kelly & Graham (1995) found that students of instructors who scored above 55 on the QMTPS had higher achievement than instructors below 55. These results are illustrated below in Figure 4.05.

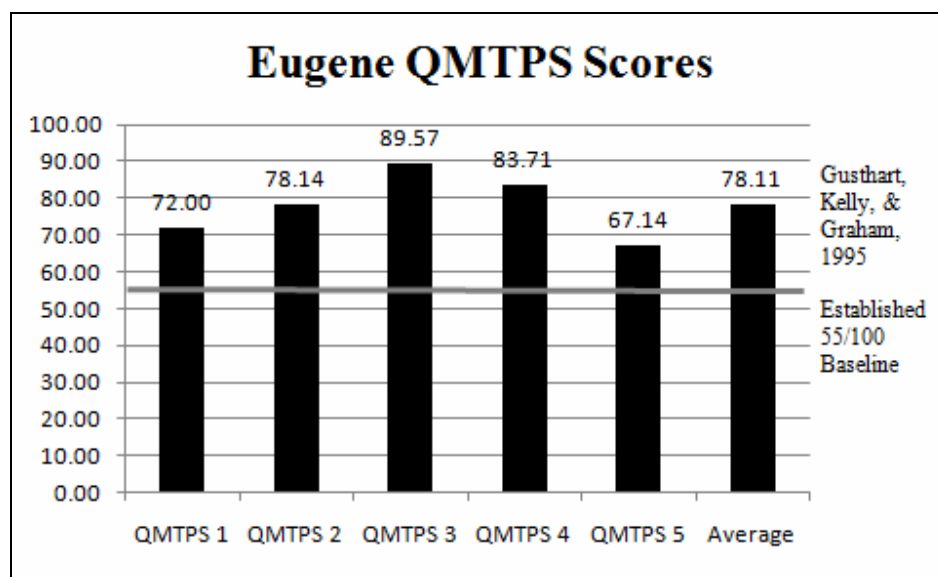


Figure 4.05 Eugene QMTPS scores.

Eugene's QMTPS results are supported by interview data, in which Eugene discussed his task presentation.

I'm all about hands on, working with kids. I feel like, task presentation is one of my strengths. I do well no matter what, as long as I know the skill that's the main

thing. I feel like I can get it to the kids in whatever way I need to, I like to do a lot of demonstrations. ... I usually demonstrate whatever it is, or I have a student help me demonstrate. If I know a student knows it well I will have them demonstrate, but we use key words and cues, things like that, with the dances there are a lot there are key words for the kids to get in their head, and once they get those then they are really able to take off.

Eugene indicated that he liked to demonstrate tasks, break them into parts, and emphasize cues. Further, he looked for clarity in his instruction and the ability of the students to replicate those instructions or demonstrations. Key words or cues played heavily in his demonstrations and task presentations. These were all traits that assisted in the achievement of high task presentation scores on the QMTPS instrument. Further, Eugene's lesson plans revealed an emphasis on cues, objectives, and tasks. The data gathered from Eugene's lesson plans again supported the QMTPS assertion that Eugene had the ability to carry out effective task presentation. This proficiency was also noted by the researcher during the site visits.

Field Note Entry EUJ26- Eugene has excellent task presentation, very good cues, very good feedback, his descriptions are crisp and clear, he has the attention of the entire class during activity.

Overall, data consistently showed that Eugene had command of his task presentation. These data in conjunction provide a picture of a teacher who is reaching his students with great instruction. Eugene discussed the process of certification through the National Board at great length. Eugene perceived that his task presentation had changed as a result of the NBC process. He stated:

I would say that (with) task presentation ...when I went through National Board I realized how the little kids have such a short attention span ... I would demonstrate the whole thing...Go do it. I would see them running and wonder what was the problem. After going through that whole (NBC) process of learning about things ... Just working through National Boards ... what is developmentally appropriate ... really help me quite a bit through that process.

Eugene indicated that he knew he had achieved clarity when “the kids get it.” Clarity is an important part of task presentation, and Eugene indicated that his clarity, demonstration, and overall task presentation had improved as a result of the NBC process. Further, he acknowledged that with good task presentation came appropriate student responses, which also is taken into account in the QMTPS instrument. Overall, this interview data suggested that Eugene believed his task presentations had changed for the better with the completion of the NBC process.

Eugene's Use of Class Time

Data concerning Eugene's time management and classroom environment were analyzed utilizing interviews, field notes, ALT-PE results, and document analysis. The ALT-PE was employed during five of Eugene's classes. He demonstrated an exceptional ability to organize his learning environment during observations. Music was used extremely efficiently to create start and stop signals. However, Eugene also used a whistle to indicate other cues throughout the lesson. Eugene's use of music was the topic of this quote:

(We) like to use music a lot, because it is a sort of stop start cue without us having to say stop...stop...stop instead the kids know that when the music is on they

need to be practicing, music stops they should stop. All of them don't always do it but they know what is expected. I think that it helps them to know where those boundaries are. You know what is expected of them.

During observations, it was noted several times that the students followed these start and stop signals consistently, which aided in the class being on task throughout the lesson. Eugene's sense of organization extended beyond the classroom setting and was expressed in his organization of online documents. His class web site was the most well organized of any of the teachers in this study. His site featured pages for parents, students, administrators, unit plans, state and NASPE standards, fitness testing, Jump Rope of Heart, and assessment rubrics that he utilized throughout the units. Eugene also had letters to the parents of both Schools Two and Three posted on his web sites. The rubrics, standards, and curricular plans that were illustrated on his web site demonstrated his strong sense of organization.

Eugene's lesson plans are orderly, and provide a clear view of what will be transpiring on a daily basis within Eugene's classes. They provide standards, learning objectives, cues, and tasks that will be carried out during the course of the lesson.

Good time management is related to good organization. Eugene was asked to describe a well organized class. He explained:

I would say kids are on task, that there is a clear you know there is a smooth transition between skills and activities, there isn't a lot of downtime. With elementary there is some, but between one skill and another while they are getting their break, they're not just running around all over the place. It's structured I

guess, at the same time you know the kids have the freedom to work through whatever they are working on...

Eugene indicated that he thought he had good organization and that in his opinion his ALT-PE results should indicate a low amount of off task behavior, and a high amount of motor activity. When asked how much motor activity his students get on a daily basis he indicated that they get approximately 50% of their class time spent in this way. ALT-PE data revealed that his students did in fact spend 50% of their class period in some form of motor activity; students spent 47% of the class period in motor appropriate practice. Further, his students spent only 4% of their time in motor inappropriate practice, and only 2% of their class time in off task behavior. Learner level ALT-PE data is further illustrated in Figure 4.06. Contextually, ALT-PE results for Eugene indicated that his classes spent 42% of their time in skill practice, 27% in technique work time, and 13% in management time. Eugene's contextual ALT-PE data is illustrated in Figure 4.07 below.

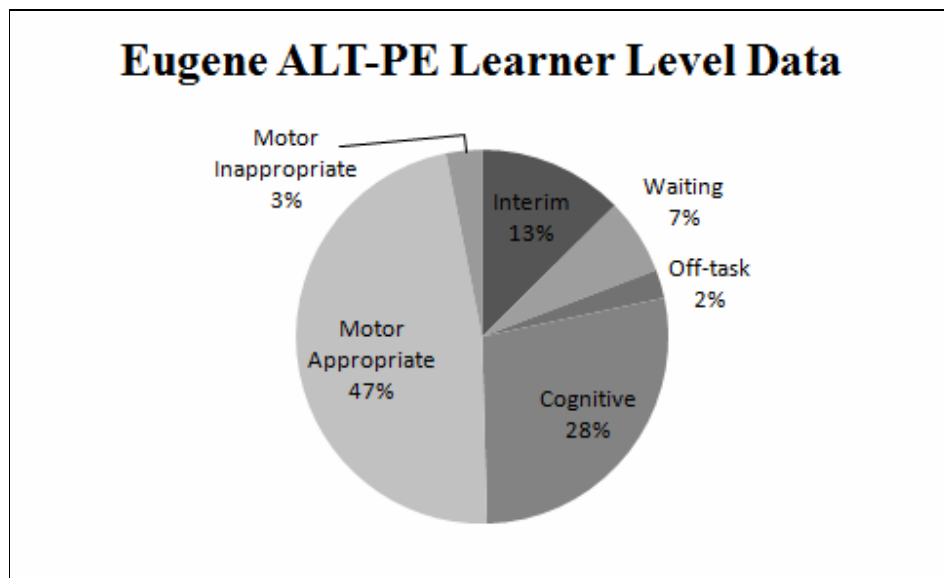


Figure 4.06 Eugene's ALT-PE learner level data.

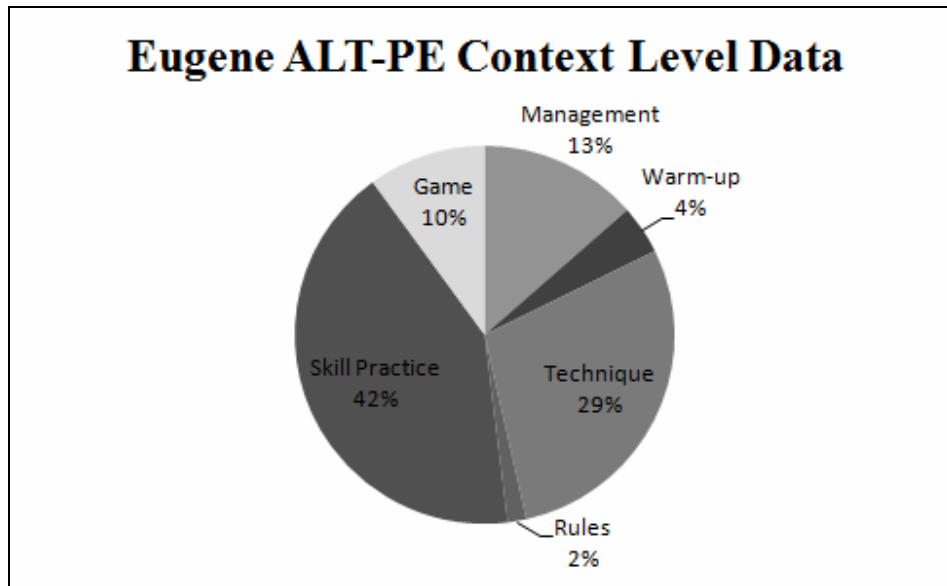


Figure 4.07 Eugene's ALT-PE context level data.

These ALT-PE results indicate that his learning environment is in line with Eugene's sense of a well organized class. Putting these numbers in perspective, Parker (1989) indicated that the average public school should see motor appropriate practice time between 15-25%. Eugene surpassed this with his highly organized learning environment. These conclusions from Eugene's ALT-PE data are supported by statements Eugene gave during interview data. Eugene stated:

What I have found is that kids can practice all day long but if they are practicing wrong it's not going to help them at all. You know if they are practicing bad habits it's not going to help them in the end. The more time that they can get on task practicing correctly, there is a direct correlation from what I have found to student performance. Typically the kids that are able to focus, and stay on task the entire time, are the kids that are able to perform the best.

Eugene clearly recognized the importance of appropriate time management and organization of his learning environment. It seems from interview data that Eugene had a

heavy emphasis on organization, and on keeping his students on-task and learning.

Further, according to the ALT-PE data, Eugene was accomplishing what he set out for, and he seemed to be in tune with what was happening in his learning environment.

Eugene indicated in interviews that he emphasized on skill acquisition: “I think that they would have a basic grasp of motor skills. Those types of things, they have knowledge about health and wellness, as far as what are healthy choices, what kind of foods.” This idea that skill acquisition is an important product of a physical education class was emphasized in one of his online documents that outlined his curriculum for the school year. In this document, nearly 85% of his lessons directly contributed to skill development, supporting the contention that he has an emphasis on the skill acquisition of the student, and a belief in this effecting their lifelong activity choices.

One negative time management behavior that was observed was when Eugene employed the use of time-out as punishment for misbehavior. Students who were the subject of this discipline were made to sit out and were not allowed to participate in class. From the field observations, it was noted that the time outs were limited to only about ten minutes. However, this is generally about 25% of the class period.

Eugene’s Attitudes and Dispositions towards the Five Core Propositions

The NBPTS has, in its effort to create high and rigorous standards, set up five core propositions in an effort to certify highly qualified teachers. It stands to reason that a teacher who achieves NBC should exhibit some motivations and dispositions that are in line with the five core propositions of the NBCPTS. In this section, Eugene's motivations and disposition will be outlined as they pertain to the five core propositions.

Proposition 1: Teachers are committed to students and their learning. Eugene demonstrated his devotion to his students throughout his interview, as well as in documents analyzed during the course of this investigation. First, the depth of his web site is representative of a teacher who has the well-being of his students at heart. In his web site he extensively explained the inner workings of his classes. These explanations included daily practices, assessments, and expectations and addressed each of his parent populations. Further, Eugene had a special section in Spano Elementary's newspaper, titled, Physical Education News, which laid out what the students were working on in physical education for that week. His web site and his involvement in the school all pointed to a teacher who went above and beyond the expectations of a typical teacher. Further, the posting of all skill-related rubrics indicated that he wanted his assessments to be public knowledge. This posting of the rubrics also allowed his students to practice the skills they were tested on at home. Additionally, the following showcases his commitment to his students:

At my other school we are at about 50% free or reduced lunch, here it is about 15%. So you know the kids over there go home and are stuck inside or whatever, moms working or whatever, and there single family homes. Just trying to get the kids moving and realize that, hey exercise can be fun here are some different things I can do. Also getting out where are some things that I can do out in the community, outside of school, things, incorporate them into the lessons as well.

Eugene illustrated how he knew and empathized with his students' issues at home and in the community. He not only empathized with his students but realized through his

instruction that he could improve their life. Through his instruction he was actually attempting to ease problems in their lives outside of the school day.

Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students. Eugene seemed confident with his content knowledge, and his scores on accuracy of cues during task presentation were consistently high. Further during interviews Eugene discussed his grasp of key physical education content knowledge:

I think that I have a pretty good grasp on the things that I teach, but like I said there is always room for improvement though, I mean with dance there are always new dances coming out, that you need to learn or pick up on, and teach them to the kids ... As far as some of the other sports skills, like I said with golf, personally I have played golf some but I have never taught it, so that is one of those things that we have already been brainstorming about we are looking a month from now on doing golf, what skills are we going to do, what activities, were are we going to focus on.

Eugene acknowledged the evolving nature of physical education to which he needs to adapt his practice. He adapted his practice through the use of brainstorming, and by collaborating with other physical education teachers. Eugene specifically indicated that there were a few NBCTs that were his “go to” sources. Eugene indicated that mutual engagement helps him in the augmentation of his content knowledge.

Eugene further demonstrated his ability to teach his subject and reach his students through his discussion of learning styles.

I think you have to individualize it (instruction) based on students, over all you can get a feel for how the class works. If a lot of them tend to be kinesthetic learners or visual learners or auditory learners, that sort of helps. But with PE I try to do a combination of a lot. I'll demonstrate a skill, talk about, and maybe I'll have a student demonstrate it too. Then I'll also go back and maybe give kids some individual feed back if I need to. Lot of different type of learners. Usually I'll try to present a task in many different ways while still doing it in an effective time allotment.

This quote was typical of his responses about student learning and instruction. Teaching to different learning styles is a major focus in Eugene's practice. Eugene understands by varying his instructional techniques that he is able to reach more students and enrich their learning experiences. This quote also illustrates how Eugene knows his students, and how to effectively reach specific students ones.

When discussing possible changes that came about as a result of his completion of NBC, Eugene described changes in his student perception as a result of NBC. He stated:

So digging into what is developmentally appropriate for each age level, and then working off of there was a big thing. I always felt that professionally I did pretty well, but that was something that (NBC) really helped me grow.

Eugene thus indicated that the NBC process may have given him a greater appreciation for the developmental appropriateness of activities for elementary students. This appreciation for developmental appropriateness lent itself directly to the understanding and application of tactics to better reach his students.

Proposition 3: Teachers are responsible for managing and monitoring students' learning. Eugene's learning environment was well organized. His students were given explicit instructions about how they were to perform during class. Eugene also provided key start and stop signals to which his classes generally adhered to. His management dispositions were evident in field notes, as well as in ALT-PE scores. Data revealed that Eugene's lessons had a limited amount of management time. During observations, it was noted that Eugene's instructions were clear and concise, thus reducing management time to only the most essential instructions. With limited management time he was able to achieve a relatively high amount of motor activity during his lessons.

A more important part of this proposition though was the monitoring of student learning. This could be taken to mean simply "keeping a watchful eye" on his students, which he accomplished. However, his monitoring went further - he set goals for his students at the class level as well as at the individual level. Eugene explained how the students set fitness goals for themselves during the year:

We do a beginning of the year test and then they write out their own personal fitness goals. Like if they ran 21 pacer and run test the first time about midyear I want to get to 30 or something. And then after that one, but the end of the year I want get to 35 or 40. Or maybe they are just trying to get into the healthy range.

Eugene explained that he was "monitoring" their success. In this monitoring he was actually assessing outcome variables, in that he kept records of their physical assessments and then compared them in the middle and at the end of the year. This disposition for the

monitoring of student success, as well as achieving excellent classroom management, fits this proposition well.

Proposition 4: Teachers think systematically about their practice and learning from experience. Reflection and reflective practices was a common theme in Eugene's data. Reflection came up in discussion of task presentation, classroom management and the ability to reach children. Eugene stated:

I definitely do (think reflection is a duty), that is one of the big things, you know, being a reflective practitioner. Even the lesson in here, even while the lesson was going on I was constantly thinking. How can I make this better, what isn't working, how can I make the kids understand this easier? I'm constantly thinking back about what I've done in my head.

This quote is representative of Eugene's overall data, with reference to reflection. This quote embodies what the fourth proposition makes clear about an NBC teacher. They are to reflect on their practice, they are to learn from their experience, and as a product of that reflection, they will become a better teacher.

Eugene further discussed how he believed that his reflection had improved as a result of the NBC process. He stated:

...some of the skill and some of the things about reflecting that you learn doing it (NBC process) if you are able to carry it over, I think it (NBC process) makes you a better teacher.

So in essence Eugene described how some of the NBC process carries over. The NBC process emphasizes reflective practices through its portfolio entries. Eugene indicated

that the NBC process improved his reflection on and in his practice. This is also exhibited in the quote above, where he described his utilization of reflective practices.

Further, when prompted by the Experiential Learning Cycle (KOLB), Eugene was able to describe the workings of the cycle, and talk about his practice as a result of this cycle. Eugene stated:

...active experimentation, you know trying something, or you think about it first, you try it, see if it works or not. And then you also, based around what you know, you adjust. Even I can think back like two or three years ago, I could tell right now what will work and what will not work for most groups of kids.

Eugene clearly had a grasp of the advantages of reflective practices, and the ability to utilize these practices to enrich the learning experiences of his students. Further, he exhibited traits of reflection-on-practice, and reflection-in-practice. In other words he was able to reflect during his lessons and correct his instruction based on that reflection. Additionally, he was able to reflect on his lessons from the past, even years in the past, and learn from those experiences.

Proposition 5: Teachers are members of learning communities. Eugene met daily with teachers within the related arts team. These meetings were informal, typically taking place around a lunch table where teachers discussed their day. During the field observation at Bliss Elementary, the researcher sat in on one of these lunches where discussions centered on unions, pay, and NBC. It became apparent that Eugene was a member of a learning community that encompassed more than just teachers in the related arts. Eugene talked about his feelings dealing with interdisciplinary learning:

Our focus this year is on math - that is where our scores were low last year so we have been doing a lot with math. We'll use in math with like bowling and stuff to add up and divide and things like that or fractions, you know how many of the pins did you knock down. So many out of whatever and could that be reduced. Depending on what the classroom is working on. We only have them for 45 minutes instead of trying to actually teach a concept I'll usually go back to something they have already done the previous week and just try to review off of it. Because if they have already worked on certain multiplication facts if they have already worked on fractions I'll come back and review.

Eugene indicated with this quote that he was part of a much larger learning community. This learning community created a much better learning experience for the children in its care. The integration of classroom concepts into the physical education environment reinforced those concepts and allowed a deeper understanding of those concepts by the students who were being instructed. Eugene gave a specific example from his practice of how he integrates classroom concepts into his instruction:

...if we are playing a warm-up game for instance tag where students get frozen, to get unfrozen their partners will have to have them answer a multiplication or division card. For the little kids it is colors shape recognition, things like that to try to reinforce whatever they are doing in the classroom.

It was also noted during field observations that some of the classroom teachers were present during the physical education class. They seemed to be generally interested in what Eugene was doing in his class and how their students were performing in physical education.

Beyond the construction of a community within his own schools, Eugene also had bridged his practice with other teachers throughout the state of South Carolina. He had functioned as an Assisting, Developing, Evaluating Professional Teaching (ADEPT) evaluator and in this function he traveled throughout the state of South Carolina providing evaluations of physical education teachers. Conducting ADEPT evaluations of teachers throughout the state gave Eugene a unique perspective on teaching? This was how he described his evaluations:

...ADEPT observations, going out to schools and observing and critiquing other people, and saying 'is this what you should be doing or not', ... serving as an ADEPT evaluator and looking at other peoples stuff as well as my own...

These data provided a picture of a teacher who was invested in the instruction of his students, one who also provided them with instruction from an integrated platform. Eugene built relationships among professionals in his field and outside his field. This community of learning functioned to provide a richer learning environment for his students.

Eugene's Sense of Teaching Efficacy

Eugene was administered the TES (Gibson & Dembo, 1984) during both of his field observations. His combined TES scores for GTE were a 2.2 on a seven point Likert scale,(1 indicating high agreement, 7 indicating high disagreement). For PTE he scored a 1.9, again indicating a high degree of PTE.

These values show an instructor who has a high sense of general and PTE; however this data was not constrained to his TES scores. Much of his interview data confirmed these efficacy observations. For example, in a discussion of his teaching

effectiveness, he responded to questions about how he would rate himself as a teacher on a scale from one to ten:

Eugene: I don't want to be over..., but I feel I do a good job. I would say a nine”.

Researcher: “And why would you rate yourself that?”

Eugene: “Because there is always room for improvement. Some days some classes, I'll think ‘that went really well’, that was a 10. I explained everything very well, they got it, they did it. Other days I'll be like I'm at a 5. I don't think that I'm doing a good job because the kids aren't learning, but overall like I say I spend a lot of time planning...”

Eugene believed he did a good job instructing physical education. Further, he felt that student learning was the main objective of his instruction. Student learning was one of the factors that he listed as a criterion for success. These traits discussed by Eugene were consistent with a teacher who has a high sense of personal and general teaching efficacy. This discussion of his effectiveness was repeated throughout his interview data, including the thought that there is always room for improvement.

Eugene further demonstrated his devotion to his practice and his own sense of effectiveness as he described dealing with task presentation:

...I'm all about hands on, working with kids. I feel like, task presentation is one of my strengths. I do well no matter what, as long as I know the skill that's the main thing. I feel like I can get it to the kids in whatever way I need to.

These sentiments clearly showed that Eugene believed in his own practice and content knowledge, and he trusted in his ability to get through to the students, and have learning success with his students.

Eugene was posed questions to elicit responses directed towards general and personal teaching efficacy. One of the questions that related to personal teaching efficacy was, “How much does your teaching effect student achievement?”. Eugene responded:

I would say that (my instruction) has a big impact. I've got high standards for the kids I expect them to live up to those standards. And I expect them to perform a lot. At the same time, they are based upon the kids, where their ability level is.

And once you sort of learn where the kid is...

Once again these data pointed to a teacher who had a high sense of PTE. His instruction reached his students he is a teacher who can get his students to attain his high standards. This is an instructor who was confident in his practice and believed in his own effectiveness. Finally, with regard to personal teaching efficacy, when asked if he could reach “even the most difficult child”, Eugene responded:

I think so. If I think back on the last eight years there may have been one or two kids where we just really struggled to reach them. But yeah that is one or two out of, I don't know, teaching about 700 kids a year times eight years.

Though Eugene's personal teaching efficacy seemed fairly supported by both interviews as well as TES data. Eugene had some confusing data with reference to general teaching efficacy. The confusion became apparent when his TES results indicated high GTE traits; however during interviews he reflected lower GTE results. Eugene was asked directly if “family background had any influence on student achievement?” Eugene stated:

It has some effect. I'm not going to say that, but at the same time I've seen different families come through. One kid may be really excel at something because he is determined and focused and just a hard worker where as another kid may just not want to work as hard.

Eugene's TES results indicated a lower GTE. Interview data seemed to confirm this slightly lower GTE result, indicating that in essence Eugene believes that a student's family does have an influence on the student achievement. This assertion was again accentuated by Eugene:

I would say it (home environment) has, again, some impact. Especially with kids, if they are having a bad day, there have been times where kids have come in a said my mom had her boyfriend sleeping over last night and one time kids said that he woke up, he couldn't sleep last night, I said "why not" well, the rats were keeping me awake.

While this data seemed slightly confusing, it suggested a more practical nature of GTE. While his PTE would be able to reach a child, if the home environment was difficult for the child, there may be a barrier. While these statements may seem contrary to a high sense of GTE, they may thus actually support the assertion of Eugene's higher overall teaching efficacy.

Eugene was asked about an impossibly difficult child. He was asked if he believed the statement "Some children are unreachable" was true. Eugene's teaching efficacy was brought into focus with the following statement:

I think that's not true, you know, you get to know the kids, but there may be some time where they have some kind of conflict or whatever, but I think if you work through it you can get to know and reach pretty much any kid.

Eugene genuinely believed that he could reach children. Throughout this data he indicated that he could reach his students. He further believed that he was effective as an instructor and could make his students successful, though there may be barriers to this success. These barriers could be precipitated by a bad home environment, and these perceptions could be a result of his slightly lower GTE.

Eugene indicated that his sense of teaching efficacy had not changed as a result of the NBC process. Eugene stated:

I think for the most part I have always felt that way about as far as home life and stuff like that. I don't think that has necessarily changed, I mean I have always believed that, you realize kids have bad home lives, that does impact them, but at the same time they can still learn.

Thus, Eugene had always had a positive attitude about his students and their learning. However, even though his beliefs were the same, he had always felt that the student's home environment effects their learning. He also believed that he could overcome these barriers that the home environment may have put in to place.

Eugene and a Community of Practice

Eugene had an interesting teaching arrangement. He taught at two different schools within the same school district. He taught by himself at one of these schools, and team taught at the other school. Eugene's data was riddled with references to mutual

engagement, shared repertoire, and joint enterprise. These three tenets were central to the establishment of a CoP.

Mutual engagement. Mutual engagement is expressed as any interaction between people in which ideas are exchanged (Wenger, 1998). These interactions can either be formalized or they can be informal. Eugene stated:

I have about four or five National Board Certified Teachers who are my go to teachers. If I have a question about how to teach something, I'll ask, 'can you send me what you have done with this dance or with this unit', and they will send me ideas. I'll bounce stuff off of people. I'll call different people that I know, just bounce Ideas off of them and say how does this sound.

Mutual engagement was central to the incorporation of new ideas into Eugene's practice. He explained that he had several "go to" people that are NBCT's. This was a clear representation of a COP (Wenger, 1998) . Eugene compares ideas with other people within the CoP and as a result found new ideas to incorporate into his practice. Further, Eugene stated, "I have built a relationship with (people) that I sort of go to first." He has built relationships within the profession to be able to adapt his practice to create a more effective learning environment. Eugene also discussed about the number of NBCPETs in Morris School District and gave details about their frequent in-services. Eugene provided an example of how mutual engagement plays into Eugene's practice:

Actually we did have an in-service on golf, that a lot people, the people who had done it before, shared ideas. They said you know here's what worked for us, here's what didn't, and that's where we went up to one of the schools and they had everything set up. They said you know here's what works and here's what doesn't.

It is important to note that these in-service meetings were attended by NBCPETs and those who were not certified. However, Morris School District has a high percentage of NBCPET's (NBPTS, 2008b). Consequently when these meetings did take place many NBCPETs were present. A key phrase in the quote above is "here's what works and here's what doesn't". This conversation centers on golf, a unit that was to be taught in the spring. Eugene had little experience with golf, so he was in need of some direction. This meeting allowed Eugene to gain much needed experience, as well as strategies for instruction in golf. This interaction added to his tool box of practices, and was a process by which he was honing his practice.

This idea of mutual engagement to reinforce content knowledge and practices is emphasized again by Eugene, as he discussed his confidence in content knowledge.

Eugene stated:

I've also just talked to people, some of those National Board people. Some of these people I know have done similar things. Just talking to them about what worked and what didn't I see kind of what activities they had. Sort of the same you know staying current on whatever is going on or if I needed additional knowledge about whatever it is.

Again to keep content knowledge current Eugene sought outside assistance, much of it from NBCPETs. This interaction provided Eugene with current information, and allowed him to adjust his practice to optimize student success.

Eugene also discussed the concept of mutual engagement through online activities. Eugene stated: "There are discussion boards all kinds of stuff on there that we do. I have correspondence through emails directly to other people." Eugene participated

in online activities as a form of mutual engagement; however PE specific mutual engagement took on a much more personal mode with Eugene. He engaged with others through direct e-mail contact. When prompted to provide examples of people he communicated with regularly, Eugene stated “Usually it is, but you know, I have 3 or 4 real good friends in the district who are National Board certified and who usually, if I have a question about how to teach something or what they did for an activity, I’ll go to them for feedback.” Eugene reverted to his “go to” people to gain knowledge and exchange methods. Eugene even discussed calling other teachers from time to time to discuss content.

Finally, Eugene was asked directly if he felt mutual engagement was beneficial to him. Eugene stated:

We've got a pretty strong community. I don't necessarily know all of them really well because there are so many of NBCPETs. I've got three or four really good friends that I sort of go to and they'll ask me questions about stuff. ... we started golf, and I had never taught it before so I e-mailed a couple of people and I talked to a couple of people. Said hey what did you do, what worked, what didn't work, and sort of gave me the idea from that you can sort of modify and see how your kids are doing and your particular teaching situation...

Eugene pointed out that he believed his sense of mutual engagement had changed as a result of the NBC process. Eugene stated:

I think it was more the collaboration with teachers. And also just going through National Board making all the connections I did with other people in district. It forced me to make relationships with other people. To be able to talk to people...

Field notes also confirmed the notion that the NBC process had encouraged him to create relationships with other teachers. This engagement was important to Eugene, and it allowed him to “hone” his practice. During data collection for this study Eugene’s team teacher was going through the NBC process. In January when the researcher returned to observe Eugene, he learned that Eugene’s team teacher had failed his first attempt at NBC. Eugene indicated that he thought that it was because the other teacher wouldn’t participate with the overall community. They attempted to give him feedback on his NBC portfolio entries; however Eugene indicated that he was not receptive to their advice. Eugene believed that this was a major contributing factor to the failure. In Eugene’s opinion, mutual engagement, even during the NBC process, was essential.

Finally, Eugene indicated that he has never presented at a state or national conference for physical education. However, he was a member of the state AAPHERD organization, and has attended that conference several times. Thus, even though he hasn’t taken an active part in this state wide mutual engagement, he has gone to observe.

Shared repertoire. Researchers contend that the NBPTS content standards constitute a shared repertoire (Coskie & Place, 2008). These researchers explain that by the nature of the assessment, NBC candidates must utilize communal tools in order to successfully meet standards for which assessment activities are designed. By their adoption of this communal tool box, they have developed a shared repertoire. Eugene demonstrated examples of the concept of a communal tool box during interview responses. Eugene explained:

I felt there were those one or two big things that really impacted me. I put a lot of time into it I did it before I had kids. I would spend hours every week working

and mulling through all of those type of things, and there is a lot of things in there I mean just in the standards. There is a lot of good content in there that teachers should be doing. I agree personally, I remember, when I agree with everything they are saying, about what a Board certified teacher should be.

This agreement, or at least acknowledgement of the NBPTS standards, could be considered essential, to the successful completion of assessment center activities, and successful demonstration within portfolio entries.

Further, Eugene discussed his mutual engagement with other teachers. During his interview data he talked about the establishment of shared practice. He described:

I sort of draw on other people, you know. I like to talk to people who have actually had hands on experience with it. Because I have found that typically they can tell you what works and what doesn't work and it is always different, for different schools. But they can always tell you what is practically going to work and what's not.

Through Eugene's mutual engagement he had started to develop a repertoire that was based on the best practices of other teachers. These best practices were typically context specific, but Eugene was able to conform this repertoire to his context. This development of a repertoire that was gained through mutual engagement could be considered a shared repertoire, and as such a communal establishment to tools.

Joint enterprise. Wenger (1998) said that the domain or joint enterprise of a CoP is the identity that is defined by a shared domain of interest. Membership therefore implies a commitment to the domain, and consequently a shared competence that distinguishes members from other people." Further, Rodgers (2000) discussed the role of

joint enterprise as far more than a simple commonality between practitioners. He described joint enterprise as a means by which a community expands their common domain far beyond that of the original. This expansion is achieved through group negotiation of difficult tasks that are inherent to their enterprise. Rodgers (2000) contended that reflection played a major role in joint enterprise. In Eugene's case this was first of all by physical education as his shared domain of interest, and the NBC certification he held as the shared competence that he had achieved. This shared competence that he and other NBCPETs held distinguished them from others in the field. Eugene also illustrated key elements of joint enterprise through his emphasis on reflection. Eugene stated:

Usually a lot of the reflection that takes place will be in my head while we are working, or we are discussing. We don't really usually sit down, I'm not a person that usually tries to keep a journal. It's just not my thing but we do constantly think or talk about what's working well what isn't working well, and how can we modify it.

Eugene reflected on his practice both internally and externally through discussion. These reflections allowed him to have a greater understanding of his enterprise, and through eventual mutual engagement he was able to communicate these new ideas to the other members of his learning community.

Summary. Figure 4.08 illustrates aspects of Eugene's practice that were consistent with a person who is a member of a CoP. These results point to a professional who exhibits many traits that are consistent with a member of a CoP. This isn't to say that Eugene is a member of a NBCPET CoP, but he does exhibit characteristics of a member.

He very well may be a member of a larger “physical education” CoP. However, NBCPETs may represent a subset within the larger CoP. This subset may emphasize the standards set forth by the NBPTS. They may have more mutual engagement they may have a more evolved shared repertoire, and communal tool boxes. Overall data that were gathered in Eugene's case indicated a teacher who was a member of a CoP. Further, this teacher was influenced by the NBPTS to take part in further collaborative efforts. These collaborative efforts assisted in the completion of NBC, however, they also assisted in the honing of Eugene's practice. In principle, the NBC process could provide a solid foundation for quality instruction. This foundation could be rooted in the fostering of a CoP.

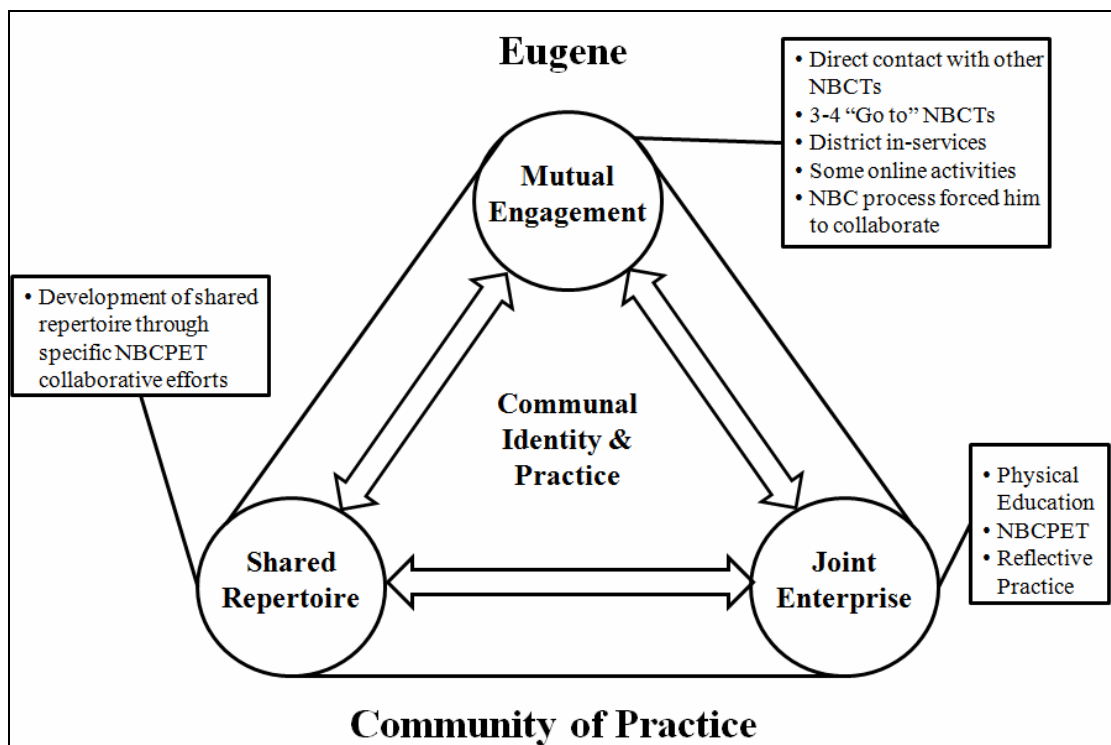


Figure 4.08 Eugene and a CoP.

Richard

Richard was employed in Kapowski School District, his school, which will be known as Turtle Elementary, is new. As a result there is no Adequate Yearly Progress (AYP) data on this school as of this year. This includes salary and other statistics.

However, the district statistics do place some context on Richard's work environment.

Dollars spent per student in Kapowski School District are \$8,661, which is in line with the median state average of \$8,666. However, the teachers earn \$47,351, which is approximately 5% higher than the state median of \$45,107. Administrators in Kapowski School District earn \$84,946, nearly 10% higher than the state median of 76,032. It was interesting to note that teacher's salaries increased 3.1% from the previous year, while administrator's salaries increased an astounding 12.7%. Additionally, Kapowski School District only provided 13.3 days of professional development while the state median was 15.2 days. However, it should be noted that Kapowski School District employed 353 NBCT's, which was nearly .5% of the entire population of NBCT's nationwide.

Kapowski School District had AYP ratings of "Average" for both absolute rating, and growth rating. Interestingly, the absolute rating has changed little over the past five years, while the Growth rating had gone from "At-Risk" to "Average", indicating a substantial improvement. Kapowski School District failed to make AYP this year and they were classified as "Newly Identified," meaning that they had failed to make AYP for two consecutive years.

In relation to locate demographic data, Richard's school had a high degree of homogeneity. Of the 193 students attending Turtle Elementary, there were 154 (80%)

African Americans, 23 (12%) Caucasians, 10 (5%) Hispanics, and 6 (3%) were Asian American/Pacific Islander.

Richard's Demographic and Immediate Work Environment

Richard is a Caucasian male in his late thirties. Richard has been a physical education teacher for eleven years. He has his bachelors and masters degree from the University of South Carolina. Richard successfully completed his NBC in 2005 after his second attempt. He expressed that he became a physical education teacher because of his love of physical activity and the joy of working with children. Richard is a single father of a elementary school aged daughter. He has never coached because he thinks that he needs to concentrate on his daughter as well as his instruction at the elementary level.

When discussing his opinion on coaching and physical education Richard stated:

Some of them (coach/PE teachers) are fantastic at juggling both (positions). Then there are some that you see that ninety percent of their salary comes from teaching but they put ninety percent of their effort into coaching ... (However) I decided that I'm going to do the best I can with just PE.

Richard decided to concentrate on his practice, this dedication at first glance seems to be paying off. He was voted Teacher of the Year at his previous school for 2004-2005.

Richard's school is located in an affluent area of South Carolina. The front lobby employs a guard system that scans visitors' driver's license and compares it with criminal and sex offender registries. The gym that Richard works in is carpeted and has a stage connected to it. The entire school is outfitted with security cameras in every hallway. The gym has four cameras mounted on the ceilings in the corners of the room. The gym feels more like a large classroom as opposed to a gymnasium. Turtle Elementary has a unified

behavior plan that everyone refers to as the “Path”. This plan is placed throughout the school and key phrases are placed throughout the gymnasium. These phrases read “Are you on the right PATH today?” or “How can we get back on the PATH?” Richard demonstrated his adherence to this behavior plan by his use of this terminology during his instruction. Richard is a leader in his school. He facilitates faculty meetings, and he indicated that he was brought into his new school as a team of teachers to help start the “school off right.” He also talked about how he may be going to another new school next year to help them out.

Richard seemed, during interviews and informal conversations, to be distracted by the nature of his responsibilities outside of physical education. During the second observation much of his free time was spent preparing for a faculty meeting that afternoon. Richard also seemed preoccupied with his home life and getting prepared for a move. During his planning period Richard spent the majority of the time on the phone tracking people down to help him move.

Richard’s Task Presentations

The QMTPS was used to assess instruction during five of Richard's lessons. Richard was able to achieve an average QMTPS score of 63.6. His five scores were 72, 65, 68, 49, and 61. Teachers who score above 55 on the QMTPS have higher student achievement than teachers who scored lower than 55 on the QMTPS instrument (Gusthart, Kelly, & Graham, 1995). Four of Richard's five QMTPS scores were above the 55 point marker. Richard’s QMTPS scores are displayed in Figure 4.09.

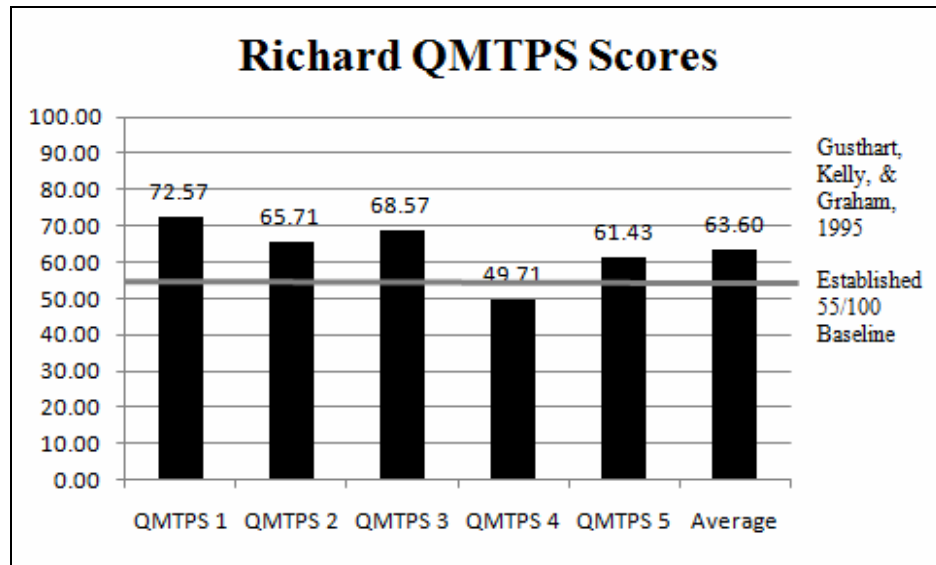


Figure 4.09 Richard's QMTPS scores

Richard discussed his task presentation and he illustrated several aspects of quality task presentation. Richard stated:

I can take it (tasks) one by one. I'll ask "How do you do a pencil roll? How do you do a log roll? How do you do an egg roll? How do you do a combination roll? How do you do a balance, into a smooth transition into a forward roll into another balance?" Then I will break them all down as we progress through the lesson. We will do refinements here and there if we have some mistakes.

Richard explained how he would take the students through a breakdown, demonstrate tasks, and then if necessary, go back to the beginning of a task and work through any problems. Richard further emphasized the use of cues: "You can never have a good lesson without management, next is instruction, you have to know that material, exactly how you are going to explain it, what are your cues are and how are you teaching that skill." Richard clearly has a grasp of effective task presentations. In contrast, during observations, Richard often times seemed detached from the task presentation. He

presented the tasks and provided time for students to practice. However, during student practice he spent most of his time dealing with off task behavior, and not providing specific congruent feedback. This was evident in the sub scale scores of his QMTPS results that indicated low specific congruent feedback. This was further evidenced in a quote Richard made in response to a question dealing with appropriate practice. Richard stated:

I need them moving quickly, without instruction. I think 'how can I most effectively and quickly show these cues to the child and have that child performing that skill? What cues am I going to use? ... opposition, step with opposite foot ball back, opposite shoulder to the target, rotation.' I ask if they are going to have fun practicing - is it going to be worth it to them? I also want to know if they are going to go and reapply it.

Richard indicated that he needed to locate the most appropriate cues for the task that was to be performed and then move through instruction quickly. He didn't mention feedback during this exchange, though feedback is desirable. Richard fails to acknowledge its value. He did, however, emphasize that it was important for them to enjoy the activities, and apply them in their everyday life.

Richard's data was slightly confounding in that when asked if his task presentation had changed as a result of the NBC process, Richard stated:

It has changed a lot. I look at student performance even more critically now. I want to make sure that there are goals that we have on my lesson plan that are met. And before I did, but I don't think I did it with quite the certainty that I do

now. And if they aren't met I do a lot more focus instead of moving on to the next things. We'll come back and review things.

Richard reported that he perceived his attitude toward student achievement had changed. These data were confusing because he reported a change in aspects of his teaching that did not seem to be well executed in his practice. A possible explanation is that Richard was slightly fronting, or in other words, saying what he thought the researcher wanted to hear. This would explain why he spoke of good practices in his interviews, while his actual practice did not match up to those reflections.

Richard's Use of Class Time

Richard's time management data were similar to his task presentation data. For the most part, Richard indicated that his practice was in line with good time or classroom management. Observational data, as well as document analysis data, in many instances revealed less than what Richard was describing. It should be noted again that the researcher, as well as a peer debriefer, felt that Richard was fronting during his interviews. Time management was measured utilizing the ALT-PE instrument. The ALT-PE indicated that Richard spent 40% of his class time in skill practice, 26% in game play, 25% in management, and 8% in other areas. Richards's contextual ALT-PE data is displayed graphically in Figure 4.10. Richards's students spent 47% of the class period in motor engaged activity, 40% of that motor engaged activity was at an appropriate level of difficulty. His students spent 25% of their classes in interim activities, 13% of the class time was spent off-task. Six percent of the class period was spent waiting on activity, and 8% was spent in cognitive learning. Richards's learner level data is displayed in Figure 4.11.

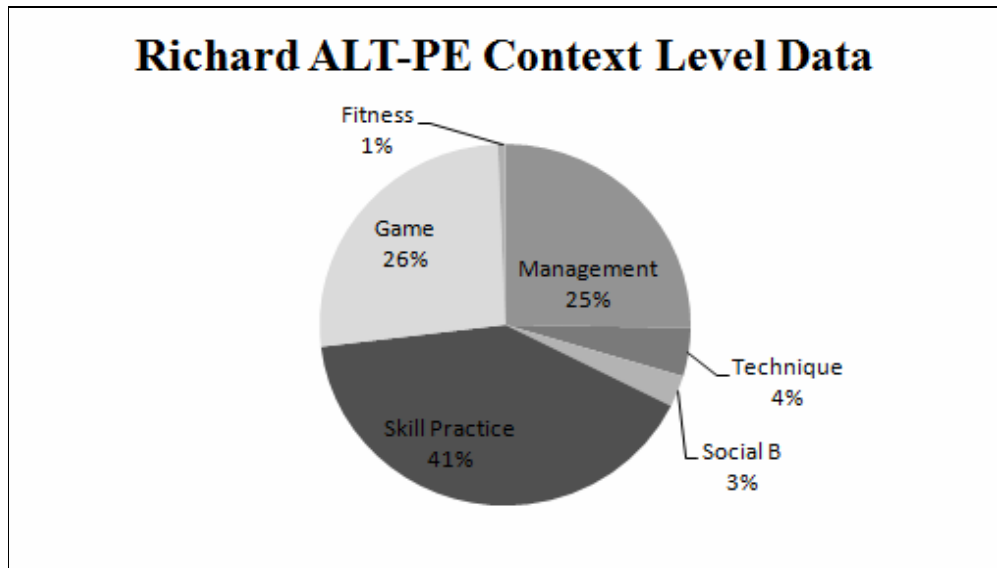


Figure 4.10 Richard's ALT-PE context level data

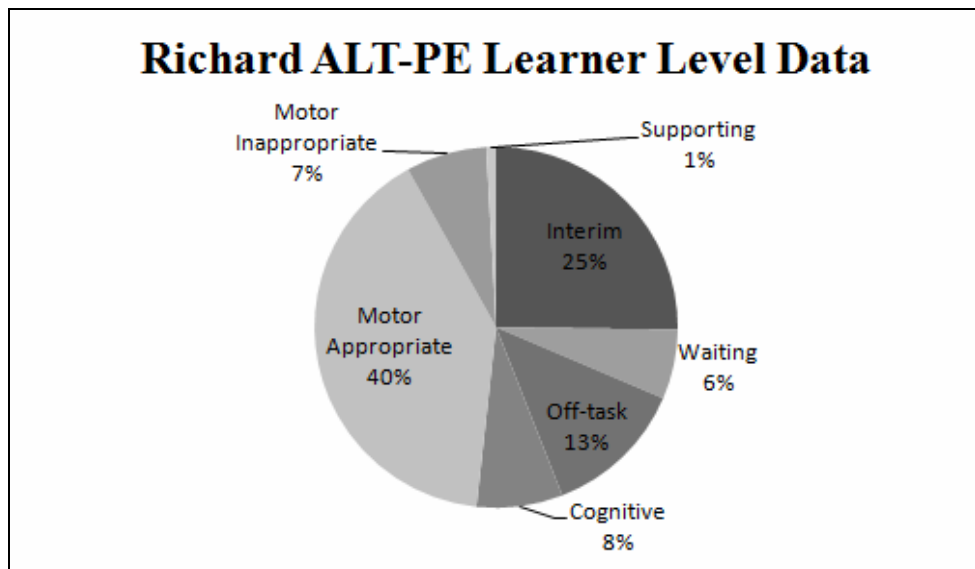


Figure 4.11 Richard's ALT-PE learner level data

ALT-PE results were confirmed by observations made during site visits. During these observations, high amounts of off-task behavior occurred. A recognized problem was that while spending a large quantity of time dealing with certain off-task behaviors, Richard ignored other students that were disruptive, and this persisted throughout the class period. Richard used a carpet line on the floor to have the student's line up before

and after class. He also used music during some of his instruction as an organizing system. However, he was not consistent with the use of music as an organizer. It was noted, though, that when Richard used music his classes seemed much more compliant and on task. Further, there generally was not a warm-up activity during his classes. Students came into the gymnasium, lined up, and then were instructed on the activity for the day. This was especially noticeable on the second observation when Richard typically presented a task and went to the corner of the classroom to simply watch the students.

When Richard was asked what he believed a well organized class should look like, he explained, “A well organized class is one that comes in and I can keep that set induction down to two minute. The students are super quiet, they are focused with eyes on me.” It's clear that Richard had an understanding of a well organized class. He was able to achieve a high amount of motor appropriate activity, compared to a typical physical education class.

Richard utilized music to organize his class but failed to use it consistently. It appeared that when he used music the off-task behavior decreased. It was only when he failed to use it consistently that the class became increasingly off-task. Off-task time can have an adverse effect on motor activity. Richard was asked how much time his students spent in motor activity during his classes. Richard stated:

They are moving eighty, at least eighty percent of the class period...the other twenty includes the set induction, includes the closure, includes the rest time in between.

The actual amount of motor engaged time was 47% - far short of what Richard predicted about his class. Further, the researcher examined Richard's long-term curricular

plans and noted that the plans were incomplete and lacking in detail. These curricular documents revealed that only 24 (66%) out of 36 lessons were skill developmental in nature, the remainder focused on fitness, games or reviews of previously covered content. Richard was not able to provide a daily lesson plan when asked by the researcher, this is not unique for veteran teachers who do not have written plans for every lesson (Placek, 1984).

Richard seemed to know what a good class environment looks like, however, his practice fell short in certain areas. Richard believed that skill practice was important. Further, it was apparent in his ALT-PE data that he emphasized skill practice. When asked how important skill practice is to skill development, Richard stated:

I have seen these sayings ...you know practice makes perfect. Well practice makes permanent, perfect practice makes perfect. If that child who is throwing the ball the wrong way and you are calling that practice...it is much harder to try to fix that once it is learned incorrectly.

Richard does seem to understand the importance of skill practice at the appropriate level of difficulty.

Richard was asked if his classroom management had changed as a result of the NBC process. Richard stated: "Yeah, things have changed, the management has gotten better. Management has gotten much better, I was pretty good managing my classes before, I think that I have gotten better at that, and I do see the change." Richard believed that his management had changed as a result of the NBC process. He felt that it had improved in his practice; he believed that he became more effective as a result of the

NBC process. ALT-PE, interview, and observational data, suggested that he struggled with certain aspects of his time management, while other areas were strong.

Richard's Attitudes and Dispositions towards the Five Core Propositions.

The researcher attempted to elicit responses from Richard that would produce his attitudes and dispositions towards NBPTS's five core propositions of the NBPTS.

Richard like all of the other participants was presented with the five core propositions in paper form and asked to describe how he interacted with his practice. Richard's attitudes and dispositions toward the NBPTS five core propositions are described below.

Proposition One: Teachers are committed to students and their learning.

Richard exhibited a devotion to his students' learning in many ways throughout the interviews. First, Richard exhibited a reluctance to coach because of the impact that it would have on his teaching. Richard stated:

I was really wanting to be a wrestling coach, for quite a long time or a soccer coach and actually I had my eye on a lot of different sports. But once I got into PE I fell in love with it, and ... I just wanted to mainly focus all on my physical education.

Richard's subjective warrant changed as a result of his involvement in physical education. His mind set changed from that of physical education as a means to coaching, to physical education for the sake of the children. This is a powerful statement simply because of the amount of time that Richard had invested in coaching. He had received his master's degree in coaching; he had spent a considerable amount of time and effort in the pursuit of coaching at some level. Further, the financial investments of education, and the financial loss of not coaching, were powerful motivators for Richard to coach at some

level. However, Richard decided that his place was teaching physical education, and he concentrated his efforts in his instruction. This suggested a deep devotion to his student's learning. During observations, Richard was passionate when talking about his students. When Richard was asked what his responsibility was to his students he responded, "Not only to get these kids physically fit but to start to love activity." Richard had a vested interest in creating physically active children. He believed that students need to be physically active, and that he was responsible for this learning. This commitment to learning went beyond simply that of skill development, or fitness testing Richard explained:

There is always the area of team work and cooperation, and working together (which we work on). We are constantly talking about cooperation and saying congratulations. I want them to also be extremely accepting of peoples backgrounds and not only their disabilities but their abilities.

Richard emphasized the affective domain, cooperation through physical activity, and team work. This concept of affective learning was also present in his online course web page. Richard stated, "I tell them from day one 'team together everyone achieves more.'" This exact statement is listed on Richard's physical education home page. Richard placed a great deal of importance on the concept of affective learning and its usefulness in physical education. Finally, when asked what a physically educated child who leaves his program looks like, Richard responded:

They go home and they play, they've got the right practice they've got the right technique. They go out there and when they are with the other children there's not

taunting there's no getting on the other children. They are working cooperatively, they are out there, and they are doing it for the love of that game.

Richard's ideas about affective learning, and lifelong fitness merged, and his ideas about physical education both in the gymnasium and in the student's free time became apparent. Richard illustrated his commitment to the education of his students through physical education. He believed that it was his responsibility to educate his students in the affective domain and provide them with lifelong skills. He was willing to make personal sacrifices for this goal.

Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students. When asked about student learning, Richard discussed differences in children and how it was important to reach every child in a different way.

Richard explained:

I think every student is different. So many different times for example kids with certain behavioral issues, at first when they do something well it may take a whole lot more positive reinforcement, it may take a lot more time working with them. But it may take a lot more, you know, but with another child it could be completely different. You know, they respond to reinforcement completely differently.

Richard realized that with twenty-five different personalities, and ways of learning, that it was difficult to access every child. However, he believed that it was necessary to teach to the individual differences among his students. When Richard was also asked about his content knowledge, he explained:

...there are some times that I question, 'am I doing that exactly right the way it is supposed to be.' So there are some areas, some I feel strongly about and others I know that there is room for improvement. But the good thing is that I'm willing to do that.

Richard believed that he had strong content knowledge, and even though he admitted there were gaps in his knowledge, he indicated that he was devoted to filling those gaps. During observations Richard demonstrated his strong content knowledge, as well as the ability to adapt his instruction during task presentations. This was reinforced by his accurate cue scores on the QMTPS. These results pointed to a teacher who was confident in his content knowledge, and had the ability to increase his content knowledge over time.

Proposition Three: Teachers are responsible for managing and monitoring students' learning. Richard fell short on this proposition. He was able to manage the learning environment, he maintained a large portion of his class in motor activity, however, 13% of his class period was spent in off-task behavior, and 25% of his class was spent in management activities. Evidence related to his management indicated that he knew what constituted a well organized or well managed learning environment, but he failed to demonstrate strong management skills at the times that he was observed.

Proposition three deals with the utilization of goal setting for the monitoring of student learning. When Richard was asked if he set goals for his classes, and for individual students, he stated:

Yes, for example two of the students that you just saw in my last class that you observed have certain health issues that have to be addressed separately. And I

have to go and work with both of them individually and I also work with, they also have an adaptive P.E. teacher.

Richard did set goals for his classes, however, he only illustrated goal setting for his adaptive physical education students. While this was important, it didn't address the goals that should be set for the children without disabilities in his classes. As far as the data illustrated, Richard fell short of fulfilling this proposition. To fulfill this proposition, Richard would have needed to attempt to set goals for his students, and have a measurement to base their progress towards those goals.

Proposition Four: Teachers think systematically about their practice and learn from experience. Richard reported that he was a reflective practitioner.

Richard: I certainly do kind of a self assessment of what went on. Whether that day was as successful as I would have liked it to be.

Researcher: Then how would you use that reflection?

Richard: That reflection lets me know whether we are able to make it a further extension, and go ahead and extend it beyond and push further then where we have.

Richard indicated that he used reflective practices. When Richard was prompted with the experiential learning cycle (Kolb, 1984), he was able to place his practice within this cycle and explain how his practice was a part of this cycle. Richard explained:

It's almost like a pretest with some of the skills, you do active experimentation, and then you go through the experience, watching their skills, seeing where they are at, stopping and then refining. You know with the reflective observation, after

that you go through when I see where we stand and I see what the children are doing then we go into being able to reflect back.

Richard clearly understood the value of reflective practice. Further, Richard understood how to employ reflective practice during his lessons. Richard's reflective practice was influenced by the NBC process. Richard stated:

I took a lot more thought in their performance (during the certification process). I went back and watched those video tapes of me teaching. I had never taped myself, and was able to look at it from an outside perspective. This (the NBC process) was on my own, my personal goals, what I wanted, writing it up, analyzing it, taking it, assessing it, tweaking it, you know going through the realization that I'm going to have to do a refinement here, I can do better with this here...It (NBC process) was an experience that really motivated me to fix those parts where maybe I wasn't doing as well as I could.

The NBC process allowed Richard to look systematically at his practice and evaluate his performance. Through this evaluation he was able to improve his practice and make his practice fit within the NBC content standards for physical education.

Proposition Five: Teachers are members of learning communities. This proposition is targeted at the creation of learning communities within schools, specifically the bridging of content gaps between disciplines. It discusses the collaboration between professionals within the educational environment. Richard demonstrated his utilization and building of a learning community in several ways when discussing his collaboration with faculty throughout the school. Richard explained:

Yes, I collaborate within this school, because I am the only physical education teacher, I work closely with our team. (Our team) is the related arts, which includes Spanish, music, computer, myself, and art. We all work together as a team. As a faculty I'm close with every single one of them (teachers).

Richard worked closely with his related arts team to provide a highly interactive learning environment that would provide his students with a cross - disciplinary exposure to content. These connections between disciplines allowed for a greater understanding of the content in both areas and allowed the students to achieve a higher degree of success in each discipline. Richard also outlined how he had collaborated across several different types of disciplines, not just related arts. Richard stated, "At my old school we were really great about it. And we would integrate everything. We had integration of PE, Science, Health, I mean everything was integrated." Richard was knowledgeable about integration practices, and he had experience implementing them. He talked enthusiastically about the integration of classroom content into physical education. Further, this proposition encourages cooperation between the teacher and parents of students. These relationships also allowed for the fostering of a learning community. Richard stated, "I've had both the School Improvement Council and Parent Teacher Association(PTA) that have come in and talked to me about what's going on. Verbal communication. I do have some emails back and forth from some parents." Richard was open to the influence of parents on his practice. This open door policy encouraged the creation of learning communities through the transparency of his practices.

Richard's Sense of Teaching Efficacy

Richard's teaching efficacy was measured utilizing the Teacher Efficacy Scale (TES) (Gibson & Dembo, 1984). The TES measures both GTE, as well as PTE. The measurement is based on a seven point Likert scale (where 1 -highest degree of agreement, and 7 - lowest degree of agreement). Richard's average TES score for GTE was 1.9, indicating a high degree of agreement with GTE traits. PTE results for Richard were 1.5, again indicating a high degree of agreement with PTE characteristics.

The researcher asked questions related to Richard's sense of GTE, and when talking about parental involvement in education, Richard explained:

...you know it is a tremendous asset to have parents back you up. However, I have been to schools where unfortunately I did have students with very, very, very limited parent involvement. You know, whether it was due to the fact that there was only a single parent or whatever the case may be.

Richard believed that his students' home environment affected their performance in his class. Cooperative parents were an asset, but, he believed that any student can learn.

When asked whether he believed that some students were unreachable, Richard stated:

No, I wouldn't agree with that at all. No, I would say there may be children that through the entire year you may have gone through many problems. But I would still say there is hope for that child, of course, somewhere along the line.

Richard believed that all students can learn, even in the context of a bad home environment. This belief in teaching to overcome environmental factors was a key principle of his positive sense of GTE. Additionally, Richard's high agreement with PTE statements on the TES survey were supported through statements he made during

interviews. TES and PTE scores were supported by Richard's perceptions of his own effectiveness. Richard stated:

You know there is always room for improvement, but maybe I'm hovering somewhere around an eight (out of 10). I tell you what I think that National Boards knocked me up. I may have been a six or seven (prior to NBC) then now I'd like to say I'm closer to a nine (now). I certainly don't think I'm a ten. There's a lot of room for improvement.

Richard believed that he was an effective teacher. He trusted that he was able to achieve student success. Further, Richard had faith that the NBC process increased his teaching effectiveness. He believed that he was a more effective teacher as a result of his achievement of NBC.

Richard was further probed about his effect on student learning. He was specifically asked how much his teaching effected student achievement. Richard responded, "Oh, huge. Some of these children don't have any other idea of physical education about exercise with the modern era of video games and everything else that how much fun getting out there and being active can be." Richard thought that his instruction was a key element in his students' education, and that he was able to make learning physical education fun and accessible to this new generation. Richard was further questioned about his ability to reach even the "most difficult child." Richard explained "I do. I do. I think it's possible, I think it might take more time than with other children." Richard believed that every child could be reached and that he personally could reach every child. He did acknowledge, however, that it would take a considerable amount of effort to reach every child.

Overall, Richard's data seemed to indicate that he was a teacher who had a high sense of both personal and general teaching efficacy. Data from the TES and interview data support the assertion that Richard believed that he could effect student learning, and that teachers in general could overcome factors related to home environment.

Richard and a Community of Practice

Communities of practice are characterized by the three key components of mutual engagement, shared repertoire, and joint enterprise (Wenger, 1998). Data collected during the course of this study determined whether Richard participated in activities or exhibited traits that were consistent with these three components.

Mutual engagement. Mutual engagement refers to group activities or group communication in which ideas are exchanged, and the obstacles of the practice are negotiated. This type of negotiated learning is central in the concept of CoP. In fact, this concept of mutual engagement is what Wenger (1998) described as "Community." Mutual engagement literally puts the "community" in a CoP. Richard discussed some of the various forms of mutual engagement in which he participated. He described that he used Black Board online software within his district to talk to other teachers. This software is typically used by teachers as a means of grade transmission, however it also has some communication capabilities. Richard stated, "Yes, through Black Board and we also communicate through GroupWise internet, that goes for all teachers but we have so many that are National Board certified, the ones that I mostly work with are National Board certified, I guess." Richard did have communication with other teachers, however, he failed to discuss any of the problem solving that occurred from these interactions. That

isn't to say that there weren't some negotiated learning taking place during these communications, but Richard was vague in his description.

Richard discussed his involvement with NBC teachers. He stated, "I'm close with (Jesse Davies) at (Wellington). He helped me very much during the National Board process." Richard had some close collaborations with NBC teachers prior to and after his NBC process. He indicated that the collaboration helped him through the process. With mutual engagement the concept of negotiated learning is important. Even though acknowledging that he had had mutual engagements, Richard failed to indicate any learning that had occurred during the process of mutual engagement other than the learning that took place to achieve NBC. However, Richard's data indicated that he and another NBC teacher get together and worked on skills. Richard stated, "As for National Board Certified teachers we got together as much as we can. We have days that the district allows us where we all get together and we can work on our new skills, and all that." Richard affirmed that learning took place, and that there was mutual engagement between specific NBC teachers in regard to their practice.

Shared repertoire. The only aspect of Richards's professional activities which could be considered as contributing to a shared repertoire would be his presentations at the state conference. During his presentation of materials developed in his practice, he is disseminating these practices during his presentation. This dissemination of common tools could be considered evidence of the development of a shared repertoire. This, however, is weak evidence for the establishment of a shared repertoire.

Joint enterprise. Joint enterprise is a means by which communities of practice expand their common domain far beyond that of the original design. In Richard's case the

original domain is physical education. Expansion is the NBPTS' quest to achieve high and rigorous standards for education within the United States. This expansion is achieved through group negotiation of difficult tasks that are inherent to their enterprise. Rodgers (2000) contended that reflection plays a major role in Joint enterprise. Reflection is essential for both the individual within the community, as well as for the communal dynamic achieved through mutual engagement. Richard discussed his use of reflection:

With the reflective observation, after that you go through when I see where we stand and I see what the children are doing then we go into, being able to reflect back on what was just looked at what was thought about. What they did, how they did. If we need to go back and make the skill a little bit easier, or review that skill, and go through the skill again in order to refine it.

Richard demonstrated that he reflected in his practice. Also, when discussing the NBC process, Richard was able to identify strengths about the process that emphasized the reflective process. Through this redefining of the original domain, the NBC process allowed Richard to explore his own practice in such a way that it could improve his instruction, and allowed for an improvement of his teaching.

Summary. Overall, Richard demonstrated several traits that were consistent with his participation in a CoP. He demonstrated elements of mutual engagement through communication and district meetings, as well as being mentored throughout the NBC process. However, he was vague in his description of mutual engagement. He indicated he had presented at state conferences, and had communication through online software. Through reflective practices it was evident that Richard was actively engaged in expanding his domain. The final element, and the weakest aspect of Richards' CoP

traits, was that of shared repertoire. The evidence that he was involved in a shared repertoire was weak at best. Evidence gathered in reference to Richard's CoP involvement is illustrated in Figure 4.12. This indicates that Richard did not take part in a CoP, or that he may have taken part in a CoP while going through the NBC process and subsequently had stopped his association with the community. Other scholars have speculated that the development of a shared repertoire is inherent to the process (Coskie & Place, 2008). Perhaps he was involved in a shared repertoire through the completion of the five core propositions, and after the challenge of the process was over he simply minimized his engagement. Overall, the evidence for Richard's participation in a CoP is rather weak.

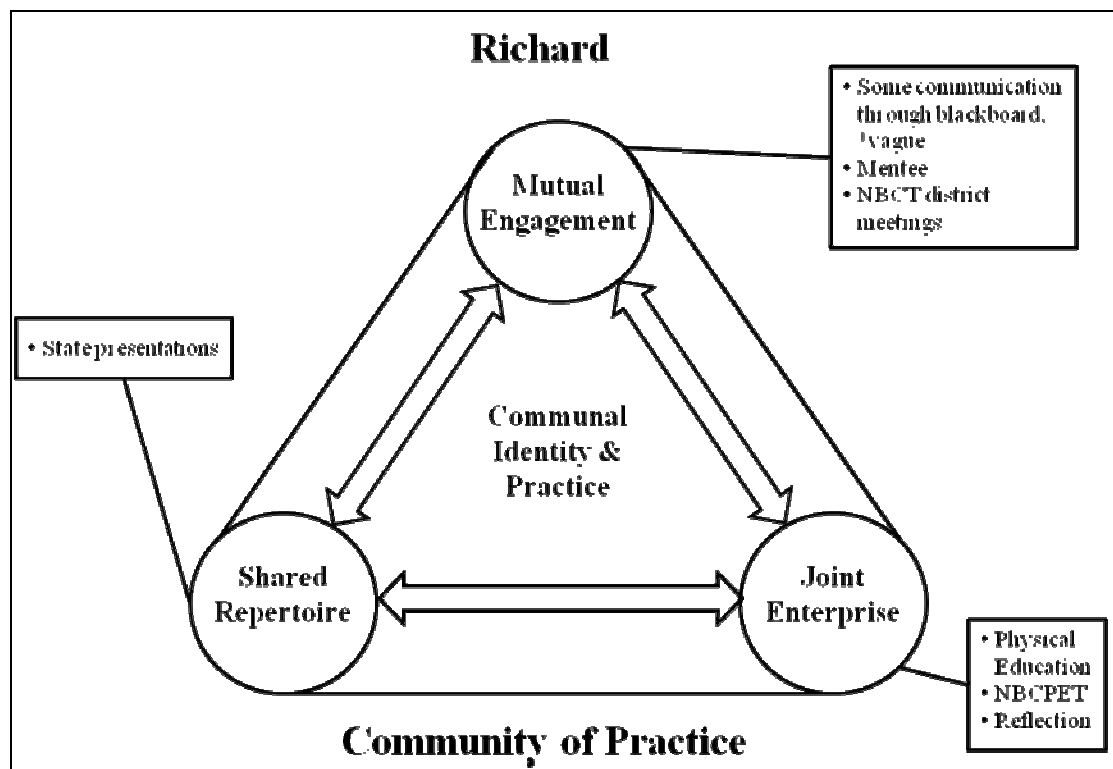


Figure 4.12 Richard and a CoP.

Nathan

Nathan was employed in Powers School District, his school for the purposes of this study was referred to as Bayside Elementary. Nathan's school was orderly, and employed the lobby guard system. This system scans a prospective visitor's driver's license, and compares it to criminal and sex offender databases. If a visitor is identified as an offender, s/he is escorted off of school property. Bayside Elementary is located in an area of town that is suffering from economic problems. Nathan indicated that the school was only a few blocks from a heavy gang neighborhood. Average teacher salary at Bayside Elementary is \$48,869 which is approximately 2% higher than the District average. Dollars spent per student in Bayside Elementary are \$8,399, which is 26% lower than the District average dollars spent per student. This is interesting: proportionally more money is spent per teacher than per student in Bayside Elementary. Student teacher ratio at Bayside Elementary is 15.6 : 1 which is lower than the state median of 18.5 : 1. Bayside Elementary also has a K-4 plan, whereby four year old children are allowed to attend school. This is a special program set up by the state of South Carolina. The student retention rate for Bayside Elementary was 2.2%, which is nearly identical to the state median. Bayside Elementary failed to achieve Adequate Yearly Progress for the previous year. Bayside Elementary was ranked as "At-risk" for the previous three years, and the growth rating was "Average". Bayside Elementary was homogeneous, of the 238 students enrolled 230 (96%) were African American, 2 (1%) were Asian American/Pacific Islander, 2 (1%) were Hispanic, and 4 (2%) were other.

Nathan's Demographic and Immediate Work Environment

Nathan was a Caucasian male, in his mid thirties, and dressed professionally during each of the site visits. He wore a collared polo shirt embroidered with the school logo. Nathan has a professional demeanor. He earned his Bachelor's degree from the University of South Carolina in sports medicine, however, through what he called a "personal transformation of a spiritual nature" Nathan decided he wanted to make a difference in the world. Because of his background that was closely related to physical education, he decided that working with children as a physical educator was his role. In order to teach, Nathan completed his Master's degree in Physical Education, at the University of South Carolina in 1998. He began working at Bayside Elementary the same year. Nathan had been teaching for eleven years. In 2002, he was awarded the honor of "Teacher of the Year" at Bayside Elementary. Nathan achieved NBC for physical education in 2007. Nathan failed his first NBC attempt in physical education, however he was successful upon his second attempt.

Nathan indicated that he chose an inner-city school because he believed that he could make the most difference in that environment. Through his experiences at Bayside Elementary, he found that there was an abundance of behavioral issues that accompanied his students into the gymnasium. He used Hellison's teaching model in his classroom. The Hellison model for developing personal and social responsibility in physical education focuses on affective learning, and the promotion of appropriate decision making (Hellison, 1995). Nathan focused much of his class experience on fitness. The warm-up for his lessons was always the Pacer Run and individual student's Pacer Run results were extensively recorded. Nathan had kept results for all of his students since

1998. Also, the top scorers from each year were recorded on the gymnasium wall with their name on a painted foot print. Nathan indicated that this allowed the students to have ownership over their accomplishments in PE. Nathan also hosted a teacher vs. student basketball tournament every year. Winners of this tournament were also recorded on the walls of the gymnasium. Nathan explained that many of the students get their picture taken with either their footprint or their basketball on the wall.

Nathan's indicated that his emphasis on the Pacer Run and fitness was an effort to create lifelong movers among his students. Nathan also led after school and summer programs. These programs were not physical activity based, but instead they promoted cognitive development and allowed students to have additional time at school. This was necessary because a great number of the students in Bayside Elementary had parents who worked and typically were not off of work when school was dismissed. In the gymnasium Nathan taught with a team teacher. Typically they split up the day, as Nathan took both classes for 3rd to 5th grade students, while his colleague handled K-2 classes. Nathan assisted during the K through 2nd grade lessons but he performed little to no instruction during these classes.

Nathan doesn't coach, however, everyone in the school refers to him as “coach”. He is even referred to as “coach” on the school web page. Nathan explained that he did coach at the high school for a limited amount of time, however his priorities changed when he realized how much time coaching was taking from his own children. He explained that he wanted to be home with his children in the evenings and at night.

Nathan's Task Presentations

Nathan's classes were observed on two separate occasions that took place during the months of November 2009 and January 2010. During these observations the QMTPS was used for five of Nathan's lessons to measure the quality of Nathan's task presentations. On these five lessons Nathan scored, 80, 75, 74, 78 and 77, with an average QMTPS score of 77.3. Nathan's QMTPS results are displayed below in Figure 4.13. These scores were a baseline score of 55. Gusthart, Kelly, & Graham (1995) determined a teacher scoring above this baseline score had students with higher rates of achievement than did teachers scoring below.

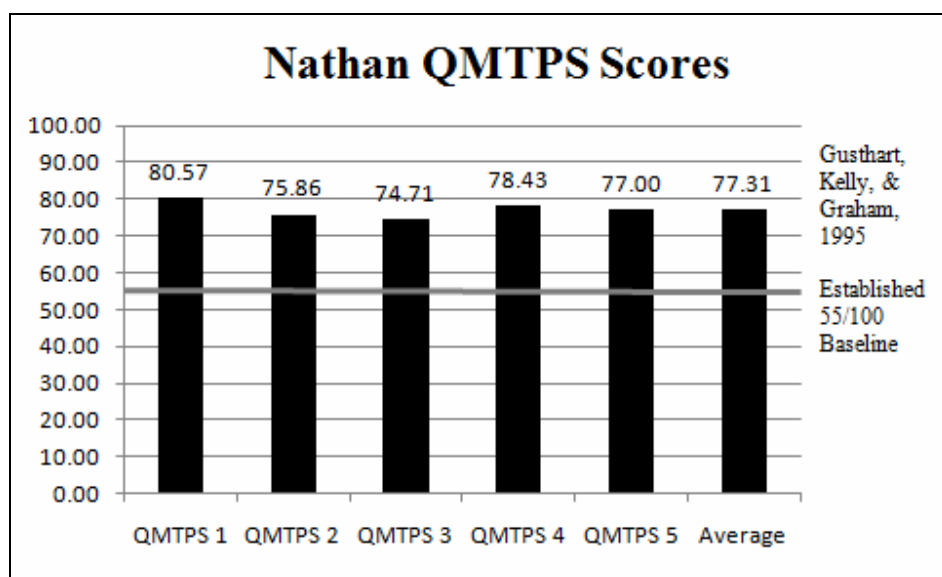


Figure 4.13 Nathan QMTPS scores.

Nathan's QMTPS scores indicated that he was a teacher with considerable task presentation skills. Additionally, his task presentation skills were noted in observational journal entries during site visits. During interviews Nathan discussed several key areas of good task presentations. When illustrating how he handled tasks within his class, Nathan explained, "Then we typically break out into our skills ... we will take one segment and

if I see us moving along correctly we'll extend if it's not then we will stay where we are.”

Nathan planned tasks to be learned over the course of the class, then progressed through the individual tasks of any given activity. Cues played a major part in Nathan's task presentations. His scores for use of cues on the QMTPS were generally accurate and appropriate in quantity. Further, Nathan provided excellent qualitative cues over the course of his lessons. When Nathan was asked what contributed to good instruction, he responded, “Good instruction, cues, previous experience with the skill, are going to affect outcomes.” Nathan was asked by the researcher what he believed a physically educated person would look like. Nathan responded that:

A physically educated person should be able to give cues for just about any skill that we do. So if I say, for example, the next group that comes in we just finished throwing and catching two units ago, you should be able to stop a student and ask for the three cues to a good throw or catch.

Cues played a key role in Nathan's task presentation, so much so that his students when leaving his class would be able to demonstrate those cues. This was evident in his class when he was teaching basketball passing. He provided his class with an acronym.

Nathan's acronym for the basketball throw was S.E.T. Step-Extend-Thumbs down. The students were instructed on the cues, and actually repeated them throughout the lesson. Further, when discussing factors that affected student success, he stated, “Good instruction, cues, previous experience with the skill, are going to affect outcomes.” Cues played a major contributing role in Nathan's ethos regarding quality instruction, which was obvious in both his interviews and QMTPS data.

When Nathan was asked about his content knowledge, and any perceived weakness that he had he responded:

I'll give you an example, one of my weaknesses I felt like was dance. (I) just didn't like dance so in the beginning (when I started teaching) I wasn't a big advocate of dance. When the state assessment began, I needed to put my personal feelings aside and get going. I actual used my student teachers initially, to see exactly how they did it, and they did some really good ones (dance lessons).

Nathan acknowledged that he did have content knowledge gaps, or at least that he had areas that he was not as competent in as others. However, Nathan indicated that even with these weaknesses, he sought out methods of acquiring the required knowledge to increase his students' achievement.

Clarity is an important concept when discussing task presentation. Throughout observations Nathan's instructions were clear, his students were attentive, and generally compliant. When asked how he determined when he had achieved clarity, Nathan stated:

They will perform, if they aren't performing it either I've not presented it well, or it may be over their head. I might need to back up a little bit or backwards extend. It's sometimes just being clear, and if they cannot do it then I've either pushed them too far too fast or I've not been clear.

Nathan knew what clarity was and he was able to achieve it through close observation of his class and was able to reflect on his students' performance. He was able to make changes during instruction to affect student learning. He acknowledged that if he did not achieve clarity his students were not being as active as they could be. Nathan further speculated as to how many of his children were active during his class:

Somewhere between seventy and eighty percent of the kids are on-task, or making the attempt. They may not all be effective, because they have to develop the skill (first), but if they look like they know what they are doing. When I don't see that then I know that that's when it is time to stop and back up.

It is apparent that Nathan was deeply concerned about clarity and on-task behavior. He was willing to back up when his students were off-task, and acknowledged that their behavior was related to the quality of his task presentations.

Nathan also indicated some changes had occurred in his practice as a product of the NBC process. Nathan stated:

I'm not the teacher that I was when I started, and I'm glad. National Board was a tool that helped me to be more reflective. It really focused on reflection. It helped identify weaknesses that I have. I got to see ... on tape (my teaching).

Nathan was now able to look back on his practice and evaluate what he had done and attempt to improve his teaching. He indicated that his reflection had changed as a result of NBC, however other aspects of his practice may not have as a result of the NBC process, but rather were due to the maturation that had taken place over his eleven-year career.

Nathan's Use of Class Time

Nathan's overall time management was quantified by the ALT-PE instrument that allowed a close scrutiny of his learning environment. The ALT-PE instrument revealed that Nathan's classes were involved in fitness activities approximately 1% of the class period, skill practice 31%, management time 24%, warm-up 4%, skill practice 31%, game play 8% and technique work 21% of the time. Contextual ALT-PE data for Nathan

is displayed below in Figure 4.14. At the learner level, students were involved in motor engaged activity 36% of the class period, motor appropriate time 31%, motor inappropriate time 5%, off-task time 1%, waiting 13%, Interim time 21%, and cognitive time 20%. Learner level data for Nathan are displayed in Figure 4.15 below.

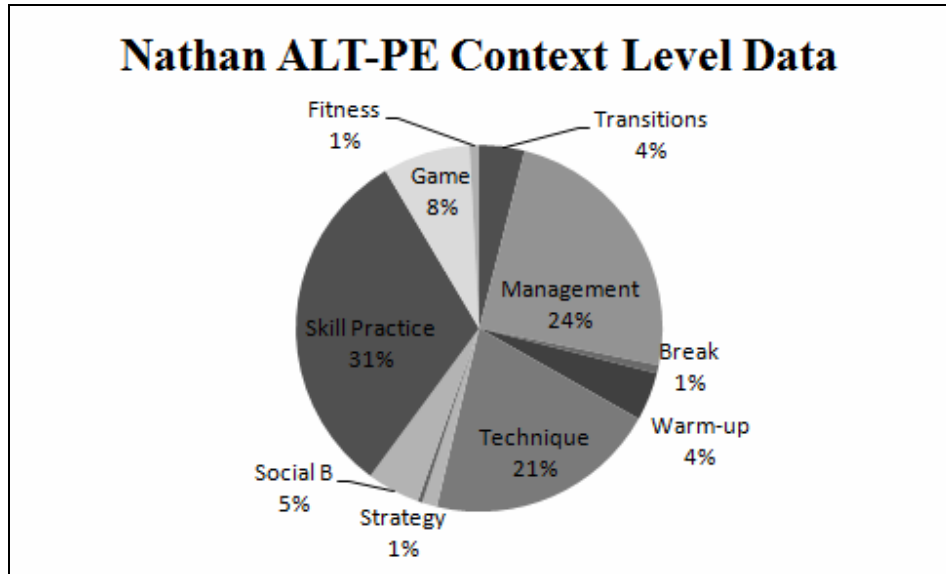


Figure 4.14 Nathan's ALT-PE context level data.

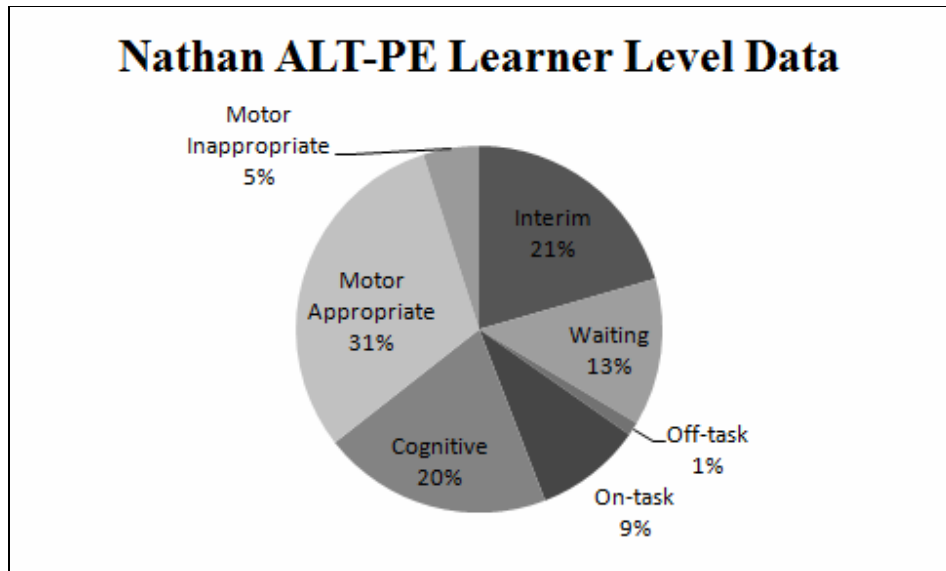


Figure 4.15 Nathan's ALT-PE learner level data.

Nathan organized his learning environment in an unique way. No formal grid system was used for attendance and no formal area was designated for a warm-up. Nathan did not use music in order to organize his class. Start and stop signals were given directly by Nathan, and these were not augmented by a whistle or any other tool. Nathan used daily lesson plans to organize his class. His lesson plans are fairly organized, listing psychomotor, affective, and cognitive objectives.

Nathan's warm up consisted of the Pacer Run at the beginning of every physical education class. The students recorded their scores and these scores were kept by Nathan for historical purposes. He discussed his use of the Hellison model for developing personal and social responsibility in physical education, and the impact it had on his students. It became obvious during observations that Nathan's classes were uniquely managed. For instance, when students misbehaved he called all of the students into the middle of the gymnasium to address the issue that had arisen. This practice seemed to be time consuming, however, his students seemed used to it and were compliant. When describing a well organized class Nathan stated:

In a well organized class materials are out and are ready to go. Kids know what to do, and they can follow procedures when they come into the room. They should know where to go. I shouldn't have to repeat it all of the time. Like when you saw they knew to go to the half circle, then they did the pacer run they should know to go to the water and then go sit down.

While Nathan did know what a well organized class looked like, ALT-PE data illustrated a 13% waiting time for his students, and 24% management time during his classes. These numbers are high when compared to Place and Hodge's (2001) data for elementary

classes. It seemed that during Nathan's classes he spent a large amount of time managing student behavior, a time when students are not physically active. This seemed to be related to his emphasis on affective objectives, and was further supported when Nathan discussed how he organized his class prior to and after instruction. Nathan explained:

I think for me it's (the class is) more of a family. We use the half circle for positive and negative and I want there to be positive there. We come to the half circles it's a point we all know in the room and that's where we settle family issues or where we disseminate information.

Nathan used the half circle in his gym so consistently that it actually became apparent that his students knew exactly why they would be called to the center of the gym. Students were well organized and on-task much of the time. Nathan's motor appropriate activity took up approximately 35% of his class period. Motor appropriate activity was effected by affective concerns within his class. However, Nathan indicated that if he didn't address affective concerns there would be a significantly greater amount of off-task behavior, which would affect the amount of activity time greater than his discipline plan. Motor appropriate activity in Nathan's classes was within what was predicted by research (Placek & Randall, 1986; Shute, Dodds, Placek, Rife, & Silverman, 1982; Parker, 1989). However, these scores were the lowest of all the participants in this study. According to Parker (1989), these scores were acceptable and within what would be expected within the public schools.

Nathan was asked to discuss the amount of time his students spent in motor activity during each class period. Nathan indicated, "I would say sixty or seventy percent of the time they were engaged in activity...would say the rest would be getting feedback

or instruction, but with this next group we may lose a lot of time dealing with behavior issues.” Nathan misread his total amount of activity during each of his classes - his actual amount of motor engaged activity time was 36%. When observed, he spent much of his class time dealing with affective concerns that arose during his instruction. However, Nathan explained, “My goal is to have as much practice time as possible.”

Perceived changes in management of the learning environment as a result of the NBC process were discussed. Nathan stated:

This is who I am, this is what I'm going to do. That didn't change as a result of doing National Boards, I have the same standards. The part that really was more of a change for me was the reflective aspects and looking at my individual practice, I've always been confident in my management of kids.

Nathan's Attitudes and Dispositions towards the Five Core Propositions

The NBPTS touts its five core propositions as the basis for the creation of standards for each of the discipline's it certifies. These propositions are central to the standards of the NBPTS. It is reasonable that a person who achieves NBC would either have attitudes and dispositions that would match the five core propositions, or would possess them after certification. Throughout interviews, and document analysis the attitudes and dispositions of Nathan's were probed to determine his alignment with the five core propositions. His attitudes and dispositions will be exhibited below.

Proposition One: Teachers are committed to students and their learning.

Nathan demonstrated a commitment to his students in several ways. First, he originally had a career in sports medicine. He indicated that this was a lucrative career, and as such was difficult to leave. However, he left this career to become a PE teacher in a low

income area of his city. This area has a high crime rate with gang affiliations.

Additionally, many of his students have disciplinary problems. To compensate for this he implemented the Hellison model for developing personal and social responsibility in physical education. This model was difficult to implement because it was sometimes slow and took away from some learning time (Hellison, 1985). However, he implemented it in order to better educate his students. When discussing his responsibilities to his students Nathan responded:

I think that I have a responsibility ...to teach kids how to deal with competition, how to deal with conflict, how to solve problems using physical education as a medium to do that. I think that I have an obligation, to teach them how to become more physically fit, and the principles that go into that so they can become lifelong movers and live healthier.

This model of affective learning is difficult to utilize because the progress is slow, but Nathan's students are exactly the population that Hellison intended for implementation of his model (Hellison, 1995). This was a good indication of Nathan's commitment to his students. Also, Nathan kept extensive data of his student's achievements, specifically in regard to fitness data. He kept the pacer daily total, for each of his students for each year he had taught. Further, he displayed all of the top fitness scorers on the walls of his gymnasium. These scores are placed in paint on the wall, which is a time consuming task for Nathan, not to mention the administration hoops he had to go through to alter a room in his building. These aspects of Nathan's practice demonstrated that he was dedicated to the learning of his students.

Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students. Nathan demonstrated a great confidence in his content.

During his task presentation he provided accurate and appropriate cues that were reflected in his QMTPS score results. During interviews Nathan discussed his content knowledge and the confidence he had in this knowledge. Nathan stated:

I'll give you an example, one of my weaknesses I felt like was dance. (I) just didn't like dance so in the beginning (when I started teaching) I wasn't a big advocate of dance. When the state assessment began, I needed to put my personal feelings aside and get going. I actual used my student teachers initially, to see exactly how they did it, and they did some really good ones (dance lessons).

Nathan indicated that he felt confident in the majority of his content knowledge, however he admitted weaknesses. He indicated that when he has a weakness, he would remedy it by “borrowing” from others. He indicated a specific link with student teachers from the University of South Carolina. This link allowed him access to the most up-to-date content knowledge, and thusly improved his practice. To illustrate this link with the university Nathan stated, “We’ve actually stolen a few of our dances directly from them. From student teachers and I made no bones about it. I said if I see someone doing something better, I’ll take it.”

Proposition Two not only includes the teacher’s content knowledge but the ability of the teacher to impart that knowledge to his/her students. Nathan’s utilization of the Hellison model illustrated his ability to reach students; however he discussed learning styles, and his ability to reach students. Nathan explained his different types of instruction:

I think that it depends on my group of kids. Sometimes from year to year and age level it really depends. Like with my fifth graders I can do more small groups, a lot of times we can do small groups, but I would never dream of doing that with my first graders. That would just be asking for trouble. I could say that it would be all of those types of instruction, just depending on the unit, depending on the age group of the kids and depending on the situation.

Nathan tailored his instruction to his students, and not only did he craft his instruction for each of his students, he made it accessible for the different situations in which his students may have been involved. Nathan took an active role in student achievement through negotiating the teaching contexts and learning styles of his students. These teaching behaviors truly encompassed the spirit of Proposition Two.

Proposition Three: Teachers are responsible for managing and monitoring students' learning. Nathan fulfilled this proposition to a limited extent. His classes were generally organized, however, he employed no managerial plan for students either before or after the lesson had concluded. When asked about this lack of organization Nathan responded:

I focus a lot on relationships with kids. If I have a good relationship with my kids I don't have to put them on specific plot points. I know all of my kid's names. So I don't need to have them on a plot point to know who they are. So kids know that too, kids are aware of that. It reflects on what you know and how you interact with them. I know that a lot of teachers use that because they don't get to know their kids real well, or they don't know their names and they need those organization systems. I think for me it's more of a family...

Nathan didn't have to employ a rigid grid system because he thought of his class as a family unit. This reinforced his use of the Hellison model of accountability in that his system was less rigid but had a level of rigidity that worked for his students. He knew his students and they knew that he cared, and he used this caring as motivation for his students. Further, Nathan described how a well organized class would appear:

In a well organized class materials are out and are ready to go. Kids know what to do, and they can follow procedures when they come into the room. They should know where to go. I shouldn't have to repeat it all of the time. Like when you saw they knew to go to the half circle, then they did the pacer run they should know to go to the water and then go sit down.

Nathan organized his class in a format that his students understood. Specifically, he used the Hellison model in order to better organize his student. He had affective concerns that the Hellison model addressed. He had, in effect, tailored his classroom environment to address his student's needs.

Proposition Three also included the incorporation of monitoring of student learning through assessment of students. First, Nathan performed assessment on each of his students; these assessments were based on standardized rubrics. However, when discussing his assessment, He stated:

I assess in the three domains of learning. I think this is a discipline that allows you to do that. We have a skill component, a rubrics specific, we have a cognitive aspect, which is the measuring of behavior of sportsmanship. That is pretty much down to not really a problem, most times, for me anymore. We also have an affective assessment. I have some psychomotor components on and however the

affective domain would be more of my observation of their sportsmanship and behaviors in class.

Nathan assessed in all three domains but appeared most concerned about the affective domain. His use of the Hellision model indicated that he had a particular concern in the area of affective learning. Nathan's use of the Hellision model was supportive of the rubric that supplied to the researcher. This rubric constituted an attempt at assessment in the psychomotor domain. However, during field observations, Nathan constantly stopped his classes to deal with affective concerns. This did have the effect of decreasing the amount of time in practice for the students.

Proposition Four: Teachers think systematically about their practice and learn from experience. This central tenant of the NBPTS is directly related to the ability of its certified members to reflect on their practice. Nathan discussed his reflective practice at length:

Yes, one of the things (my team teacher and I) probably one of my biggest reflective aspects we talk all the time about how lessons go... what can we do better In fact if you look at my grade book we document how kids perform just like everyone else does. We keep the grade books from every year. So what we do is we compare how we do from year to year. We identify which units are our weakest and we use information from the past to guide where we are going. So we reflect on the past to design were we are going in the future. That's how we have identified throwing catching paddle ball. These are our weakest skills, not because we see that but because we have data to verify it.

Nathan actively reflected on his practice. He kept data on each one of his students for every year that he had been teaching. Nathan also reflected on his lessons and figured the best way to instruct each lesson in the future. He added that the NBC process, "...helped me critique my practice, especially where I had to video tape, I had to look at my practice." This aspect of video analysis of his lessons as a portfolio entry helped Nathan examine his practice in a way that he had not in the past. The relationship between the NBC process and reflection was echoed in another statement. Nathan was not sure if he had improved his practice because of the amount of time that he had been teaching and knowing his students well, "versus the reflective aspect of National Boards." Nathan indicated that he is a better teacher, and that reflective practices that the NBC process instilled in him may have contributed to his teaching effectiveness. According to him, reflective practices played heavily into his daily and long term practices.

Proposition Five: Teachers are members of learning communities. NBCTs are to be active in collaboration with teachers within and outside of their disciplines. This collaboration extends beyond professional educators, to collaboration with parents of their students. Nathan demonstrated his collaboration when discussing a grant opportunity he had:

I wrote a grant with USC to teach social studies in PE. The way I did it was using an interactive physical education game. So I had to collaborate with third grade teachers to develop the curriculum that I am going to derive the game off of. I've done that for several different types of units. In fact that is what we have to do each year because it has such a good effect on the (standardized) test scores.

Nathan collaborated on an interdisciplinary action plan within his school. This communal interaction was initiated by him. Additionally, he sought out funding for this enterprise. He had a vested interest in interdisciplinary collaboration. Within physical education Nathan demonstrated his collaboration with teachers throughout the state as he presented several times at the state level convention. APPENDIX I illustrates the first two slides of Nathan's 2009 presentation. This presentation illustrated key strategies for dealing with challenging students. Nathan has experience with challenging students because of his schools location. He has chosen to collaborate with teachers within the physical education community in an effort to improve their practice.

Nathan's Sense of Teaching Efficacy

Nathan's sense of both PTE and GTE were measured during his field observations. Nathan's overall PTE was 1.94, indicating a strong degree of agreement with high PTE statements. Overall, GTE results for Nathan were 2.21, again indicating a fairly high level of agreement with GTE statements. These data were supported by statements made by Nathan in response to the researcher's elicitation of efficacy responses.

Nathan was questioned about his beliefs related to his teaching efficacy, and when asked how he rated himself as a teacher, Nathan Stated:

I would say that I am probably at an eight (on a scale of one to ten). I would say that on the affective side because that is important to us, they are probably at a six or a seven, because that is really stuff we have to deal with at home, and really have to keep working at that.

Nathan believed that he was a skilled instructor, and he believed that his students were learning specific skills and that overall they were able to learn in his class. Nathan worked heavily within the Hellison model (Hellison, 1995), that deal largely with the affective domain, so this played a strong role in his classroom ethos. As a result he felt that he had slightly less control over this because of his students' home environments. This provided insight into some of Nathan's TES results. His GTE was slightly lower than his PTE which indicated that he felt the home environment had some effect on his students' success. This could be explained by Nathan possibly having a more realistic outlook on the effect of home environment on student learning. To further explain this low GTE score Nathan was asked if family background influenced student achievement, to which he Nathan answered:

I think it (family background) definitely plays a part. If your parents have been engaged and value athletics or physical education, then the kids naturally do. I have had some kids whose parents were not into PE when they were kids and have never done really well in here. Their parents are surprised because they didn't know where it (there students success) came from. I say yes it does play a part because we're all influenced by our parents to some degree.

Nathan believes that family background had an effect on student outcomes, but only a partial one. He elaborated:

What I've seen is (home environment) tends to effect the kids, not necessarily from skill level as much as it is from sportsmanship. Affective and sometimes the cognitive domain are effected, not so much psychomotor. That doesn't seem to

have any type of correlation. Not from what I have seen. Affective- a lot,
Cognitive- depends.

So Nathan believed that there was an effect on student's learning based on their home, however, good instruction could exert an influence.

This concept of affective domain being affected by home environment was apparent in his practice. Nathan worked in a school that was in an gang area with a low socioeconomic status and high gang activity. Many of his students did not have good home lives. To counter this, Nathan indicated that he used the Hellison's model (Hellison, 1995) to work on his students' affective development. He altered his practice based on his beliefs related to GTE. This is a powerful statement about both his GTE beliefs and his practice.

Nathan's perspective on PTE was elicited by asking how much his instruction played into student success. Nathan stated:

I'd like to say a lot. I would say significantly. However, I am a beneficiary of sport which is already valued (in our community). I try to give them (students) a solid foundation of the basics, a desire and love for physical activity over a period of time. Hopefully that opportunity to see that they can do things, and that failure is not an end to things.

Nathan believed that he significantly contributed to his student's learning. He acknowledged that he was the benefactor of a community that valued sports; however, he believed that his instruction was vital for student success. Nathan also described how he reaches even the most difficult students.

I think it's up to me to develop relationships. Usually a kid that is tough to reach hasn't had and is not a beneficiary in positive relationships. So I can offer that as something new to them, that's one tactic. I also try to get to know what their deficiency or need is. I have a lot of kids that are homeless. I have a lot of kids living in shelters, like for abuse. We have kids that are not clothed adequately. We have kids that don't get appropriate levels of food or nutrition. I work with several different venues to help provide those. I've done special teams to pull in kids that were on the streets. I have developed systems that kids can plug into to learn their place and their uniqueness.

Nathan reached out to students and their families on a personal level. This personal interaction gave him capital with the students, and through this currency he was able to reach these students where other teachers may not be able to. When asked if there were any “unreachable students”, Nathan responded, “I don't believe in that. I have found that there are kids who I have not been able to get to. That doesn't mean that I don't try and I never have the attitude that they are (unreachable).” Nathan indicated that he will work with students until they leave his program, and if he hasn't reached them, it wasn't because of lack of effort. Finally, Nathan summed his feelings up about PTE:

Don't let me give you a false read here. I believe that everyone has a means of learning. I don't believe that everyone is the same. I have not reached every child but I have attempted to. I am getting better at closing that gap. So I believe that is more about me learning how to get better in my craft to close the gap further.

Nathan contended that his instruction was effective, and that he could reach every child. He focused on teaching to each child's strengths and weaknesses.

Nathan discussed perceived changes in his efficacy as a result of the NBC process when he was asked whether any of his feelings about students, student learning, or the ability to reach children had changed as a result. Nathan responded:

No, that is not what changed for me. National Board benefited me but that was something I came into the game with. I worked with kids like that before National Board, and that is where I developed the strategy and the skills. Where National Board helped me was to be a better planner. To be more thoughtful in my approach to teaching the craft.

For Nathan, the NBC process did not affect his thoughts about his ability to reach students. He felt that he could reach children since he first got into the “game.” Nathan felt that his personal teaching efficacy had not changed, however, he indicated that his reflective practices were effected by the NBC process.

Nathan and a Community of Practice

Wenger (1998) said that a CoP has three key elements, mutual engagement, shared repertoire, and a joint enterprise. In order for Nathan to be considered a member of a CoP it was necessary to demonstrate that he had forms of these three elements.

Mutual engagement. Mutual engagement describes any formal or informal exchange of ideas. These ideas allow a shared repertoire to be formed within any given community of learning. Nathan exhibited mutual engagement with other teachers in his building through his interdisciplinary curriculum. Nathan was also a member of the Teacher Quality Collaborative (TQC), an organization initiated by several universities in South Carolina. The TQC focuses on the promotion of interdisciplinary knowledge production. This program was also funded by Title II money. Nathan was a team leader

for his school in the TQC project. His part in this program was titled, “Your State: The PACT Map Interactive Game.” The goal of this project was to determine the effectiveness of a social studies unit in conjunction with a physical education game.

Nathan exhibited mutual engagement within the physical education community by means of presentations and attendance at state conferences. This type of mutual engagement is important to the community because this was knowledge that had been gained by a practitioner in the field. This type of knowledge allowed the CoP to negotiate meaning within their own environment. While this type of mutual engagement was notable, Nathan demonstrated little mutual engagement beyond his state presentations. He had not functioned as a mentor to any other NBC candidate. He reported no consistent direct contact with other NBC teachers in which ideas were exchanged. When asked about online collaboration, Nathan reported, “Not consistently (any online activities), there is a little bit I do through the district.” When asked directly if he had any other contact with NBCTs either for PE or other disciplines his answer was, “No”, with no further explanation. However it must be noted that Nathan did participate in several less personal forms of mutual engagement. These were state presentations, and collaborative presentations with the TQC. What Nathan demonstrated during his interviews was in line with what Wenger (1998) would describe as consistent with being a member of a CoP. Overall, Nathan was somewhat isolated in his practice. This is not to say that he demonstrated no negotiated learning. Through his presentation with the TQC and state conferences it was apparent that he did take part in some dissemination of tools that he had developed as a result of his practice.

Shared repertoire. A shared repertoire or community tools are techniques, strategies or standards that the community uses in order to provide the most optimal instruction. Nathan demonstrated the growth of a shared repertoire by the development of tools through some mutual engagement. Nathan specifically indicated, “I see someone doing something better ... I'll take it.” Allowing for the incorporation of new tools through collaboration is directly related to the development of a shared repertoire. Further, his presentation of strategies at state conferences demonstrates his participation in mutual engagement that disseminates strategies that have worked in his context. This allowed for the development of a communal tool box or a shared repertoire. While these data point to the possibility of a the development of a shared repertoire in his practice, these data are far from conclusive.

Joint enterprise. A joint enterprise is the final element that encompasses the construct of communities of practice. Nathan’s reflection with regard to his practice was one of the strongest points in his participation in a CoP. When Nathan was probed about possible reflective practice, he explained:

I try to give my kids hands on experience and when we do that we try to reflect upon how that plays out in real life. I try to get them to dream, to envision where they're going, and what their future is. Because that's something that's not, and how they can use the skills they're using to get there.

Nathan used reflective practice to plan his lesson and criteria for his students. This reflective practice allowed Nathan to provide an effective learning environment for his students.

Summary. Overall, Nathan exhibited few traits that would be consistent with being part of a CoP. He had some mutual engagement that added to the community but was restricted to one presentation. He demonstrated some shared repertoire with other teachers. Further, he was a member of the TQC, which functions as a form of mutual engagement as well as to establish or develop shared tools through collaboration. He also indicated that SCPEAP assessment standards were mandated by his district, and that he would basically go along with the district curricular guidelines. Nathan demonstrated impressive reflective practices that may be due to the NBC process. Qualities that Nathan demonstrated that were consistent with being a member of a CoP are illustrated in Figure 4.16. However, CoPT demands that all three elements be present in some form or another. With Nathan's lack of mutual engagement within physical education, it is difficult to determine whether he is actually participating in a CoP. Nathan has, however, through reflective practice, developed knowledge that could be valuable to the community.

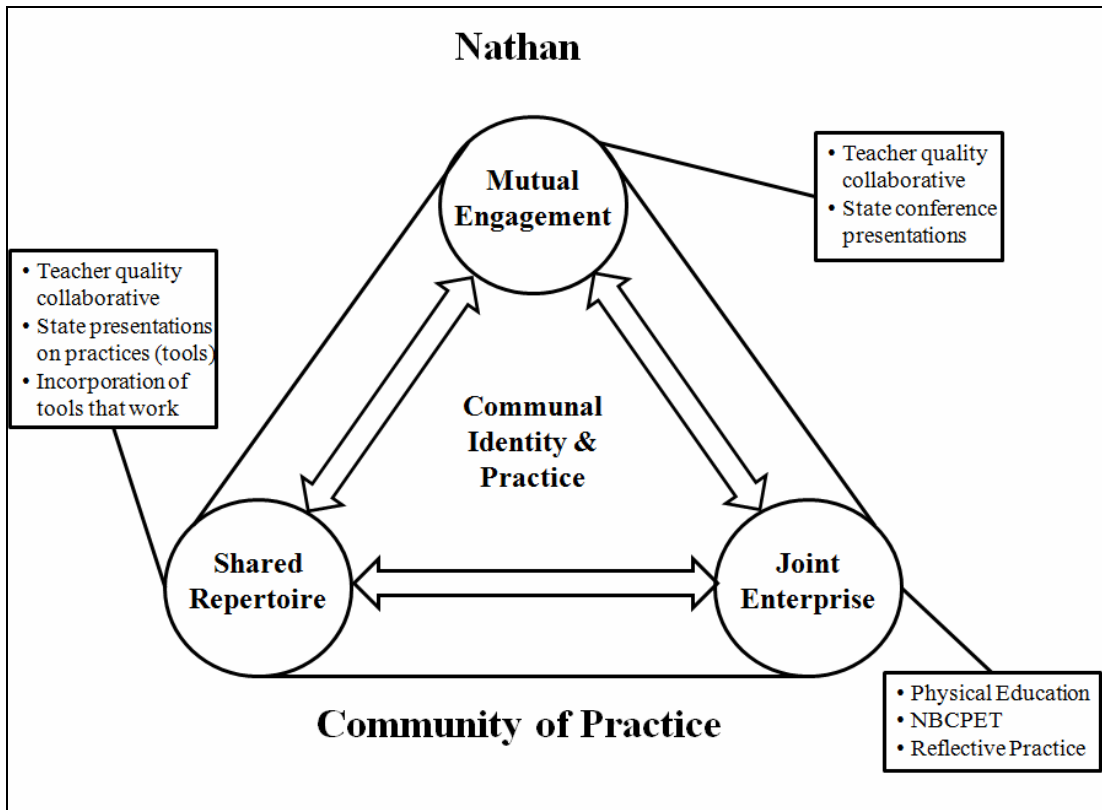


Figure 4.16 Nathan and a CoP.

Jessica

Jessica was employed in Powers School District, and her school will be referred to as Lando Elementary. Jessica's school employs the lobby guard system. This system scans a prospective visitor's driver's license, and compares it to criminal and sex offender databases. If a visitor is identified as an offender, s/he is escorted off of school property. The principal at Lando Elementary was extremely cordial to the researcher in this investigation.

The average teacher salary at Lando Elementary is \$50,179 that is approximately 4.5% above the Powers School District average teacher salary. Dollars spent per student at Lando Elementary were \$6,877, which is 39% lower than the average dollars spent per student in Powers School District. This again is interesting in that the average teacher

salary was higher compared to the average salary of the district, while the average amount of money spent per student was lower than the district average. The student-teacher ratio within Lando Elementary was 19.6:1 that is higher than the state average of 18.5:1. Lando Elementary has a student retention rate of 1.9 %. Lando Elementary failed to make Adequate Yearly Progress for the last year, with a “Good” absolute rating and a “Below Average” growth rating. Of the 386 students who were educated in Lando Elementary, 199 (52%) were Caucasian, 150 (39%) were African American, 29 (8%) are Hispanic, and 8 (2%) are Asian American/Pacific Islander.

Jessica's Demographic and Immediate Work Environment

Jessica was a Caucasian female who is in her mid fifties. Jessica has taught physical education for 22 years. She received her formal education in physical education from the University of South Carolina, where she also played tennis. After completion of her degree she taught at the elementary school level for several years, however, she stopped teaching after the birth of her first child and returned several years later. Jessica achieved NBC for physical education in 2008. Her certification is in physical education elementary through middle childhood. She passed the NBC process on her first attempt.

Jessica team teaches with Sarah, another NBC teacher in Lando Elementary. These teachers went through the NBC process at the same time. Jessica shared an office with the other NBC teacher. When asked about the dim lighting in the office Jessica indicated that this was part of a school-wide initiative based on the theory that low light levels during certain activities increased cognitive functioning. Jessica decided to participate by lowering the lights in her office.

Jessica's Task Presentations

Task presentations in Jessica's lessons were evaluated utilizing the QMTPS instrument. Six of Jessica's lessons were observed for task presentation. Jessica's QMTPS results for these six lessons were 82, 83, 95, 56, 77 and 82, with an overall average QMTPS score of 79.6. Gusthart, Kelly, and Graham (1995) identified a QMTPS score that would be indicative of a teacher who was able to impart quality task presentations (Gusthart, Kelly, & Graham, 1995). It could be said that a teacher who scores above this baseline score is likely to have higher amounts of student learning than a teacher who scores below. Jessica's were all over the baseline score of 55, which indicate that Jessica's students were learning more during these lessons than students of another teacher who would score below 55. Jessica's QMTPS results are displayed in Figure 4.17. Because Jessica's scores were higher that the baseline score of 55, her task presentation may be related to higher levels of student achievement

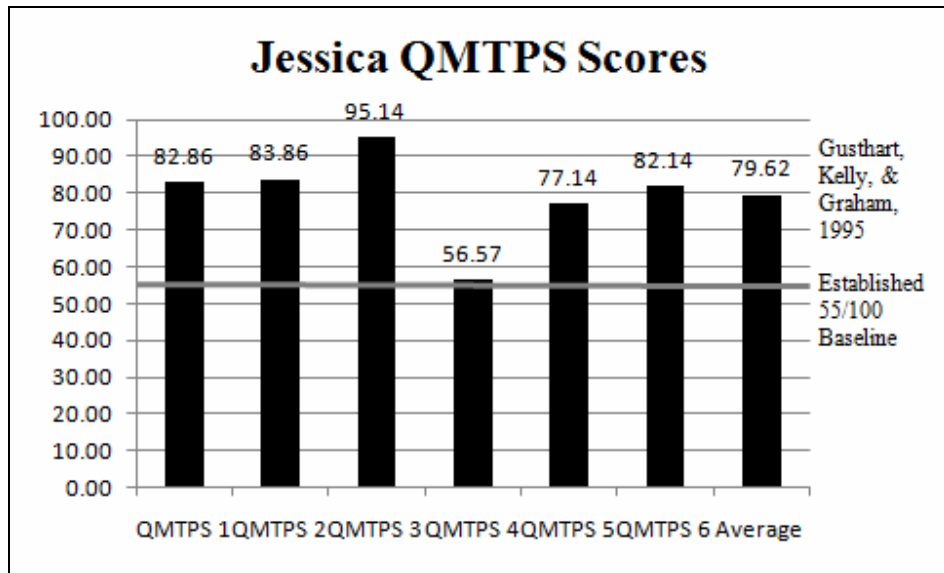


Figure 4.17 Jessica's QMTPS scores.

Document analysis revealed their some aspects of Jessica's and Sarah's lesson plans exhibited preparation of quality cues, standards based assessment, and extensive planning. It was necessary to present cases for Jessica and Sarah in tandem, because their practice had become so intertwined that their lesson plans, curricular plans, and other documents were used by both teachers as needed, and ownership of the documents was equal.

Jessica's lesson plans demonstrated how cues play heavily into task presentation. These key points existed in many of Jessica's and Sarah's lesson plans. Throughout the QMTPS data, Jessica's cues were both appropriate and accurate, and her utilization of qualitative cues was quite consistent. Additionally, critical cues for fundamental movements were posted throughout the gymnasium so that they could be easily seen by students. Jessica discussed clarity and the achievement of clarity in her task presentations. Jessica indicated she generally achieved clarity and that clarity was accompanied by appropriate student responses. Jessica stated:

You can tell really quickly (if you have achieved clarity). Are they playing or are they working? That's the difference in classes you are either playing or you are working. Playing is for recess ... you can spot the kids out there that are playing, and the ones that were working ...you can just see it

Clarity was important to Jessica - it is related to a core belief that students should be active, and if they are active in appropriate movement tasks they will learn. Achievement in physical education is related to the amount of appropriate practice time in which students engage (Silverman et. al., 1991). Thus, Jessica's perceptions of clarity relate directly to the achievement of her students.

Continuing with task presentation, Jessica discussed her perception of her content knowledge. Jessica was asked to discuss possible content deficiencies and strengths. Belatedly she explained, "I feel a little inferior in gymnastics because the way she (Sarah) teaches it is wonderful, I've learned so much just from Sarah, I'm still, I still feel inferior. In fitness, it bothers me that I might not be able to keep up with the kids..." Jessica indicated that she may have some deficiencies in her content knowledge, however her team teacher Sarah, indicated that she has some strengths as well. Sarah stated "I can teach tennis but, you know it would be a 5 (out of 10) and she can teach it at a 9 (out of 10)." Jessica added, "Sarah can teach gymnastics very well, so we have a great complementary, but I might give myself a tennis score of 10 (out of 10)." Jessica made it clear that she had some content knowledge deficiencies but was able to use resources to her advantage. Both Jessica and Sarah use their strengths in an effort to complement each other and create the best instruction for the students.

Jessica was asked questions about the possible changes that she had made in her task presentations as a product of the NBC process. She discussed the concept of change as a result of the NBC process explaining:

...as far as teaching, my teaching has been my teaching. I try to think that I teach the same as I did before and after the certification process. I think that I might reflect more or think more. To be honest I think that nothing really had changed...

Jessica didn't believe that her teaching practice had changed as a result of the NBC process. She did note that her reflective practices may have been altered as a result of the NBC process, but her teaching hadn't changed at all. In essence she believed that her task presentations were the same as in the past.

Jessica's Use of Class Time

During the first series site visits Jessica taught three full lessons without any participation from Sarah. However, during the second series site visits Jessica and Sarah team taught. Jessica taught the interdisciplinary portion of these lessons. Jessica's use of class time was quantified through the use of ALT-PE instrument that allowed a close scrutiny of Jessica's learning environment. The ALT-PE instrument revealed Jessica's classes were involved in management time 18%, warm-up 2%, skill practice 42%, transitions 1%, and skill technique work 27% of the time. Context level ALT-PE data is displayed in Figure 4.18. At the learner level, students were involved in motor engaged activity 38% of the class period, motor appropriate time 35%, motor inappropriate time 2%, motor supporting time 1%, waiting 7%, interim time 17%, and cognitive time 37%. Pupil level ALT-PE data for Jessica are displayed in Figure 4.19.

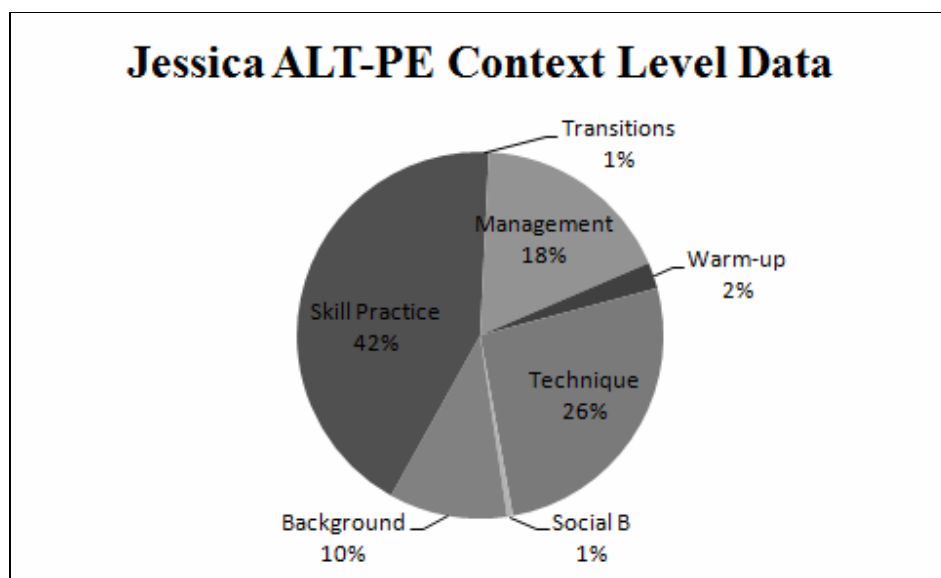


Figure 4.18 Jessica's ALT-PE context level data.

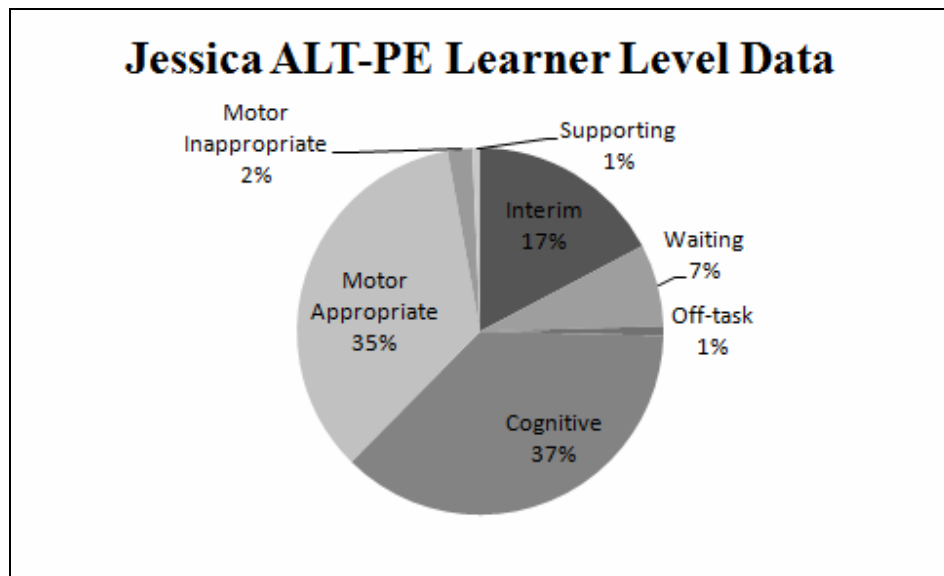


Figure 4.19 Jessica's ALT-PE learner level data.

Jessica discussed at length her classroom management. During this discussion she estimated the amount of time her students spent in motor activity. She stated, “We have to take time during portions of our lessons...but I would say about 75(%)” Further, Jessica described what was important about activity in her class by stating “Not only do we want them to be active but we want them to understand why they need to be active...” Jessica touted the importance of motor activity during her lessons, and she believed that her students got a large amount of physical activity during her lessons. However, she also believed that it was necessary for her students to understand the importance of physical activity. This confirmed her beliefs about the importance of life-long fitness, and her responsibilities to her students. Interestingly, Jessica indicated that her class generally had about 75% activity time, or at least she was attempting to get 75% activity time with her students. Her ALT-PE data, however, revealed the overall amount of activity time during her classes was one half this. Jessica further explained what actually happened

during her class period: “You just saw it there. They got a lot of practice time, except when they have to work in the affective domain.”

Jessica indicated that disciplinary problems or affective concerns may have created a situation where the class did not get as much activity as they could have. She described a well organized class for the researcher: “(A well organized class is where) They (students) are following directions, there are no distractions.” She clearly had the appropriate concepts of a well organized class. Jessica tried to minimize class disruption by the integration of a life skills center. This is an area where a child will go to work on affective concerns that Jessica has identified. The utilization of the life skills center minimizes the amount of disruption to the entire class. When discussing her responsibilities to her students she explained the role of life skills in her instruction:

Our job is to teach them these skills so they can use these skills now, and then hopefully be able to use them later on in life. Teaching them life skills is also very important, kind of what to do when they are in certain situations in life.

Within her organizational structure she has a central role for affective concerns. These behavioral concerns seemed to affect her student’s practice time; however, the 37% activity percentage she exhibited is above the average physical education class in the United States (Parker, 1989). Many researchers have discussed the amount of movement time that is considered appropriate for this level of education (Silverman, 1985; 1980, Silverman et. al., 1991). Motor appropriate activity time can be an indicator of student learning Silverman, 1985; 1990; Ashy, Lee, and Landin & 1988; Silverman, Divillier, & Ramirez, 1991; Cousineau & Luke, 1990).

When discussing lesson planning, Jessica provided a lesson plan that she indicated that she modified from year to year. This was confirmed when she discussed how she planned her lesson from day to day. She stated:

When we teach the lessons the first lesson typically is the same (from year to year), but you don't want to teach the same thing every year. We see the same kids and they will say well were going to do the same thing we did last year. So we hit the beginning skills and then you try to come up with ways to practice and teach. So they don't even know they are doing the same thing year after year.

Studies have shown that more experienced teachers tend not to write daily lesson plans (Placek 1984). However, Jessica demonstrated that she wrote lesson plans on almost a day to day schedule, and updated these lessons from year to year. This was an indication of Jessica's commitment to student learning within her classes.

Jessica described perceived changes that had occurred in her classroom environment as a result of the NBC process. She indicated that she believed no changes had occurred as a result of the NBC process, but she believed that her practice had changed as a result of the number of years that she had been teaching. Jessica explained, "I think that if you are a good teacher you grow, you would never expect a first second third or fourth year teacher to be as good as the year before, because you grow as an instructor." Jessica clearly believed that her classroom environment had changed, but not necessarily due to the NBC process.

Jessica's Attitudes and Dispositions towards the Five Core Propositions

During interviews Jessica was probed about her attitudes and dispositions towards the five core propositions of the NBPTS. She was presented with a copy of the

propositions and asked how her practice related the propositions. Her attitudes and dispositions are presented below.

Proposition One: Teachers are committed to students and their learning.

Jessica's commitment to her students was demonstrated in both interview data and document analysis. Documents obtained by the researcher found that Jessica had in the past been the assistant director for the USC Region II science and engineering fair. She had served on the scientific review committee for the Intel International Science and Engineering Fair program and served on the monitoring committee for the South Carolina Physical Education Assessment Program (SCPEAP) program. These activities clearly indicated that Jessica's interest and support extended beyond her gymnasium. She served on committees that were outside of her area of expertise, and promoted interdisciplinary education. Finally, she served on the SCPEAP monitoring committee, which was integral to the assessment and implementation of the SCPEAP program (SCPEAP, 2008). This commitment was supported when Jessica discussed her responsibilities to her students. She stated:

Our job is to teach them these skills so they can use these skills now, and then hopefully be able to use them later on in life. Teaching them life skills is also very important, kind of what to do when they are in certain situations in life.

Jessica believed that it was her responsibility to give students lifelong skills. She recognized that students will benefit from skill development and that her classes were integral to that goal. These elements pointed to a teacher who was highly devoted to her students and their learning.

Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students. Jessica discussed students' learning styles, and explained, "We have to make sure that we can get those kids going at their level. Also we have to stay back and help the kids that are still learning. Some kids may have never had a tennis racquet in their hands, and they need extra help." Jessica understood that there were many different paces and styles of learning. She knew that some children had to be taught differently than others. Yet another portion of proposition two Jessica's content knowledge was supported by statements made by Sarah where she indicated that Sarah was good at certain content, and that they each complemented each other. Further, during task presentations Jessica gave excellent cues that were accurate, qualitative, and of the appropriate number. This data lent itself to the assertion that Jessica had a solid grasp of content knowledge. Further, Jessica's ability to reach a diverse student population through various types of teaching styles was discussed. Jessica explained "we know that the girls usually learn quicker than the boys. And that is the reason we pair them up. And then for social reasons, we have tried several different ways to get that to work." Jessica realizes that students learn in different fashions, and she altered her practice in order to achieve learning across the spectrum of her students. She demonstrated that she knows the subject she teaches, and knows how to reach her students.

Proposition Three: Teachers are responsible for managing and monitoring students' learning. Jessica demonstrated a high degree of organization when she was observed. Her students were on-task for a majority of her classes. Students knew what to do when they entered class and they were typically attentive to their teacher. Jessica stated:

They all need to be active the entire time; they don't need to be waiting standing in line waiting for turns. The more equipment you can have the more that they are all working on-task the more they aren't waiting on a turn.

Jessica emphasized a high degree activity of during class. Further, she understood the role of equipment needed for her students to remain active during her classes. Her students generally came into the gym and went directly to the jump ropes that were hanging on the wall throughout the gym. There were enough jump ropes for each of the students in the class.

Jessica also provided a number of documents that demonstrated her high degree of organization. These documents illustrated a teacher who planned all aspects of her instruction. Documents provided included interdisciplinary plans, fitness analysis, and what Jessica called life skills. These documents were shared between Jessica's and Sarah's team teachers. They employed an interesting type of discipline plan - they called it life skills. They had a life skills center in which students completed life skills plans.

Jessica explained:

Yes, you know you're always going to have certain problems. Some of the students are always going to have some little problems. We have the life skills corner (discipline corner) and they have if they aren't following the rules they go to the life skill station and if they go their they try to pick out which life skills they are breaking and then decide how to remedy the situation.

Jessica addressed discipline in her classes in a unique way. This allowed her to be able to instruct her students in an affective fashion, and turn discipline into a positive experience for her students.

The monitoring of student learning was encompassed by proposition three. A teacher whose attitudes and dispositions are in line proposition three would have assessments that they use regularly in their instruction. Jessica stated:

We asses based on skill tests and our state standards. We grade them on ... every day they get a daily grade. We grade on them on how well they behaved, how well they worked with each other, everyday. So we do that and skill tests, and we give them a grade every day.”

Jessica actively assessed her students in the affective domain and she assessed psychomotor objectives through skill tests.

Proposition Four: Teachers think systematically about their practice and learn from experience. Jessica discussed reflection and its role in her practice. When discussing reflection Jessica stated, “That (reflective practice) is a no brainer, you teach a class and something didn't work you have to think, ‘ok what went wrong and what can I do about it. I have to change something that isn't going right.’” Jessica used systematic reflection; she thought about her practice and then altered her learning environment based on those reflections. Jessica further illustrated, “We'll even reflect out here when we are right in the middle (of the lesson), we will tell each other that we should have probably done it differently, things like that.” Her reflection took place on her practice, after she gave instruction, and reflection occurred in her practice while she was in her task presentations and when students were motor engaged. Her attitudes and dispositions clearly were in line with Proposition Four. She thought systematically about her practice and learned from her experiences.

Jessica also described changes that came about as a result of the NBC process. When asked if her instruction had changed, Jessica stated “I try to think that I teach the same as I did before and after the certification process. I think that I might reflect more or think more.” According to Jessica, her practice had not changed as a result of the NBC process, however, her reflection or “thinking” had changed.

Proposition Five: Teachers are members of learning communities.

Participation in a learning community describes the ability of a teacher to make connections between disciplines in an effort to make a richer learning experience for their students. Jessica shared a document entitled, “Teaching literacy through creative dance.” This document demonstrated Jessica's devotion to interdisciplinary education. She taught literacy through the physical domain. Jessica further described what she explained was “a big collaboration.” This collaboration occurred during a social studies unit, “for our fourth graders we do a day for their social studies unit.” Jessica described how she and Sarah set up for these units by dressing up and decorating the gymnasium. Pictures from one of these collaborative efforts were posted on the school website. Jessica thus endeavored to incorporate different disciplines into her practice.

When asked about parental involvement, which is a key element of Proposition Five, Jessica stated, “Our parents are very supportive.” She continued, “One year we had a volleyball parent that didn't like the layout of how we did our volleyball unit, and had some input for us.” Jessica's student's parents are involved in their learning experience, and feel free to make suggestions, and complaints. However, overall Jessica reported that they were supportive. This showed that Jessica's attitudes and dispositions fell in line

with Proposition Five, in that she was a member and a supporting effort behind a learning community in her school.

Jessica's Sense of Teaching Efficacy

Jessica's sense of teaching efficacy was measured utilizing the Teacher Efficacy Scale (TES) (Gibson and Dembo, 1984). The TES was administered to Jessica during both of her site visits. The TES consisted of sixteen seven point Likert scale questions. Nine of these questions assessed Jessica's sense of Personal Teaching Efficacy (PTE), while seven questions assessed her sense of GTE. Jessica's average TES results for PTE was 1.7, which indicated high degree of agreement with PTE characteristics. Her average GTE results were 2.7, which indicated moderate agreement with GTE statements. These results indicate that Jessica had a higher sense of PTE than of GTE.

These results were initially addressed when discussing proficiency in instruction. She explained her ability to reach students, and her overall feeling about her performance as a physical educator. Jessica explained:

With us, I think that we are pretty level, I mean that I feel pretty comfortable teaching everything. But Sarah has her, her quality teaching ... her specialty, and I have mine. So we can balance each other ... (we) complement each other. I teach the ones that I'm very comfortable with and Sarah teaches the stuff she is comfortable with.

Jessica was confident in her ability to instruct. Additionally, to augment their instructional repertoire she and Sarah relied on each other's strengths to increase their teaching effectiveness. Jessica was proficient in tennis, however, she had weaker content knowledge in gymnastics. She indicated that she was comfortable any content area,

however, she preferred allowing Sarah to teach content in which she wasn't as proficient. Jessica was comfortable with instructional content, but she used available resources (Sarah) to improve instruction for her students.

Further, Jessica was questioned about her general teaching efficacy. She was asked how parents of her students affected the ability of students to learn. Jessica answered:

Well it's according to where the child comes from, I mean, upper middle class students their learning is affected by their parents because they have them in soccer they have them in baseball or they have them in tennis ... so their skill level is a lot higher, than children that their parents don't expose them to that ... So you know it effects our teaching because we, well it doesn't really affect our teaching but we have to compensate for that you know like with the kids that are more skilled.

Jessica believed that the home environment did affect the student's ability to learn in her class. Her perspective on this was that students in higher SES environments were exposed to different content and as a result they would be more able to achieve a high degree of success.

However, when Jessica was asked if a student's home environment affected the ability of a student to learn, she answered, "You know where I see it effecting them mostly is socially." Sarah: "if the kids can get along and listen we can teach them anything" Jessica: "And we stress that we work really hard on that." Jessica believed that both the home environment and the parents of students affected the ability of her students to learn. She also said that there were strategies that could be employed to encourage

learning for every child. These results reinforced the TES data that indicated that Jessica had a moderate agreement with GTE statements. She indicated that some outside influences do affect the ability of students to learn, however, she contended that these influences could be countered.

Jessica was further questioned about her high agreement with PTE. She was asked to respond to the following statement, "Some students are simply unreachable." Jessica responded, "I think it also depends on the definition of reachable. I mean we have some problem children, that I think we have reached them but that doesn't mean they aren't still problems in the classroom."

The researcher asked Jessica to respond to the statement, "Some students are simply un-teachable." Jessica clarified, "I don't know I think that that isn't true." Jessica said that all students can learn, and she believes that she can reach every child, even the most difficult students. To further question her sense of PTE, she was asked to discuss strategies she employed to deal with difficult students. Jessica explained:

First of all when a student comes in and they are difficult you have to figure them out. I just know that I can do it. Where I don't confront, but I have to be strict and strong with them. Then again you don't give up on them and ignore them either.

Jessica believed that she could reach every child, even the most difficult child. She emphasizes the behavior management of her classroom. These results, in conjunction with TES results, pointed to a teacher who had a high sense of PTE.

When discussing the possibility that the NBC process had augmented her feelings towards student learning. Jessica responded:

No, with me going through National Boards I never changed, I don't think I changed anything that I already did. I mean it brought foresight, and it broadened our reflection and we saw things better. We did that, but not as far as National Boards.

Jessica indicated no perceived changes as a result of the NBC process. She simply explained that other parts of her practice changed, but her sense of efficacy - how students learn, how she can effect it, how teachers can affect student learning - didn't change from before she achieved NBC.

Jessica and a Community of Practice

Communities of practice are characterized by the three key components of mutual engagement, shared repertoire, and joint enterprise (Wenger, 1998). While it is difficult to conclusively determine whether a professional is a member of a CoP, this investigation attempted to determine if Jessica demonstrated traits were that consistent.

Mutual engagement. Mutual engagement played an important role in Jessica's NBC experience. Jessica, however, had a significant amount of engagement with her team teacher who also was a NBCPET. Together they both described unique mutual engagement that benefited their practice. Jessica reported, "We have the online newspaper that comes from the National Boards, the *Accomplishment* that I check almost every day." Her reading of this online newspaper kept her updated on news about the NBPTS. In addition, when she was asked if she mentored anyone she responded, "we are helping a guy starting right now, but not formally we have so much on our plate." She assisted another teacher going through the NBC process. This form of mutual engagement supports the dissemination of critical tools within the NBPTS certification

process. Jessica further illustrated her engagement with members of the physical education community by means of the state level convention. Jessica stated:

We had one person e-mail us with an outline of something she had gotten from one of our SCAPHERD presentations. It kind of outlined or highlighted some of the areas that we should cover, and it was essentially about the SCAPHERD assessment.

Again, Jessica had independent engagement with other professionals, an engagement that began with the intention of expressing ideas about how to better practice.

One of Jessica's and Sarah's presentations was entitled "Quality Educational Gymnastics in Elementary School." The topics discussed was techniques for effectively developing a specific type of learning experience. The tools that were discussed were developed by two NBCPETs and could be considered part of their tool box, which they attempted to disseminate by means of mutual engagement at a state conference. This communication was personal and direct. This type of mutual engagement functioned to improve both Jessica's practice as well as that of the teachers who engaged with her.

Jessica indicated that during the certification process there were several forms of mutual engagement that were "very important" to her. She described meetings that were held and sponsored by the NBPTS. She stated "From the National Board itself, we had two workshops, with the district sponsor." These workshops functioned to connect Jessica to other NBCPETs, which allowed her to be exposed to their practices and subsequently successfully complete certification. Jessica also described other state-level meetings that were not specifically for physical educators, however, they functioned as an

NBCPET, meeting place because of the large number of NBCPETs in her district and in the state. Jessica explained:

We really don't have too much contact with other board certified teachers, except at our state meetings, where almost all of the National Board teachers get together. When we are around our fellow colleagues in the district, most of them are National Board certified, so we just collaborate with them then, but it is informal we will just be sitting around the table, those type of things.

Again, Jessica demonstrated her willingness to engage in mutual dialogue with other NBCPETs. Her engagement included informal mentoring, state conference presentations, NBC process meetings, and meetings at state conferences. Clearly Jessica had taken part in various forms of mutual engagement during and after the NBC process.

Shared repertoire. A shared repertoire reflects goals and practices that are common throughout a CoP. These shared practices constitute what could be considered a communal toolbox. This communal toolbox is developed from mutual engagement, and helps define the community's joint enterprise.

To fully understand if Jessica has a shared repertoire with other members of the NBCPET community, an investigation would need to extensively evaluate practices of many of the members of a CoP. For this reason, Jessica's utilization of a shared repertoire is far from conclusive. However, Jessica and Sarah work closely together, and described working through problems jointly. While working through instructional issues in a joint manner they were able to develop some tools that were collaborative in nature. These tools could be considered a type of shared repertoire. It could be inferred that because Jessica and Sarah worked in such close proximity they use shared repertoire in a smaller

context than other members of the community. They do not need to reach as far out as other teachers because they have a colleague in such close proximity who shares a point of view regarding instruction. This was evidenced in their cooperative presentation at the state level wherein they presented tools that they had developed in their practice. Through her presentation, combined with a question and answer session, Jessica was conceptually participating in the development of a shared repertoire.

Joint enterprise. Joint enterprise is the final element of CoP. A joint enterprise within a NBCPETs' CoP is physical education. Rodgers (2000) emphasized the importance of reflection in the process of a joint enterprise. This process of reflection allowed the community to expand beyond its original domain through negotiation of tasks that were inherent to the practice. The negotiated learning that takes place in a CoP is achieved through reflection and eventual mutual engagement within the community. This mutual engagement leads to the development, and eventual implementation of, a shared repertoire and a communal tool box. Reflection is a key element in a joint enterprise, and consequently key to the development of a CoP.

As previously discussed, Jessica thought reflection was a “no brainer.” She believed that it was her responsibility to her practice. Further her use of reflective practice was implemented in an effort to hone her discipline. She worked out what was ineffective, replacing it with other strategies in an effort to identify a strategy that may have worked better. Once she had a strategy that worked, she implemented it on a more permanent basis. This permanent tool became part of her repertoire, she then shared this repertoire with other professionals, making it a shared repertoire. Finally, this buildup of communal tools expanded the original discipline past its original boundaries.

Summary. Jessica demonstrated traits that were being consistent with a member of a CoP. However, her sense of CoP was impacted by her close collaboration and working relationship with another NBCPET, Sarah, who was also a participant in this study. Jessica demonstrated various forms of mutual engagement. These forms of mutual engagement were through presentations at state conferences, and informal mentoring of candidates in the NBC process. Further, a joint enterprise was fostered in her practice through a rich application of reflective practices. Finally, she demonstrated a shared repertoire through collaborative efforts with Sarah. Additionally, her dissemination of tools developed in her practice, through presentations, illustrated her development of shared tools. Data regarding traits Jessica demonstrated that were consistent with being a member of a CoP, are illustrated in Figure 4.20. Overall, data illustrated that Jessica had many traits that were consistent with the negotiation of learning through collaborative efforts that are inherent to a CoP.

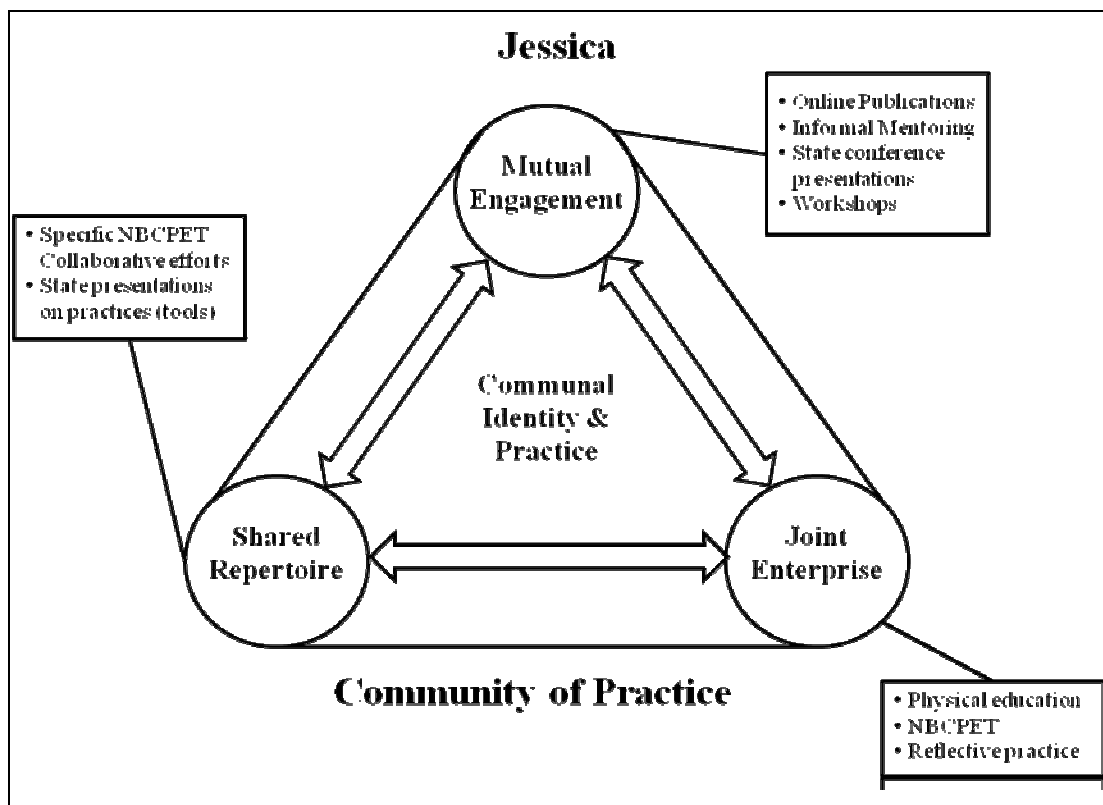


Figure 4.20 Jessica and a CoP.

Sarah

Sarah teaches in Powers School District, her school was known as Lando Elementary. Jessica also teaches in Lando Elementary as such relevant school demographics have been provided in Jessica's previous section. Other information that is specific to Sarah is provided in the following section.

Sarah's Demographic and Immediate Work Environment

Sarah was a Caucasian female, who graduated from the University of North Carolina at Greensboro where she majored in physical therapy. She explained in interviews that at UNC there were several tracks that one could take when entering the program. One of these tracks would be towards working with children and could be turned into a physical education major. Eventually, she found that she loved working

with children and had a desire to become a physical education teacher. At this point she switched her major to physical education. When discussing her practice she emphasized the importance of fitness and getting the students moving. Sarah genuinely seemed to have a concern with her students becoming lifelong movers. She taught at Lando Elementary for twenty one years.

Lando Elementary was clean and neatly decorated. The schools administrator was welcoming, and gave the investigator a tour of the school prior to the school day. The gymnasium was decorated in the same fashion as the rest of the school. The walls were elaborately decorated, there were posters on the walls, and equipment neatly organized throughout the room. State P.E. standards, words of the day, disciplinary rubrics, and messages for the week were all spread all throughout the gym. Students in Lando Elementary had physical education twice a week. Sarah had never formally coached any sport, the only “coaching,” she indicated was volunteering in intramural sports. She became a NBCPET in 2008, and passed on her first attempt.

Sarah taught with another NBC teacher, and they share an office. Jessica who was also a participant in this study, had taught with Sarah for the past twenty years. Sarah had a dominant personality in the gymnasium. During the first site visit three gymnastics lessons that Sarah instructed were observed. These three lesson, allowed the researcher to systematically observe Sarah’s task presentation using the QMTPS instrument. However upon the second site visit, Sarah had little or no task presentations. During this team taught lesson, Sarah provided interdisciplinary instruction at the beginning and at the end of each of the lessons. However, she provided no task presentation, only direct student feedback during the second series of site visits. She did, however, provided feedback to

Jessica in the middle of the lesson in front of the students. Sarah even displayed this dominance during the interviews that took place.

Sarah's Task Presentations

Sarah's task presentations were evaluated utilizing the QMTPS instrument. The QMTPS was used during the course of three of her lessons from the first site visit. This instrument was only used on three of her classes because during one of the site visits she provided most of the interdisciplinary content for the lesson, while Jessica provided all of the task presentations. Sarah's QMTPS scores for her lessons were 90, 74 and 83, with an average QMTPS result of 82.7. Gusthart, Kelly, & Graham (1995) determined that teachers scoring above 55 on the QMTPS imparted more learning than teachers which scored lower than this baseline score. These results indicated that Sarah was able to influence student achievement in her classes. Sarah's QMTPS results are illustrated below in Figure 4.21. These results point to a teacher with an excellent task presentation.

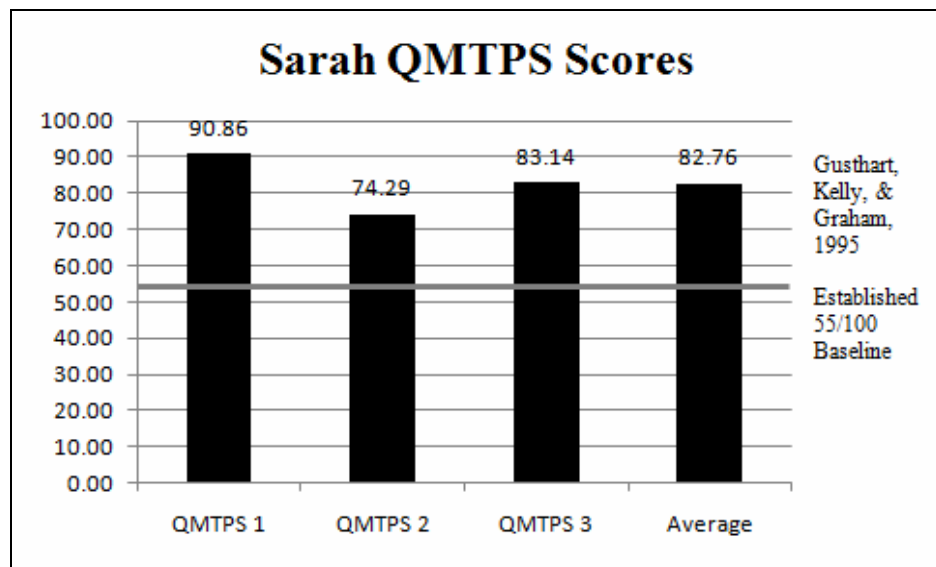


Figure 4.21 Sarah's QMTPS scores.

Providing students with proper learning cues was essential to Sarah's practice. The utilization of proper cues, qualitative cues and appropriate number of cues were essential to quality task presentation. On the wall in Sarah and Jessica's gymnasium were printed critical cues for several fundamental movements. Further, Sarah incorporated critical elements into her task presentations. These critical elements allowed Sarah to set these cues as major a part of her lessons. Sarah and Jessica worked cooperatively in the gymnasium, and this spread over into their lesson planning. They used identical lesson planning that they believed promoted continuity in their practice. Sarah stated, "I think that we complement each other in a way that makes it very even." She indicated that her instruction, in cooperation with Jessica's, made her instruction better.

Clarity of instruction was as important as the content that was being disseminated. Sarah discussed her ability to achieve clarity, and the indications that she had achieved clarity. Sarah described how she had achieved clarity:

When you can see the kids understand, the lights come on, and they can help each other. You know you can see it. We tell them all the time, we don't have to give you a test, we can see within thirty seconds, if you understand it.

In addition, Sarah was asked if she generally achieved clarity. She reported, "Normally yes and if we don't then we reflect." Sarah was further probed about the feedback that she provided to her students during instruction. She stated:

I really try to do and be conscious of, when I find myself being too general. You know general feedback is good but if I get more specific that's better, and I really do consciously try to do that. The corrective feedback, I'm generally pretty good

about giving that but for the specific feedback dealing with cognitive, I tend to get to general about that.

Sarah said that she tried to provide specific feedback as much as possible. She also attempted to limit her general feedback, and she consciously attempted to make her feedback specific as much as possible. Specific congruent feedback was also important to the concept of task presentations, teachers with excellent task presentation typically will have good specific congruent feedback. This is one of the reasons Werner & Rink (1986) included this construct in the QMTPS instrument.

Sarah's content knowledge was essential to her quality task presentation. She was probed about the extent to which her content knowledge was appropriate for the developmental level of her instruction. Sarah replied:

I really had a great background at Greensboro (University of NC) with Kate Barrett and Judy Rink so I came really from the movement education. That framework really fits my personality, because it gives me such freedom within the structure. So I really felt comfortable with that. There are certain sports skills that I might not be (as effective in) like soccer maybe, but for elementary school I think that we are pretty much OK.

Sarah was confident in her content knowledge. She attributed this to some of the experts in the field of physical education who mentored in her education.

When Sarah was prompted to discuss any perceived changes that had occurred in her practice as a result of the NBC process she stated, "What we are teaching hasn't changed, you know my self-esteem I think that was an important change." Sarah had not

changed her task presentation as a result of the NBC process, however she believed that her self esteem had improved as a result of the process.

Sarah's Use of Class Time

Time management was quantified for this study by the use of the ALT-PE instrument that allowed a close scrutiny of how Sarah's students spent their time in P.E. As far as the contextual nature of Sarah's time management, the ALT-PE instrument revealed Sarah's students were involved in skill practice 41%, management time 20%, warm-up 3%, Skill practice 41% and technique work 26% of the time. ALT-PE data for Sarah is displayed below in Figure 4.22. At the learner level, students were involved in Motor engaged activity 37% of the class period, motor appropriate time 32%, motor inappropriate time 5%, interim time 20%, off-task activity 2% and cognitive time 36%. Learner level ALT-PE data is displayed below in Figure 4.23.

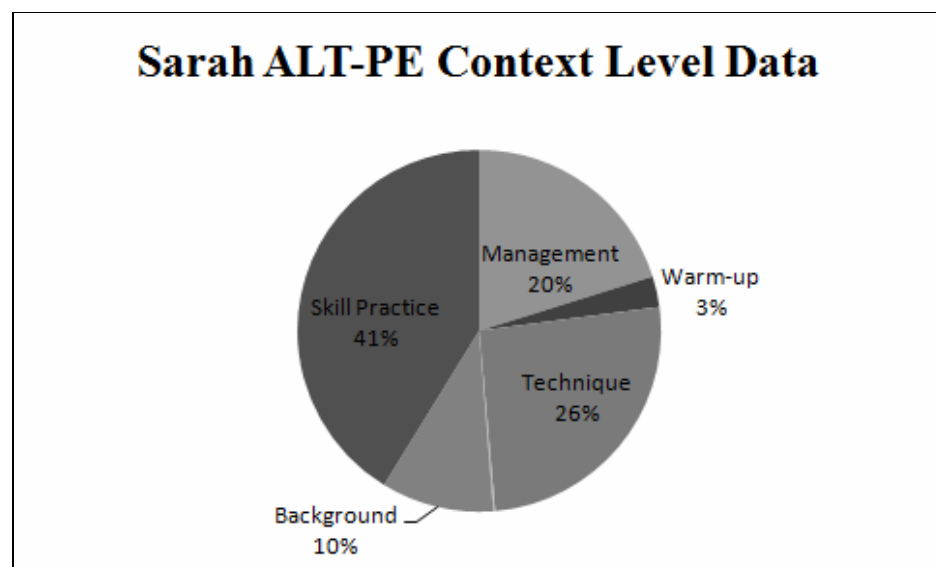


Figure 4.22 Sarah's ALT-PE context level data.

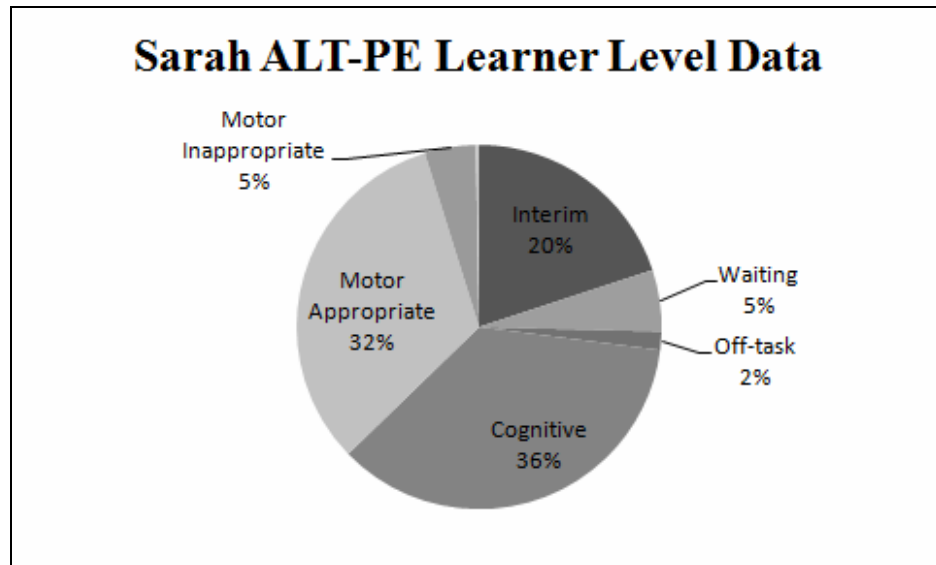


Figure 4.23 Sarah's ALT-PE learner level data.

Interviews and document analyses were used in an effort to triangulate and confirm data that was observed utilizing the ALT-PE instrument.

The organization of a learning environment starts with quality time management. Sarah discussed her time management, and organization. She explained:

No matter what it's got to have that structure. There has to be that structure, there has to be those boundaries, they have to know, they have to know what the expectations are for safety and getting along with one another and sharing equipment. When we use gymnastics, you don't sit at one spot you move through the room you are making discussions all the time, about where to go what to do. I know how to do that, what speed to go at where to go.

Structure was important in her learning environment; she believed that a structured environment was the only way that a teacher could effectively reach students. Sarah stated, "I really do set the structure and the boundaries and the critical components but after that there is freedom within to go your way and explore." Further, Sarah discussed

the benefits of her and Jessica's team teaching. She was complementary of the collaborative nature of their team teaching:

I set boundaries, and we have structure, She's more the analytical, the whole part whole, step by step kind of thing. I think that this is why we make a good team, because sometimes, I can see too many ways to get to the same point, it is too mish mashed. So it kind of balances it's self out.

Sarah and Jessica balanced each other's practice. These teachers team taught and as a result were able to promote several effective teaching strategies. Sarah discussed the role of affective concerns in her daily lessons. She explained:

In the class we actually have to set up the equipment and take it down every time because I feel like that whole responsibility thing is all part of the class. And so they can put away all of the equipment. The school record is 38 seconds yeah, without anyone telling them anything. No one running, no one talking, and all working together.

Affective concerns were a major part of Sarah's practice. This was confirmed by Jessica's data that indicated the affective domain was a major concern of her practice as well.

Sarah indicated that a reason for her organization was to promote student learning: "We don't believe in throwing the ball out, if we aren't teaching then we aren't doing our jobs."

These two elements combined to promote the amount of motor appropriate activity time in Sarah's ALT-PE data. She further illustrated this line of thinking when she described a well organized class. Sarah stated, "They are quiet and on-task. Everything they do they are thinking through. They understand the critical components of what we are doing.

They are evaluating themselves. They are evaluating each other. There is no talking they

are following directions.” Sarah demonstrated that she believed in a high degree of organization, in conjunction with a high degree of content development which promoted the most optimal learning environment.

Sarah discussed the amount of activity time her students get during the course of each of their lessons. Sarah stated:

It's probably, if we counted it, it's probably not as much as we think it is. I know it's not as much as I want it to be. You know I would love for it to be ninety percent, but realistically; a good estimate would be seventy five percent.

Her actual amount of motor activity time per class was 37%. The researcher speculated that the lower motor activity time was related to her affective concerns. She detailed her concerns, “As much (motor activity) as possible and it seems more as the unit goes on. There is a little bit less (motor activity) in the beginning, where there is more direct instruction and as the lesson goes on...” She explained that the beginning of units may have an effect on the amount of time that her students spend in motor activity. On one of the days of observation, it was the first day of instruction for a unit, which no doubt affected the amount of actual motor activity time that the students received.

Sarah discussed classroom management practices that had changed as a result of the NBC process. Sarah indicated:

The major thing that we have changed recently was the schools positive action plan and then we started the grading, we realized that we could grade them on (National Association for Sport and Physical Education (NASPE)) standard five every day ...we were talking to another National Board certified teacher when we discovered that.

Sarah's student assessment thus changed as a result of the NBC process. She assessed on a daily basis based on NASPE standard five that is affective in nature. These affective concerns directly affected classroom management. What was more important about this quote was that they made these changes as a result of discussions with another NBCPET. This form of mutual engagement changed their practice. Technically this would be considered a shared repertoire.

Sarah's Attitudes and Dispositions towards the Five Core propositions

During interviews Sarah was asked to describe her attitudes and dispositions towards the five core propositions. She was presented with a copy of the propositions and asked how her practice related the propositions. Her attitudes and dispositions are presented below.

Proposition One: Teachers are committed to students and their learning.

Sarah was able to demonstrate her commitment to her students through her description of her responsibilities to her students. She stated:

My responsibilities to the students are on a lot of different levels. One is of course the teaching of movement. The teaching them to be better at whatever they do so they can decide whether or not they want to pursue it later in life. I like to teach that in a way that gives the responsibility to them, to become responsible people in a way become responsible citizens.

Sarah demonstrated that she has a responsibility to give her students a sense of learned movement, and an enjoyment of moving. This commitment was an effort to create healthy future adults. Further, she wanted her students to be productive, responsible citizens. Sarah again illustrated her devotion to her students' learning when discussing

her lack of coaching. She explained, “I wasn't ever really interested in winning or losing, more of the process of learning rather than the competitive side of sport.” She was devoted to her students’ learning and to creating respectful citizens. This was also reflected in her and Jessica's usage of the life skills center in that she had students learn from their misbehavior.

Proposition Two: Teachers know the subjects they teach and how to teach those subjects to students. During QMTPS observations it became apparent that Sarah had a good grasp on the content she was teaching. It should be noted that QMTPS data could only be collected during the first series of site visits because during the second series her role in the class period was concentrated on interdisciplinary portions of the lesson. Therefore, assessment of her task presentation via the QMTPS was not possible during the second series of site visits. However, observations demonstrated that Sarah had a firm grasp of the content she was developing. Sarah discussed her content knowledge:

There are certain sports skills that I might not be (as effective in) like soccer maybe, but for elementary school I think that we are pretty much OK. I learned a lot as I went along, through being involved with Peter Werner in gymnastics and Bob Smith from England coming over. I think that in elementary skill setting I'm pretty confident for elementary.

Sarah was instructed by several highly regarded professionals within the field, and this seemed to provide validation of her content knowledge. Further, she has been involved with the creation of textbooks within the field which seemed to give her a sense of validation of her content knowledge. However, she acknowledged some content

deficiencies, “I can teach tennis but, you know it would be a 5 (out of 10) she (Jessica) can teach it at a 9 (out of 10).” Though she acknowledged these content deficiencies, she and Jessica recognized that they complemented each other well, filling in the content gaps of each other's instruction and creating a better learning environment for their students through their combined content knowledge. Jessica concluded, “Sarah can teach gymnastics very well, so we have a great complementary relationship, but I might give myself a tennis score of 10 (out of 10)”.

Sarah's QMTPS results indicated she was a teacher who was able to provide quality task presentations. Further, she felt she had an excellent grasp on content knowledge. However, though Sarah never discussed students' learning styles, she did extensively discuss interdisciplinary collaboration on instruction. This flexibility in instruction indicated a teacher who had a disposition towards teaching to different learning styles. The combination of interdisciplinary education, her confidence in content knowledge, and her high QMTPS scores, pointed to a teacher whose attitudes and dispositions aligned with the key elements of proposition two.

Proposition Three: Teachers are responsible for managing and monitoring students' learning. Sarah's ALT-PE scores showed her as a highly organized teacher. Her management time was minimal, while her motor appropriate activity was high. Sarah's strong organizational skills were noted during observations. Sarah team taught with Jessica, and as a team they had set specific rules for their classes. These rules were posted on their gymnasium wall. When students arrived to class, they knew exactly what the first activity was to be. During the site visits Sarah's students came in and went directly to jump ropes that were hung on the walls around the gym. Sarah and Jessica

used music as a management tool, which worked well with their classes. Sarah described, “A well organized class is one where everyone comes in and they know exactly what is expected and they take care of it themselves. If they have questions, they ask.” Sarah described her beliefs about management and structure. She stated:

No matter what it's got to have that structure. There has to be that structure, there has to be those boundaries, they have to know, . . . they have to know what the expectations are for safety and getting along with one another and sharing equipment. When we use gymnastics, you don't sit at one spot you move through the room you are making discussions all the time, about where to go what to do. I know how to do that, what speed to go at where to go.

This structure lent itself to management that had been shown by ALT-PE data and observations to be well executed. Management of a teacher’s learning environment is only a part of proposition three. Monitoring of student learning is a necessary tenant of proposition three. Sarah indicated that she assessed students through the utilization of skill testing. Sarah stated, “All of our skill tests are based on the state assessments, and that really allows us to hone in on that monitoring.” Her skill assessment is the standardized South Carolina Physical Education Assessment data sheet. Sarah through her belief in structure and a monitoring system that allowed concrete assessment demonstrated that her attitudes and dispositions were in line with the spirit of proposition three.

Proposition Four: Teachers think systematically about their practice and learn from experience. Reflection and the ability to reflect on one’s practice was a key

aspect of the NBC process. Reflection seemed to play a large part in Sarah's practice. In a discussion about reflective practices, Sarah explained:

I think that's (reflection is) one way, (I do) I think that this is how we get better. A lot of other PE teachers are just by themselves all the time, so I think that for them it is even more important. I've always reflected. I have always had a really hard time writing a unit plan and then pulling it out the next year and using it like a lot of teachers do. In fact, I don't even know where mine are because I will be starting over. I keep thinking I did this last year, why can't I just pull it out. I just cannot do it. I do think that the National Boards reinforced that, and helped me make that more concrete, more structured.

Sarah found it necessary to reflect on her practice, adjust her lessons, present those lessons, and then reflect on them again. This form of reflection allowed Sarah's practice to be honed, this improvement provided her students with quality instruction. If she were to take part in mutual engagement with other teachers, she would have been able to establish a shared repertoire which then could be utilized by other community members. Thus this shared repertoire functions as a communal toolbox. Reflection is the beginning of the establishment of a CoP.

Sarah indicated that her reflection had changed as a result of the NBC process. Though Sarah always reflected yet the NBC process deepened this reflection. Sarah stated:

I didn't change a lot of what I was doing, and when I got it (NBC) on the first time, it really was a validation. Not that it was easy, I worked hard, but also I

think that it did help me with the whole reflection thing. I think that it really helped me with the reflection, and I think it has deepened my reflection.

Through the NBC process Sarah learned to reflect about her practice in a more productive manner. She indicated that deepening of her reflection had added to her practice.

Finally, Sarah discussed Jessica's and her reflective practices and how they had affected their team teaching. Sarah stated, "I think that it helped me reflect on that more. I use a lot more reflective processes. I think that it is really cool with us (Sarah and Jessica) being together, we could talk about that together." The NBC process strengthened her reflective practice, and it strengthened her reflection with Jessica. This reflective practice was central to the concept of proposition four. Sarah's attitudes and dispositions aligned with the spirit of proposition four.

Proposition Five: Teachers are members of learning communities.

Proposition five encourages the use of collaborative practices. This proposition uses the building of bridges between disciplines in an effort to create enriched learning experience that reinforce the individual disciplines. Sarah indicated that she used collaboration within her school. She stated:

As far as within in our school, we have access to their (classroom teachers) standards and we touch base with teachers informally. For instance we have third grade teacher teaching force and motion. Also, we try to coordinate with the second grade, they are big into step counting. The dance unit we actually did some literacy this year. That's the focus of the whole district, and so one of our goals, evaluation goals this year is that we will be evaluated on literacy. We do that through our dance unit, and that's when we do a lot of the collaboration.

The use of interdisciplinary education within Sarah's practice was illustrated by her development of a creative dance and literacy curricula. The implementation of such a curriculum indicated a high degree of collaboration within her school. She had worked to bridge gaps in disciplines, and created an interdisciplinary collaborative effort in her physical education setting. A final piece of proposition five is the incorporation of parents into the learning experience. Sarah was asked if parents had any input on lesson creation. Sarah stated, "Maybe a long time ago when we first started teaching, but now they look at us like we know what we are doing." Sarah seemed open to parents' input, however, her parents had not traditionally wanted to have input on her practice. However, Jessica also described a time when parents had commented on her gymnasium setup, however as time went on both Sarah and Jessica believed that they had achieved some prestige, and they were generally left alone in the gymnasium. Overall, Sarah's attitudes and dispositions seemed to embody proposition five.

Sarah's Sense of Teaching Efficacy

Sarah's sense of teaching efficacy was measured during both of her field observations utilizing the Teaching Efficacy Scale (TES), developed by Gibson and Dembo (1984). Sarah's TES score for PTE was 2.1 that indicated a high sense of PTE. Sarah's sense of GTE was 2.0, indicating a high degree of agreement with both general and personal teaching efficacy.

Sarah demonstrated a high sense of teaching efficacy, however, her sense of teaching efficacy was not isolated to her TES results. She demonstrated a confidence in her teaching throughout the interviews as well. Sarah discussed her abilities as an

instructor which played heavily into a teacher's sense of PTE (Gibson & Dembo, 1984; Woolfolk & Hoy, 1990). Sarah stated:

If we threw out kindergarten... Kindergarten is pretty difficult on kindergarten, I would say I give myself a 2 (on teaching efficacy), but overall, I would say that if I was teaching dance or gymnastics I would probably give myself maybe a 9, I know that that's pretty high but I know that I can teach those things...

She believed that she was effective as an instructor, and her effectiveness was contextually based upon the content she was delivering. Sarah routinely team taught with Jessica. When she discussed her ability to team teach with Jessica, she mentioned her tennis abilities, "I can teach tennis but, you know it would be a 5 she (Jessica) can teach it at a 9... I think that we complement each other in a way that makes it very even." Sarah believes in her ability however she also recognized her weaknesses. In this case she delegated instruction to the person who may instruct best. Jessica was a tennis player in college and as such she had greater content knowledge than Sarah. In this case she delegated this instruction to Jessica. When discussing her content knowledge Sarah indicated that she had a great ability to teach gymnastics. When talking about this content knowledge, Sarah explained:

There are certain sports skills that I might not be (as effective in) like soccer maybe, but for elementary school I think that we are pretty much OK. I learned a lot as I went along, through being involved with Peter Werner in gymnastics and Bob Smith from England coming over. I think that in elementary skill setting I'm pretty confident for elementary.

Sarah had a grasp on content knowledge, and in her mind if she had a good grasp on content knowledge then she could have ability to reach students. What was interesting was the dynamic between Sarah and Jessica. They relied on each other to present the best instruction.

Sarah described what she believed the affect of student's home environment was on their ability to learn. This description had relevance for GTE. Sarah stated:

If the kids can get along and listen we can teach them anything. The other part you know we can differentiate instruction and all of that but when a kid does not know how to get along with each other, that is our biggest trouble. That is where their family really comes into play for us... The ability to listen the ability to get along with other people, the ability to cooperate is important.

Sarah believed that students could be taught, and that if they were able to function affectively within their class they could learn anything. Sarah discussed what was perceived to be an unreachable student. When she was probed about her response to the unreachable child, Sarah responded:

I think if they are completely unreachable they need to be in a special program. If they are that bad they don't need to be in public schools. We should be able to reach every kid that is enrolled in the public school. I mean nobody reaches those kids without some specialized training.

It can be concluded that Sarah believed that every child can learn. She didn't think that even the "unreachable child" was unreachable. Even if the teacher was not Sarah, she believed that an effective learning strategy exists for every student within the educational system.

Sarah discussed changes that she believed came about as a result of the NBC process. When talking about changes, Sarah stated:

I think with the National Board, what was different was that it made me feel good about what I was doing, maybe a validation. Especially since I did not change a lot of what I was doing. And when I got it on the first time, it really was a validation.

She indicated that she had no change in efficacy; however this statement would indicate that through her increased sense of validation, she may have felt she was more effective because the process validated practices that she continued to use. This thought was confirmed later in interviews, when Sarah indicated, “It was just a piece that allowed me to feel good about what I am doing.” Sarah felt that her practices were good as a result of her NBC process.

Sarah and a Community of Practice

Wenger (1998) illustrates that a CoP has three key elements: mutual engagement, shared repertoire, and a joint enterprise. In order for Sarah to be considered a member of a CoP it was necessary that she demonstrate forms of these three elements. The following section outlines aspects of Sarah's practice that either fall in line with CoPT, or exclude Sarah from such a community.

Mutual engagement. Sarah discussed some mutual engagement that she has with other teachers specifically with NBCPETs. Much of her mutual engagement took place in conjunction with Jessica. She discussed unofficial mentoring with other teachers, specifically teachers who were going through the NBC process. Sarah explained, “Occasionally we will help, maybe not National Board teachers but teachers that are

attempting to become National Board.” On another occasion Sarah spoke of her involvement informally mentoring teachers going through the NBC process. She stated, “We are helping a guy starting right now, but not formally since we have so much on our plate.” Sarah has direct contact with other teachers who are going through the NBC process. This mutual engagement allowed a shared repertoire to develop between Sarah and her mentee that gave her protégé a better chance of passing the certification process. Sarah described mutual engagement with other NBCPETs: “We realized that we could grade them on standard five every day, which was when we were talking to another National Board certified teacher when we did that.” Obviously mutual engagement between Sarah and other NBCPETs had affected her practice.

Additionally, the NBPTS promoted some mutual engagement through district-wide meetings. Sarah described these district meetings, “One of them (NBC meetings) was just the big picture, you know about the five propositions and then the other was about each one of the things and how to write them.” The NBC had contact with Sarah on two separate occasions. These meetings facilitated methods of writing, and the overall goals of the NBC process. Sarah described this type of mutual engagement as essential to her success in the NBPTS. She also indicated that she was part of programs that functioned as mutual engagement at the state level. Sarah and Jessica presented at the South Carolina state physical education conference. The title of their presentation was “Quality Educational Gymnastics in Elementary school.” Sarah promoted mutual engagement in an effort to improve educational gymnastics within the elementary school. Sarah discussed her presentations, when she stated, “I think that it (state presentation) is our responsibility to help the profession. I mean that is why you are here. That’s why we

present. That's why we have sat on assessment committees.” She believed that it was her responsibility to present and disseminate information to the wider physical education community. She did this by informally mentoring teachers going through the NBC process, presenting at state conferences, and sitting on the state assessment committee for physical education.

Sarah and Jessica engaged in a unique type of mutual engagement. Sarah discussed how they work through problems during classes:

You'll see us say things to each other during the middle of a class. Just like when I had them doing the slap. I would say and maybe we need to do the slap, and just reflect, that's reflective because I'm determining if they got it the first time.

Concrete experience, that's what we do. That is pretty much what we do... And we learn different ways too. That is why I like to see where I'm going. And so I may have her in the middle of the class show me where they are going.

Sarah and Jessica collaborated, often during class. During observations it became apparent that Sarah and Jessica discussed what was happening in each of the classes while the classes were in progress. Further, lesson plans, curricular plans, and documents gathered during the course of this investigation indicated that Sarah and Jessica collaborated on many of the documents that were essential to their overall practice. This indicated key mutual engagement between Sarah and Jessica that was targeted toward optimal student learning.

The mutual engagement in which Sarah participates is both formal and informal, it took place at the state and local level, and this engagement is between Sarah and other

teachers at a personal level. She believed that presenting and disseminating information throughout the larger physical education community is her responsibility to the discipline.

Shared repertoire. The NBPTS standards and five core propositions are a part of the shared repertoire of the NBC teachers (Coskie & Place, 2008). The five core propositions function as a shared repertoire between NBC candidates. These teachers must meet these propositions in order to complete certification. Shared tools are necessary to successfully complete the NBC process.

Through mutual engagement that Sarah discussed, she demonstrated that there was a shared repertoire that was exchanged. This exchange of shared repertoire was held both during the NBC process as well as post process. A shared repertoire constitutes a communal tool box. This communal toolbox gave the members of a CoP a selection of appropriate tools to be used in their specific contexts. Sarah discussed several such communal tools that had been developed, through mutual engagement which occurred.

Joint enterprise. Wenger (1998) defines the domain or joint enterprise as, “It (a CoP) has an identity defined by a shared domain of interest. Membership therefore implies a commitment to the domain, and therefore a shared competence that distinguishes members from other people.” Further, Rodgers (2000) discusses the role of joint enterprise as far more than a simple commonality between practitioners. He describes joint enterprise as a means by which a community expands their common domain far beyond that of the original. This expansion is achieved through group negotiation of difficult tasks that are inherent to their enterprise. Rodgers (2000) contends that reflection plays a major role in the fostering of a joint enterprise.

Sarah's primary joint enterprise was physical education. This domain was her shared domain of interest. The NBC certification she holds was the shared competence that she had achieved. This shared competence that she and other NBCPETs held distinguishes them from others in the field. Simply by being an NBCPET Sarah demonstrated a joint enterprise toward excellence in physical education. Sarah has also demonstrated key elements of Joint Enterprise through her emphasis on reflection. Sarah stated:

I think that's (reflection is) one way, (I do) I think that this is how we get better. A lot of other PE teachers are just by themselves all the time, So I think that for them it is even more important. I've always reflected, I have always had a really hard time writing a unit plan and then pulling it out the next year and using it like a lot of teachers do. In fact, I don't even know where mine are because I will be starting over. I keep thinking I did this last year, why can't I just pull it out. I just cannot do it. I do think that the National Boards reinforced that, and helped me make that more concrete, more structured.

Sarah claimed that she was reliant on reflective practice during her lessons as well as during her curriculum planning. This reflection was conducted in concert with Jessica, her team teacher. Reflection allowed the production of a repertoire of tools that worked within her specific context. These tools were disseminated by mutual engagement that created a perceived shared repertoire of communal tools. This chain of events creates a joint enterprise that altered the original discipline beyond its original inceptions.

Summary. Sarah described several traits that were consistent with mutual engagement, shared repertoire, and joint enterprise. These traits are illustrated in Figure 4.24, indicating that Sarah was likely a member of a CoP.

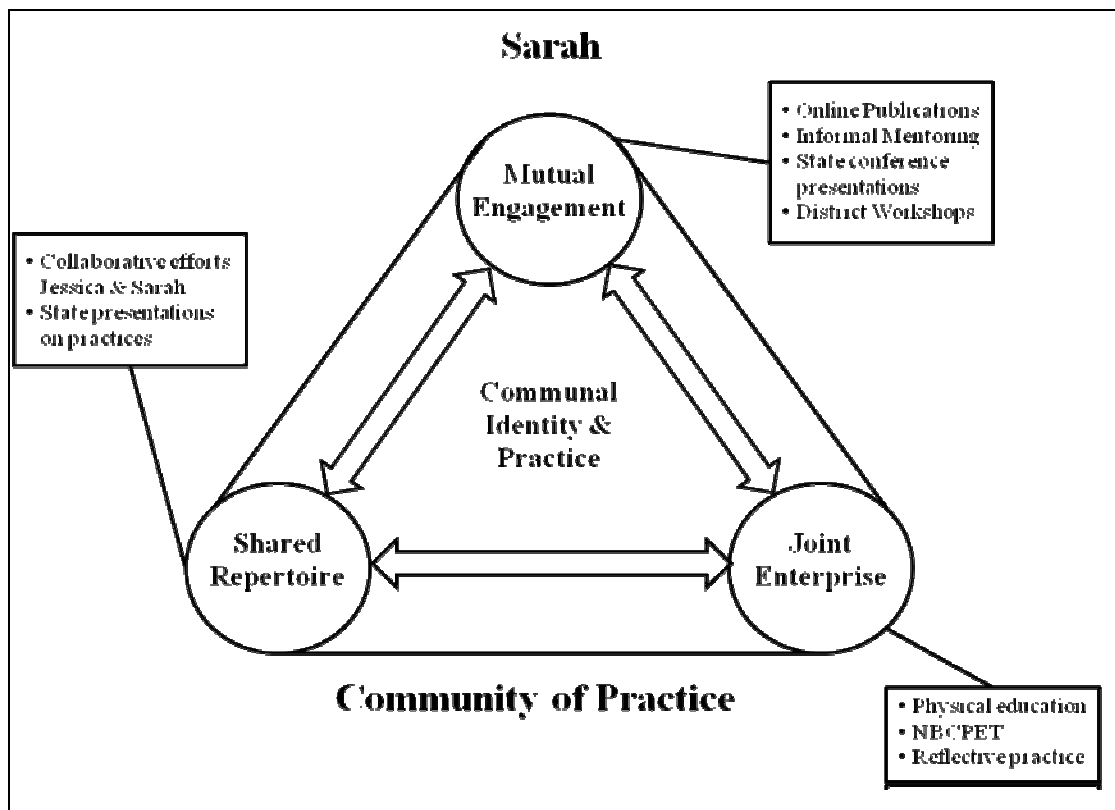


Figure 4.24 Sarah and a CoP.

Emergent Themes

The identification of themes is one of the most fundamental practices in qualitative data analysis. This procedure is an important aspect in the precise analysis of qualitative data. Themes were developed through deductive data analysis of the case studies. Developed emergent themes were: Reflection-in-action and reflection-on-action; instructional collaboration with other physical education professionals; perceived changes

in professional practices as a result of National Board certification, and self perception of the quality of instruction. These themes are discussed in the following sections.

CoPT provided the theoretical underpinnings for the study (Wenger, 1998, 2009; Lave & Wenger, 1991). This theory conceptually supported the emergent themes. The researcher reasoned, however that a better understanding of each theme was achieved through support of individual theories that directly addressed each of the themes. This examination of individual theories and frameworks assisted in a more complete understanding of the themes. Reflection-in-action and reflection-on-action, as an emergent theme utilized Reflective Practice Theory (Schon, 1983) and Experiential Learning Theory (Kolb, 1984). For instructional collaboration with other physical education professionals, a model for collaborative problem solving was employed (Casalini, Janowski, & Estevez, 2006). The theme of perceived changes in professional practices as a result of NBC, made use of a five step model that explains professional development (Rovegno & Bandhauer, 1997), and a three step model that describes sustained changes in physical education (Cothran, 2001). Finally, self perception of his/her own quality instruction was more fully explored with Teacher Efficacy Theory (Bandura, 1977). The utilization of multiple theories under the main construct of CoPT allowed a deeper examination of the themes, and as a result a better understanding of the extent to which these teachers may or may not be members of a CoP.

Reflection-in-Action and Reflection-on-Action

The concept of reflection is heavily emphasized by the NBPTS's fourth proposition. Further, the prominence of reflection became apparent in each of the interviews conducted with the participants in this study. Specifically, Eugene and Nathan

indicated that they believed that reflection was one of the strongest outcomes of the NBC process. Nathan explained, "I'm not the teacher that I was when I started, and I'm glad. National Board was a tool that helped me to be more reflective. It really focused on reflection." In a broader sense, Nathan's beliefs about the reflective aspects of the NBC process were reminiscent of many of the participants' expressed perceptions about the NBC process. Emma explained, "I think I need to reflect every day." She further explained, "I can tell from one lesson to the next, what lesson worked, and what didn't work." Emma indicated that she utilized reflection as a major part of her practice. She believed that reflection allowed her to develop contextual tools that provide her with lessons that "work." Jessica explained, "I think that I might reflect more or think more (as a result of the NBC process)." Sarah also discussed reflective practice and the NBC process, and stated, "I think that it (the NBC process) helped me reflect. I use a lot more reflective processes now." Finally Richard explained, "The National Board (process) made me look back and reflect better." These teachers believed that reflection was a major outcome of the NBC process, and by focusing on reflection they were able to become better teachers. Further, each of the participants said that it was their duty to reflect on their practice.

The concept of reflection has been identified by many scholars as fundamental to professional development (Schon, 1983; Kolb, 1984; Greenwood, 1993; Wildman & Niles, 1987). Schon (1983) divided the concept of reflection into two constructs. These reflective concepts are "reflection-in-practice" and "reflection-on-practice". The concept of reflection-in-action (practice) encompasses reflection that occurs during the actual act

of instruction. Reflection-in-action (practice) could be a single change that is instigated by a teacher during a lesson in order to keep students on task (Schon, 1983).

Reflection-in-action. An example of reflection-in-action emerged during interviews with Jessica. She stated, “I think about what is working and what's not working ... We'll even reflect out here when we are right in the middle (of the lesson).” This reflection-in-action assisted Jessica in her practice. It allowed Sarah and Jessica an avenue to find what works and what doesn't work. Sarah elaborated on this theme when discussing the achievement of clarity in instruction. She described, “Normally yes (we achieve clarity) and if we don't then we reflect.”

Sarah indicated that reflection was a process by which she was able to reexamine her practice and develop better strategies. Through reflection-in-action, during Sarah's classes she assessed the clarity of her task presentation, and then reflected on her practice. Through this process she then implemented new strategies in order to provide better clarity in her instruction.

Reflection-in-action was also discussed by Eugene when explaining his practice related to a dance unit. Eugene stated, “usually a lot of the reflection that takes place will be in my head while we are working.” Eugene illustrated how reflection during his instruction helped aid his teaching effectiveness. According to Eugene, this continual assessment of ongoing lessons permitted him to make fine adjustments that aided him in providing higher quality instruction.

Reflection-on-action. The second form of reflection that Schon (1983) identified was reflection-on-action. This reflection takes place in the teacher's mind after the act of teaching. Through reflection, experimentation, and concrete experience a professional

achieves better solutions for problems that arise during his/her instruction (Kolb, 1984). Reflection-on-action is also described by Kolb's (1984) Experiential Learning Cycle. In Kolb's Cycle, a professional goes through a process of concrete experience, reflection, abstract conceptualization, and active experimentation. This process of reflection-on-action allows a teacher to reexamine and implement new lessons from day-to-day and from year-to-year.

Each participant discussed reflective practice. More specifically, each participant discussed reflection-on-action and the effects the NBC process had on this type of reflection. To probe aspects of reflection-on-action in participants' instruction, participants were presented with a written copy of Kolb's (1984) Experiential Learning Cycle, and were asked to inspect the cycle to determine the extent to which their teaching was reflected in the model. In response to questions related to the Experiential Learning Cycle, many of the participants' first reactions were to explain the importance of reflection. Nathan discussed his views about what the Experiential Learning Cycle meant in terms of his practice. He stated, "I see that (Kolb's Cycle) in my thought process and I try to reflect, I try to analyze my kids' (movement)." Similarly, Emma described her impressions of the Experiential Learning Cycle by stating, "Active experimentation, and reflective observation. I always try to reflect after I get through with my lesson. How I feel like that lesson went over, or what I did wrong."

Further, Emma described some specific examples of reflection-on-action that took place in her daily instruction. Emma's response to Kolb's Experiential Learning Cycle was not uncommon. The first reaction of nearly all participants was to recognize the reflective aspect of Kolb's Learning Cycle. This indicated that they had particular interest

in that concept of the Experiential Learning Cycle. They also could have recognized that reflection is a key concept in learning. Sarah made a statement that represented the other participant's reported perceptions about reflection as a result of the NBC process. She said, "I think it (the NBC process) has deepened my reflection ... it made me think more, and deeper. I think that that's the most that I got out of it." Sarah said that her reflection-on-action was altered as a result of the NBC process. She believed that she was reflecting prior to the process, however, when the NBPTS asked her specific questions she wasn't able to answer them thoroughly enough based on her original reflective practice. She had to incorporate reflective concepts learned through the NBC process in order to answer the NBPTS questions adequately. The avenue that she could utilize to answer those questions was to look deeper into her practice. Through a deeper reflection on her practice, she indicated that she was able to successfully complete the NBC process. She implied that if she had not incorporated reflection, she would have been less successful in her certification attempt.

Reflective practices were reported frequently by each of the participants. The concept of reflection was accompanied by the verbalizations of changes that had taken place in practices as a result of the NBC process. Examination of NBPTS documents, namely the five core propositions, and the portfolio entries, revealed reflective practice to be a highly promoted aspect in the certification process. The fourth NBPTS proposition states, "Teachers think systematically about their practice and learn from experience." The wording of the proposition implies an emphasis on reflection. Indeed, the tenets supporting this proposition revealed a pointed emphasis on teacher reflection. The tenets of the five core propositions are illustrated in Appendix A. First, the NBPTS, through

these tenets, explains that to achieve proposition four a NBCT must, “Model what it means to be an educated person; they read, they question, they create and they are willing to try new things.” Second, an NBCT, “Is to be familiar with learning theories and instructional strategies and stay abreast of current issues in American education.” Finally, NBCTs, “Critically examines their practice on a regular basis to deepen knowledge, expand their repertoire of skills, and incorporate new findings into their practice.” These tenets mean that for a teacher to successfully complete the NBC process s/he must provide clear evidence that s/he can reflect effectively, can incorporate or acquire new knowledge, and can apply new knowledge. The fourth proposition offers an explanation as to why these NBCTs have repeatedly explained that their reflective practices have changed as a result of the NBC process. Quite simply they had to alter their reflective practices in order to achieve certification. Evidence from this study additionally indicated that even teachers who believed they were highly reflective prior to the process had to expand their reflective practices to be successful. These participants explained that the NBC process taught them to have a better understanding of the nature and role of reflection in their teaching.

Finally, when examining the theme of reflection through the lens of CoPT, it is reasonable that the NBPTS is fostering the establishment of a CoP because reflection is necessary in the creation of a joint enterprise. Wenger (1998) identified the promotion of reflection as a key aspect in fostering joint enterprise among professionals. The concept of a joint enterprise is founded on the principle of negotiated learning from both a group dynamic as well as a personal perspective. By developing individual teaching practices, through reflection, individual members of a CoP are able to bring locally developed tools

to the community. The concept of joint enterprise can be fostered by the creation of learning activities in such a way that it encourages the negotiation of key concepts in order to complete tasks. This negotiated learning through reflection is key in the development of a joint enterprise, or a domain. Wenger (1998; 2008) explained that a domain or joint enterprise is expanded through the continually renegotiated domain (Rogers, 2000). Reflection is a key aspect of this renegotiation. Therefore, an emphasis on reflection would be an essential starting point for the development of a CoP. The reflective emphasis of the NBC process is evident in the portfolio entries that encourage reflection and is further reinforced through the fourth core proposition. These facts make a substantial case for the fostering of a joint enterprise among NBC candidates.

Instructional Collaboration with other Physical Education Professionals

The second emergent theme to arise through deductive reasoning was the concept of collaboration among the NBCTs as well as other NBC candidates. It is apparent that a diversity of engagement patterns occurred for the NBCPETs. Wenger (1998) explained that mutual engagement is any activity, formal or informal, that allows the transmission of ideas related to a practice. Mutual engagement is what puts the “community” in a CoP.

Wenger (1998) indicated that this collaborative engagement can be formal or informal which creates numerous possibilities for mutual engagement. Collaboration could take place, for example, online, over the telephone, or at professional conferences. Wenger (2008) described a prevalent CoP that arose during the impressionist movement. He explained that impressionists formed a CoP through informal meetings at local coffee shops. These engagements permitted a discourse to form between emerging artists, allowing painters to adopt techniques that were previously foreign to them. They in turn

were able to master these techniques, and further discuss them in a collaborative manner. This evolution of an artistic movement promoted the impressionists rise to notoriety and honed or sharpen their enterprise. It is likewise feasible that the encouragement of communal discourses within NBC disciplines could spur the same type of communal movement.

While Wenger (1998) established the importance of mutual engagement in CoP, Casalini, Janowski and Estevez (2006) established a process model for collaborative problem solving. Collaborative problem solving could be considered the essence of CoPT's dependence on mutual engagement. This requirement stems from the need for communal negotiation of learning. This negotiation of learning can also be considered problem solving. Contextually based problems arise in any given discipline; as a result these problems are addressed by the community.

The process model for collaborative problem solving (Casalini, Janowski, & Estevez, 2006) helps explain the advantageous nature of collaborative problem solving. In this model the process of collaborative problem solving relies on a repository of knowledge. This knowledge is based on previous solutions that the collaborative effort has yielded. This is described as being “owned and developed” by the participants in this collaboration (Casalini, Janowski, & Estevez, 2006, p.3). Members use solutions to previous problems that can in turn be utilized in the creation of solutions to new issues. However, partial explanations to earlier concerns can also be utilized to create new solutions to emergent problems. Through this collaborative problem solving effort, a community develops the means by which they can answer concerns that arise as a part of their enterprise.

Participants in this study were asked to describe engagements that they had with other physical education teachers. Eugene stated,

I have about four or five National Board Certified Teachers who are my go to teachers. If I have a question about how to teach something, I'll ask, 'can you send me what you have done with this dance or with this unit', and they will send me ideas.

Eugene has strong connections to other NBCTs within his discipline. Through this collaborative engagement, Eugene was able to hone his instruction, giving other members ideas that he had developed, and they in turn shared with him problems on which they had worked. Within this process, they negotiated learning through their different contexts. They exchanged solutions to issues that may have had common factors.

However, explanations may not have had similar features, and only partially applied to other problems. Answers that incompletely provided solutions may still have assisted Eugene in the development of answers to his own questions. Of further interest was how Eugene described the effects of the NBC process on his collaboration with others. Eugene stated, "I think it (change) was more the collaboration with teachers... Also just going through National Board making all the connections I did with other people in the District forced me to make relationships with other people." Eugene's experience through the NBC process compelled him to collaborate with other teachers. He described how the process essentially forced him to make connections. These connections helped Eugene through the NBC process, and he indicated that they continue to help him today.

Eugene contacted his collaborating teachers via e-mail, phone, or face-to-face during District-wide meetings. Eugene's collaboration differed from Emma's, who had a more

impersonal method of collaborative engagement. Emma participated in online discussion groups regarding NBC and physical education. These online discussions were promoted by the NBPTS site as well as other sites such as *FaceBook*, *Yahoo*, and *PE Central*. Emma explained, "I am a member of the National Board site (www.nbpts.org)...you can go on there and share stuff with people from all of the other states." Through online document analysis it was apparent that Emma had extensive online engagement. This engagement was documented prior to her achievement of NBC certification. In these early posts Emma was clearly being informally mentored. Further, in later posts it was evident that she had become a mentor to other NBC candidates. Emma discussed at length how the collaborations enhanced her NBC experience as she explained, "I found very few people that weren't willing to talk, to blog, to pass on, to be that peer person that I needed to observe me, to interact with me, and help each other on becoming better teachers." Emma explained what Wenger described as the key component to mutual engagement - the negotiation of learning through lived experience, and the sharing of a personal repertoire. This sharing formed the basis for a CoP that acted as a negotiated regimen of competence.

Emma's online activities were a major part of her mutual engagement during the NBC process, however this collaborative effort after her NBC certification was again a major part of her community involvement. Emma explained,

When we (the physical educators in Morris School District) get a chance to get-together, like I said with our county PE meetings, we will talk to them and see if they are doing anything different. Or you know, a lot of the times we will have a

couple (teachers) that will go to the Southeastern convention for the National Board, and they will come back and bring new ideas.

Emma actively participated in negotiated learning. This learning was not always directed at achieving NBC, but often devoted to bettering her practice. She collaborated with other teachers, and in these exchanges compared practices, discussed what worked and did not work with their unique contexts. Through collaboration they were able to develop tools that worked in their classrooms. Further, members of the community often traveled to different parts of the country, had mutual engagement with other teachers, and bring new tools back to their peers. This type of mutual engagement is what Wenger (1998) discussed with respect to CoP. Members brought both good and bad ideas back to the community. The community, through negotiated discourse, identified the good ideas. These ideas were placed into a shared repertoire. Ineffective ideas were also identified through the process negotiated discourse, these ideas were disregarded. However through the process of negotiated discourse, ineffective ideas served to reinforce effective ideas which had already been identified as effective.

Jessica and Sarah, who functioned most often as team teachers, discussed their involvement with NBC candidates. Sarah explained, "Occasionally we will help, maybe not National Board teachers but teachers that are attempting to become National Board certified." Further she explained, "We are helping a guy starting right now, but not formally, we have so much on our plate." Both Sarah and Jessica functioned as informal mentors for NBC candidates. Through their informal mentoring they passed along common tools that they had developed in their practice. This form of collaboration was mutually beneficial for these teachers and the candidates' educational repertoire. The dual

directional reinforcement occurred when Jessica and Sarah conveyed the communal tools. This conveyance allowed Jessica and Sarah to think about how their practice had either been helped or hindered by some of the tools. The candidate's practice was improved simply by the action of adding to his/her repertoire.

Yet another form of collaborative engagement that became apparent during the course of this investigation was the NBCPET's professional presentations. Four of the six participants indicated that they had presented at the state South Carolina Alliance for Health Physical Recreation and Dance (SCAHPERD) Conference at points during the previous ten years. Richard said that he had presented at SCAHPERD prior to his NBC.

Nathan, Jessica, and Sarah discussed their presentations at the state level, and provided documents to highlight their participation. Sarah's and Jessica's presentation was entitled "Quality Educational Gymnastics in Elementary School." This type of engagement allowed for a broad dissemination of strategies that had been developed by one or more members of a discipline. Nathan's presentation at the state conference was entitled, "Reaching Challenging Classes/Students in Physical Education." Nathan taught in an urban school district where, he acknowledged, he had discipline challenges. Nathan employed the Hellisons' Model for Developing Personal and Social Responsibility in physical education (Hellison, 1995). Once again this type of mutual engagement encouraged community members to acquire context specific tools. These forms of engagement fall within the realm of what Wenger (1998) called community, in that ideas are transmitted, negotiated learning takes place, and communal tools or a shared repertoire are discussed. This type of negotiated or situated learning through discourse is at the heart of learning communities.

Learning communities. Finally, the fifth of the NBPTS' core propositions indicates that NBCTs should be members of learning communities. The tenets of this proposition mandate that candidates provide evidence that they are able to function as a member of a learning community. This proposition focuses on concepts of collaborative efforts among professionals, students, and parents, and was evidenced by Eugene in his explanation about feeling compelled to participate in collaborative efforts as a result of the NBC process. With this proposition, the NBPTS has in effect fostered the establishment of mutual engagement. Several scholars indicate that this fostering of mutual engagement could contribute to the emergence of a CoP within NBCTs (Wenger, 1998; 2008; Rogers, 2000). Predictions of CoPT suggest that fostering of a CoP should have a positive effect on the instructional practices of NBCPETs.

Perception of Own Quality Instruction

All participants repeatedly spoke of themselves as “highly qualified teachers.” Further, these teachers said that they could reach even the most difficult students. They believed in the ability of their practice to influence their students' learning. Self-Efficacy Theory helps explain this theme and its interaction with the larger Cop theoretical construct.

Self-Efficacy Theory is grounded in Social Cognitive Theory, developed by Bandura (1977), who believed that human agency is influenced by the environment. Inversely, Bandura (1977) also indicated that humans have a reciprocal influence on their surrounding environment. Henderson (2001) discussed human agency in a construct he described as Triadic Reciprocal Causation. Bandura (1977) described self efficacy as a construct that is expressed by “beliefs in one's capacity to organize and execute the

courses of action required producing given attainments” (p. 2). Bandura (1977) explained that one's beliefs in his/her capacity to act in a productive manner will affect future behavior. This notion is central to the construct of self-efficacy. A person who believes in his/her ability to execute an appropriate action will have a different outcome than a person who has little belief in his/her ability.

Teacher self efficacy is generally viewed in two categories, that include general and personal teacher efficacy. PTE is a teacher's belief in his/her own ability to influence learning, while, GTE is the belief that instruction in general can influence the learning of a student. GTE typically is concerned with a teacher's perceptions of the influence of home environment, or other environments, to which the student is subjected. The perception that these environments affect learning is important to the understanding of GTE. However, PTE is more a measure of a teacher's individual ability as an instructor, and deals with the concept of personal accountability and dependability in instruction.

Self efficacy (Bandura, 1977) is divided into two separate expectancies: outcome expectancies, and efficacy expectancies (Gibson & Dembo, 1984; Woolfolk & Hoy, 1990). The product of GTE is described as an outcome expectancy that suggests that a teacher who holds a strong sense of GTE believes in specific strategies for the accomplishment of instruction (Ashton & Webb, 1986; Gibson & Dembo, 1984; Moeller & Ishii-Jordan, 1996). These strategies could be employed to contravene environmental factors that affect the ability of a student to learn. PTE is described as efficacy expectancy. This expectancy explains that a teacher feels confident in his/her ability to utilize specific tools in order to achieve learning outcomes. Scholars have postulated that a teacher's sense of GTE and PTE are related to specific instructional practices (Gibson

& Dembo, 1984; Woolfolk & Hoy, 1990). The ability of self-efficacy to influence instructional practices could be beneficial to instruction. Further, the utilization of appropriate instructional tools may also have an effect on a teacher's sense of self-efficacy. Consequently the NBC process may improve instructional practice and this may in effect increase self-efficacy.

Bandura (1986) illustrated that self-efficacy is directly related to performance within a person's domain of expertise. He noted that changes in self-efficacy impact performance in ones' domain. Further, Bandura (1986) explained the effect of factors that influence efficacy expectations. In his model of Self Efficacy he indicated that certain factors have a more powerful affect on efficacy than do others. This interaction could account for the findings that teachers with a higher sense of self-efficacy have a higher rate of student achievement. Bandura (1986) described a model for self-efficacy showing that accomplishments, experience, persuasion, and arousal all affect efficacy expectations, and as a consequence, affect performance.

The constructs of Social Cognitive Theory, and Teacher Efficacy Theory were reflected in this investigation by the emergence of the "personal perceptions of quality instruction" theme. When the participants' teaching practices were assessed they achieved relatively high scores on the QMTPS. Their scores were above a stated baseline score, predicting that their teaching would result in a higher degree of student achievement (Gusthart, Kelly, & Graham, 1995). Further, the way in which time was used in the classroom was assessed via the ALT-PE instrument. Results for the NBCPETs were above the norm for teachers in typical public physical education classes (Placek & Randall, 1986; Shute, Dodds, Placek, Rife, & Silverman, 1982). Teacher

efficacy was measured in this study by the Teacher Efficacy Scale (TES) (Gibson and Dembo, 1984). Results showed that participants repeatedly agreed with statements that were consistent with both high general and personal teacher efficacy. These findings point to high level of personal and GTE among the NBCPETs. TES survey results were also supported by interview data, indicating that participants had a high agreement with efficacy statements. Results of other investigations have shown that teachers who hold a high sense of PTE and GTE are able to achieve a greater degree of student success (Tournaki & Podell, 2005; Ross, 1998; Henson, 2001; Tschannen-Morgan, Wookfolk, & Hoy, 1998; Chase, Lirgg, & Sakelos, 2002). It appears that there is a relationship among the NBCPET's ALT-PE and QMTPS scores and their higher senses of teacher efficacy.

The theme of "perceptions of one's own quality instruction" relates to the construct of PTE. Every participant had a lower sense of GTE than PTE. This could be related to the availability of certain tools to these teachers. Under the construct of CoPT the basic premise of a shared repertoire would lend itself to a teacher achieving a greater repertoire of tools. With this larger communal toolbox of instructional methods a teacher is able to reach more students. The ability to competently answer instructional problems relates to a teacher's sense that s/he can influence even the most difficult students in his/her class.

During interviews Eugene explained, "I feel like, task presentation is one of my strengths, I do well no matter what, as long as I know the skill (that I'm teaching) that's the main thing. I feel like I can get it to the kids in whatever way I need to." Eugene believed in his ability to reach students, and indicated that he has a tool set that allows him to reach students. This tool set likely relates in part to a shared repertoire that he has

achieved through the NBC process. Further, Eugene believes that he is a good teacher, stating, “I feel I do a good job. I would say (I would rate myself) a nine (out of 10), because there is always room for improvement.” However, when discussing his use of the NBC as a form of professional development, Eugene explained perceived changes that he believed took place in his practice:

I would say that (with) task presentation ...when I went through National Board I realized how the little kids have such a short attention span ... I would demonstrate the whole thing...Go do it. I would see them running and wonder what was the problem. After going through that whole (NBC) process of learning about things ... Just working through National Boards ... what is developmentally appropriate ... really help me quite a bit through that process.

Eugene indicated specific changes in his practice, which allowed him to reach his students in a more effective manner. Further, the notion of bettering one's practice through the NBC process resounded throughout the qualitative data. Emma explained, “I plan better. I think I utilize my task time a lot better going through National Board.” Jessica discussed Sarah's and her practice, “I mean it (NBC process) brought foresight, and ... we saw things better.” Nathan explained, “Where National Board helped me was to be a better planner. To be more thoughtful.” Finally Richard explained, “Yes, things have changed. The management has gotten better, management has gotten much better.” Hence, each of the participants described a key improvement resulting from the NBC process.

An additional construct that arose was validation through the NBC process, in that some of the NBCPETs believed that the certification process validated their practices.

This sense of validation could have an effect on a teacher's sense of efficacy. Sarah explained that, "It made me feel good about what I was doing, maybe a validation. Especially since I did not change a lot of what I was doing, and when I got it (passed) on the first time, it really was a validation." Sarah passed on the first attempt; and though validates, she believed that her practice had not changed significantly as a result of the NBC process. This belief in validated practice and perhaps minor improvements in practice, likely impacted her sense of PTE. With the tools that she acquired through the NBC process, Sarah was better equipped to meet the challenges of the physical education learning environment.

CoPs could affect a teacher's sense of teacher efficacy through a change in beliefs about instructional ability through Wenger's (1998; 2008) "Negotiated Regimen of Competence." These participants had taken part in a process that emphasizes reflection. Wenger (1998) illustrated how reflection can be key in the development of a joint enterprise. A joint enterprise is far more than simply a domain or an umbrella that isolates a group of people within their expertise. A joint enterprise represents a group of people who are expanding their discipline beyond its original boundaries. Reflection is a key part of the expansion or renegotiation of a discipline and for this reason reflection is essential in the development of a joint enterprise. The NBCPT through the requirements of reflective aspects of its certification process, encouraged the development of a joint enterprise. This joint enterprise connected professionals through a common goal and a common practice. Through mutual engagement the participants could have developed a shared repertoire.

Emma described her development of a shared repertoire and how it made the teachers participating in their online mutual engagement better teachers. This shared repertoire constitutes a communal tool box that teachers took certain tools, and left others. Further, over time each member added new tools to this toolbox. This shared repertoire in application represented a regimen of competence. An added competence influenced these teachers' practices, and in turn affected their beliefs about their ability to reach students. This change in belief as to reaching students likely affected their sense of PTE (Gibson & Dembo, 1984; Woolfolk & Hoy, 1990). A CoP could help explain the NBCPETs' high sense of PTE.

Emma and Richard indicated changes in their sense of teacher efficacy as a result of the NBC process. The other four participants indicated that their feelings about students and student learning had not been altered as a result of this certification. Could Emma and Richard's participation in a CoP through the NBC process explain why they noted changes in their efficacy as a result of the NBC process? This raises an interesting question about the role of the NBC process in the alteration of a teacher's sense of self-efficacy. Many studies have shown that NBCTs tend to have a high sense of teacher efficacy (Petty, 2002; Scharf, 2004; Freund, Russell, Kavulic, Keilty, Trachtman, & Koenigsberg, 2005). Is this high sense of efficacy a product of the certification process, or do they enter the certification process because they have a high sense of efficacy? Perhaps by simply believing in their quality of their practice they are more inclined to pursue this advanced certification. This notion is supported by Jessica who indicated that she felt validated through NBC. These data seem to indicate two roads in this certification process. In one instance a teacher goes through this certification, learns from

the process, and as a consequence increases his/her sense of PTE. On the other path are teachers who believe in their ability to reach students, and challenge this belief by pursuing NBC. These teachers are truly identified by the NBPTS, while the other teachers are lead down a path that raises them to the standards of the NBPTS.

Perceived Changes in Professional Practices as a Result of NBC

All participants indicated that they had perceived changes in practice as a result of their participation in the NBC process. Interestingly these indicated changes were eclectic among participants. The extent to which participants indicated changes in practices were also varied. Where Emma indicated changes in her planning and task presentation skills, Jessica indicated no changes in these areas. Perceived changes tended to be specific to the NBCPET's individual teaching practices. Further, these changes were not limited to instructional practice - they extended into other practices such as reflection. Each participant indicated that she/he was more reflective as a result of the NBC process. Jessica stated, "When they would ask me questions, I thought that I would have reflected on it. However, I wasn't able to answer the NBPTS's questions. You know that it (the NBC process) made me think more, and deeper." Jessica indicated that her reflection had changed; she believed that she was reflective prior to the process and after her certification; however, she realized that she had improved her reflection. Nathan explained, "National Board was a tool that helped me to be more reflective, it really focused on reflection. It helped identify weaknesses that I have." He had a specific perceived change as a result of the NBC process. It made him reflect on his practice and identify his weaknesses. Through this identification of his weaknesses he could implement tools that may assist in the reconciliation of any instructional issues.

Interestingly, Jessica and Sarah indicated that they did not greatly modify instructional practices as a result of the NBC process. They did indicate that they had changed reflective aspects of their practice. The researcher did identify minor changes in these teachers' practices. For instance, Jessica and Sarah both indicated that they had begun to assess on NASPE standard five as a result of NBC collaboration. Obviously this is a change in their practice that they did not even acknowledge when asked. It could be asserted that changes in practice may be so subtle that NBC candidates may not even perceive them as changes.

Physical educators' changes in professional practice had been investigated by a number of scholars (Rovegno & Bandhauer, 1997; Cothran, 2001; Bechtel & O'Sullivan, 2007). Cothran (2001) identified three key characteristics of successful change: power of students, reflection, and external resources. Cothran (2007) postulated that reflection functioned as a method of value clarification, in that teachers reflected on what they wanted the outcomes of their instruction to be. Additionally, students had a powerful effect on the ability of successful change in practices. One of the most prevalent aspects for continuation of changes in practice was the facet of student achievement. Cothran (2007) specified that even though changes to practice are difficult to implement, many teachers in her study implemented these changes because of "payoff in student reward." Further, Cothran (2007) indicated that change is difficult, and often costly, however these costs generally have rewards. These rewards are not always clear to individuals outside of the construct of change. This concept of difficult change seems to be directly linked to a teacher's devotion to their students' learning.

Finally, external resources were found to be a key characteristic of successful change (Cothran, 2007). These resources were typically found to be external to any school-based programs. Interestingly, external interpersonal contacts were key to the success of professional change. These external resources that were necessary for successful promotion of change (Cothran, 2007) were reminiscent of Wenger's (1998) description of mutual engagement. This sense of community between teachers functioned as an external resource in that teachers were able to successfully sustain changes in practice. Further, these external resources through negotiated learning could reinforce successful change by allowing the best communal tools to be utilized within the context of the members who were engaged in mutual engagement.

Several NBCPETs described experiences within the NBC process that were reminiscent of what Cothran (2001) described as key characteristics of successful change. First was the emergence of reflective practices as a major theme. Resoundingly, reflection was an overwhelming construct that was described in tandem with the NBPTS. Emma explained, "I think I need to reflect every day. I reflect on why I'm here and what my role model is for the children." Such quotes were common among the participants in this study. Further, Eugene said, "I definitely do (think reflection is a duty), that is one of the big things, you know, being a reflective practitioner." All of the participants answered in the affirmative when asked if it was their duty to reflect on their practice. Obviously these participants not only thought reflection was necessary, but were duty-bound to reflect on their practice. Further, reflection is a key notion within the fourth core proposition of the NBPTS. This proposition indicates that NBCTs think systematically about their practice and that they actively reflect on their practice. This proposition could

be taken as a mandate from the NBPTS and in order to fulfill proposition four, a candidate must demonstrate that s/he can be a reflective practitioner.

Participants also indicated various forms of mutual engagement. This form of collaboration can be considered a form of external resource(s) that Cothran (2001) described as essential for successful change. Emma participated in regular blogging activities, Eugene had his “go to” guys, and Sarah and Jessica informally mentored other teachers through the NBC process. These teachers described how mutual engagement allowed them to determine strategies that worked as well as strategies that did not. Wenger (1998) described this as negotiated learning, and the development of a shared repertoire. This mutual engagement or collaboration is again descriptive of what Cothran (2001) explained as vital characteristics for successful change.

Participants in this study perceived changes in their practices that occurred as a result of the NBC process. These developments explain the success these teachers achieved in implementing changes in their practice through the NBC process. The successful implementation of changes in practice, such as improved task presentations, better planning, or stronger class management could be attributed to external resources or reflection that Cothran (2001) described as essential to the successful execution of changes.

While successful implementation of change is a necessary component for professional development, the sustainability of change is a concern. Elements that contribute to the sustainability of any implemented changes could also be utilized to explain transformations that occurred as a result of the NBC process. Rovegno and Bandhauer (1997) found five essential dispositions for sustained change within physical

education. These five dispositions could help explain why NBCPETs were able to sustain changes in their practice as a result of the NBC process.

The first disposition contributing to the sustainability of change within physical education is the appropriateness of a physical education teacher's content knowledge. This strength in content knowledge allows sustained implementation of change. Second, to sustain changes, a physical education teacher must have a disposition to want to understand that change is a tricky venture and must be open to accept advice from other professionals. Third, a physical education teacher who will sustain change must possess the disposition to justify change with appropriate philosophy and theory. Fourth, for change to be sustained there must be an openness to explore and implement novel concepts within the physical education setting. The final disposition is that the teacher must be willing to accept new ideas, and delay dismissing new ideas prematurely (Rovegno & Bandhauer, 1997; Bechtel & O'Sullivan, 2007).

A key disposition that many of the participants exhibited was the tendency to value collaboration or mutual engagement. Eugene summed it up well when he described his collaboration, "I like to talk to people who have actually had hands on experience with it. Because I have found that typically they can tell you what works and what doesn't work, and it is always different for different schools." Eugene understood that change is tricky, that it is contextually based. For success he collaborated with other teachers. Through this collaboration he was able to determine what works and what doesn't work. This demonstrated his ability to accept new ideas, and accept clarification and suggestion from others within the field.

The NBCPETs' content knowledge was indirectly assessed through interview questions and QMTPS scores. Participants indicated that they had overall strong content knowledge. Illustrating his belief in his content knowledge, Eugene stated, "I think that I have a pretty good grasp on the things that I teach, but like I said there is always room for improvement." To support this aspect of their content knowledge, QMTPS results indicated that Emma, Eugene, Jessica, Sarah and Nathan had average scores of above 80% related to accuracy of cues in their task presentations. Richard however, scored 69% for cue accuracy. The data on NBCPETs use of learning cues is illustrated below in Figure 4.25. The accuracy of learning cues provided by a teacher can be a directly link to her/his content knowledge, in that a teacher with a high degree of content knowledge would be able to provide accurate cues. Accuracy of cues again supports the contention that these participants should be able to sustain changes made within their practice as a result of the NBC process (Rovegno & Bandhauer, 1997).

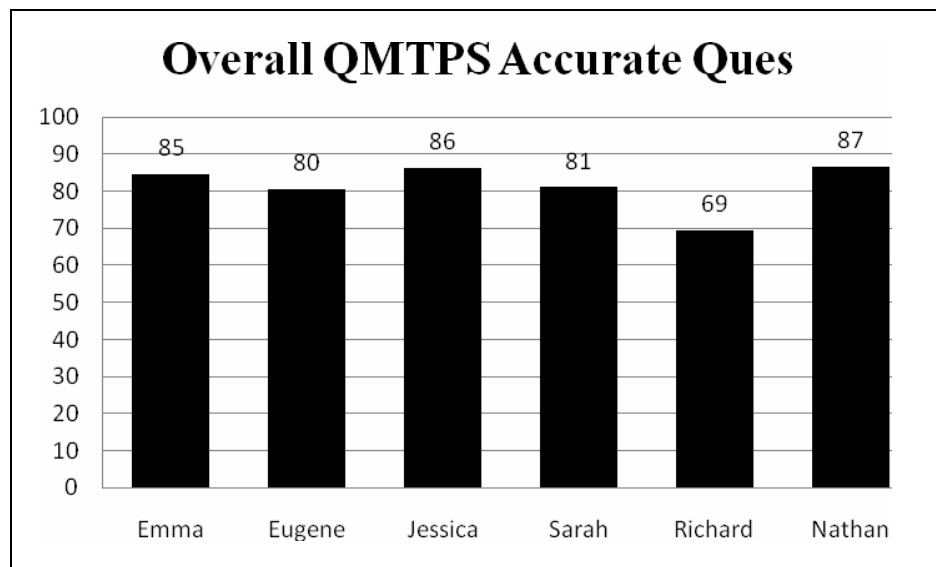


Figure 4.25 Overall QMTPS accuracy of cues.

Finally, participants indicated that they were willing to accept new ideas and integrate them into their practice. This acceptance meant that these teachers were willing to try new instructional ideas and pursue them in an effort to identify tactics that might work within their own contexts. This indicated that teachers who have this disposition will try to implement new ideas without prematurely imposing their judgments. Emma made a statement that exhibited this: “A lot of times the NBCTs conduct workshops that help bring out some of the good practices or the best practices that we do for our classes. So we collaborate all of the time as far as what works best.” This indicated that Emma valued collaboration among NBCTs. Specifically, she utilized this as an avenue for new strategies that worked best, implying that she was open to using strategies that were learned through collaboration in an effort to develop the best instructional practices.

Overall, this study reported evidence that these teachers have both the dispositions and the key characteristics to support successful and sustained changes in their practice. Further, each of the NBCPETs described specific perceived changes that either occurred in their practice, their reflection, their beliefs in their own effectiveness, or their sense of personal validation. Figure 4.26 illustrates these key perceived changes that were indicated by the participants.

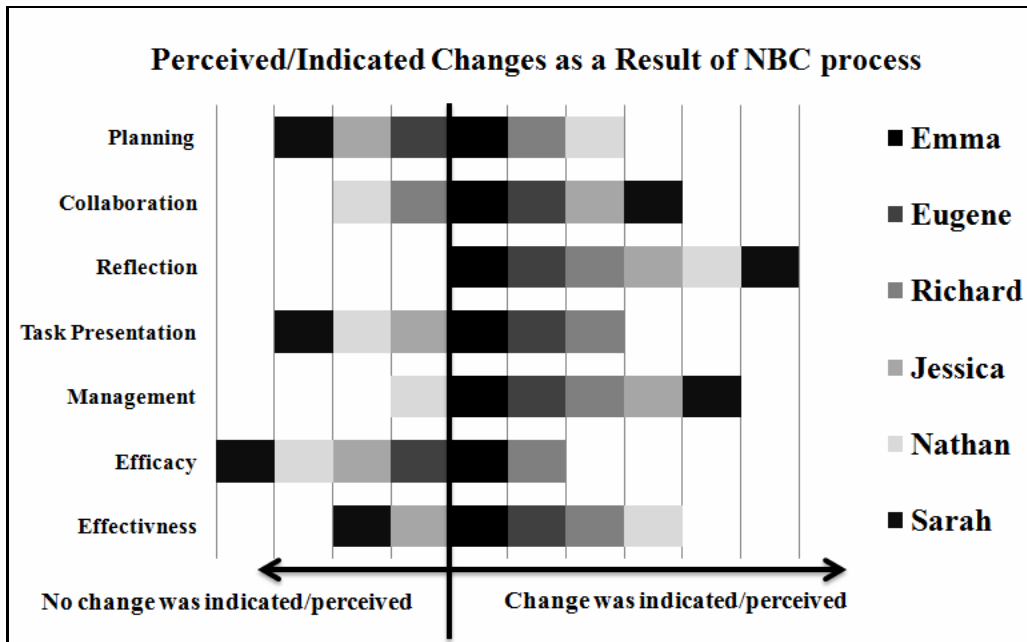


Figure 4.26 Perceived changes as a result of the NBC process.

While indicated changes were eclectic in nature, it is apparent that participants believed that their practice had changed as a result of the NBC process. This is also apparent in their perceptions of improved instructional quality as a result of the certification process. These perceptions should not be overlooked. If there is a message from this change concept, it is that these teachers believed that the NBC process had a positive effect on their practices. This combined with excellent QMTPS results and good ALT-PE results could indicate that there are in fact changes in practice due to the NBC process. These changes may perhaps be instrumental in the development of highly qualified teachers.

Chapter 5: Discussion, Conclusions, and Recommendations

This chapter presents the research questions and how they were answered by data collected during the course of this study. Additionally, data collected will be compared against the overarching theoretical construct of CoP. This chapter will root the assertions it makes in literature and theory. Conclusions about each research question will be presented, as well as recommendations for future research.

Teachers who earned National Board Certification (NBC) have successfully undergone a rigorous, standards-based assessment process to affirm their knowledge of content and pedagogy, use of high-quality instructional practices, and involvement in professional activities. The assessment process includes an evaluation of the candidate's teaching through four portfolio entries, two of which are video-recorded. Knowledge of content and appropriate pedagogy is also assessed through a timed test at designated Assessment Centers. The typical candidate spends approximately 400 hours to complete the required exercises over one to three years. According to the National Research Council, NBPTS certification is a means of identifying highly skilled teachers (Hakel, Koenig, & Elliott, 2008). It is not surprising, therefore, that the six NBCPETs in this study reported a range of changes in their teaching practices as a result of the certification process. Some participants, for example, reported a higher sense of teaching efficacy and a significant change in reflective practice, while others noted little or no change in certain teaching practices. Because of the individual nature of the certification process, it is essential to learn about the range of changes expressed by each teacher, while also recognizing trends among the teachers as a group. In the following sections each research

question will be addressed to shed light on the NBCPET instructional practices and NBCPET task presentation.

NBCPET Task Presentation

A research question addressed in this study was “How do National Board Certified Physical Education Teachers present movement tasks in their lessons with regard to demonstrations, clarity, number of learning cues, accuracy of cues, and quality of cues?” The Qualitative Measures of Teaching Performance Scale (QMTPS) which examines the characteristics of teacher clarity and task presentations was in conjunction with interview data, document analysis, and observational journal entries, used to answer this research question.

In several studies investigators were able to link QMTPS total scores with student learning (Gusthart & Kelly, 1993; Gusthart & Spigings, 1989). Gusthart, Kelly, and Graham (1995) identified a QMTPS baseline score of 55 as indicative of a quality task presentation. A teacher who scores above this baseline score is likely to have higher amounts of student learning than a teacher who scores well below. With this in mind the baseline score found by Gusthart, Kelly, and Graham (1995) can be regarded as an indirect measure of student achievement. The participant with the lowest average QMTPS score was Richard at 63.6. However, Richards score is 8.6 points above what would be considered a baseline score for the QMTPS.

Preexisting or increased teaching effectiveness. According to QMTPS quantitative data, each of the NBCPETs provided quality task presentations. These findings are supported by interview data, lesson plans, unit plans, and online documents gathered for each of the cases. Therefore a logical question would be, “Why are the

NBCPETs good at presenting tasks?” Did completing the certification process serve as an indication of preexisting teaching effectiveness or did the process of becoming board certified increase the teacher’s effectiveness (Hakel, Koenig, & Elliott, 2008)? A litany of reports and papers suggest that NBCTs impact student learning and demonstrate greater teaching effectiveness than their non-certified counterparts (Cantrell, Fullerton, Kane, & Staiger, 2007; Cavalluzzo, 2004; Goldhaber & Anthony, 2005; Harris & Sass, 2007), so high quality task presentations would be expected of the teachers.

Some NBCPETs suggested that the NBC process increased their teaching effectiveness, and that their ability to present movement tasks to their students had improved. In that case the certification process could have had a positive effect on their instruction, as well as on their students’ achievement. Other participants, however, believed that they had preexisting teaching effectiveness. According to the CoPT some of these teachers incorporated a regimen of competence that they developed during the process of certification (Wenger, 1998; Lave & Wenger, 1991). Some of their practices were maintained, while others changed as a result of mutual engagement and the incorporation of context specific communal tools.

Task presentation and the five core propositions. The concepts embodied within movement task presentation are directly tied to the NBPTS’s five core propositions. This binding of the propositions to task presentation is evident in the second proposition that states, “Teachers know the subjects they teach and how to teach them to students.” This proposition directly relates to content knowledge and the ability of a teacher to impart that content knowledge to students. The constructs of content knowledge and pedagogical content knowledge are represented in NBPTS’s proposition

two (NBPTS, 2008d). Pedagogical content knowledge is the ability of a teacher to place the content knowledge he or she has into the learning environment in a meaningful manner (Shulman, 1987). Proposition two directly relates to the concept of task presentation and can be measured through use of the QMTPS instrument. Conceptually a teacher who meets the constructs of proposition two would be able to perform well on a task presentation analysis. Specifically, the QMTPS analyzes relevant and precise learning cues that the teacher provides, demonstrations of the movement tasks, feedback provided to students, and student responses to the task presentations. The heart of proposition two is surrounded by the concepts measured by the QMTPS. Each of the NBPTS propositions are illustrated more fully by key tenets, these tenets are illustrated in Appendix A. Two of the tenets of proposition two state, “NBCTs have mastery over the subject(s) they teach” and “They have skill and experience in teaching it.” Clearly these tenets address concepts that are assessed through use of the QMTPS instrument. Overall, the QMTPS results gathered during this study suggest that these NBCPETs provide high quality task presentations. This should not be surprising considering these teachers passed a certification process that assessed their ability to achieve the NBPTS standards. This could indicate that their ability to reach students, and the overall effectiveness of their instruction was effected by the NBC process.

Richard’s performance on the QMTPS. Richard’s QMTPS results were outliers within this participant population. His average QMTPS score was 63.6 which is 13.7 points below the next lowest score. Richard was able to perform better than the baseline score of 55 (Gusthart, Kelly & Graham, 1995) however, his scores were lower when compared to the other participants. Overall, his lower scores might be explained by

individual differences among teachers. It is also possible that based on data gathered that Richard is simply distracted, and this influences his practice. During observations he seemed to be preoccupied with tasks unrelated to his teaching. These tasks varied from preparing for a faculty meeting, to recruiting people to help him move to a new house. Further the differences among school districts may have contributed to differences in his instruction.

NBCPET Use of Class Time.

The second research question asked was “How do National Board Certified Physical Education Teachers create learning environments with relationship to time indices, i.e. motor appropriate practice, motor inappropriate practice, and off-task behavior?” The Academic Learn Time - Physical Education (ALT-PE) instrument was used to investigate the way that teachers use time in their lessons. This instrument is separated into two constructs. The first is the context level that assesses the activities that take place during the course of a lesson. For example, these activities could be management, skill practice, or breaks that students are given. The second construct is learner level of assessment. This level of assessment describes how the pupils are spending their time during the lesson. One of the most important learner level assessments within this instrument is the concept of motor appropriate time. Motor appropriate time refers to the amount of time that students are engaged in an activity at the appropriate level of difficulty, and are able to appropriately perform the tasks that are being taught. Motor appropriate practice is positively related to student achievement (Silverman, 1985; 1990; Ashy, Lee, & Landin & 1988; Silverman, Divillier, & Ramirez, 1991; Cousineau & Luke, 1990). It is for this reason that the amount of motor appropriate

time during any lesson could be a significant indicator of teaching quality. In public school physical education classes the time that students spend in motor appropriate practice ranges between 2% to 30% (Placek & Randall, 1986; Shute, Dodds, Placek, Rife, & Silverman, 1982). Additionally, Parker (1989) concluded that the amount of motor appropriate activity in the public school system ranges between 15% to 25%. While this percentage may seem low, it should be noted that this is without the categories of motor inappropriate or motor supporting time. Motor inappropriate time refers to the amount of time students are engaged but do not correctly perform the taught skills. Motor supporting activities are learning activities that a student is not practicing the skill being taught, but rather are used to assist another student in completing motor skills.

When examining the NBCPETs, Nathan had the lowest amount of motor appropriate time, with his students only achieving 31%. In contrast, Eugene had the highest amount of motor appropriate activity as his students were engaged in motor appropriate activity 47% of his lessons.

It is apparent through these results that the NBCPETs were able to achieve a high degree of motor appropriate practice time for their students. This implies that these teachers' students should have a higher level of learning. With Parkers (1989) indication that the majority of public school physical education classes motor appropriate time fall between 15% and 25%, and other studies reporting motor appropriate time between 2% and 30 % (Placek & Randall, 1986; Shute, Dodds, Placek, Rife, & Silverman, 1982) these data could indicate that the NBCPETs are able to achieve a higher degree of student achievement than the average physical education teacher in the public education system. Further these results are supported by Phillip's (2008) findings whereby she compared

mean differences between NBCPET's and non-NBCPET's scores on the South Carolina Physical Education Assessment Program as measures of student competency. Four distinct performance indicators included motor skill performance, cognitive fitness knowledge, outside-of-class participation, and health-related fitness levels. NBCPETs were stronger on all four-performance indicators and on the overall measure of student competency. Phillips concluded that the NBPTS was successful in the identification of effective physical education teachers. The findings in the current study support the notion that NBCPETs are able to achieve a higher than average level of student achievement.

Use of class time and the five core propositions. Proposition three directly addresses the concept of classroom learning environments. The third core proposition states, "Teachers are responsible for managing and monitoring student learning." Key tenets of this proposition are that the teacher is to be "fluent in a range of instructional techniques that keep the student motivated, engaged and focused." Another tenant of this proposition is that NBCT are teachers who assess the progress of individual, students as well as the class, as a whole, and are able to explain these methods of assessment to parents, and students. The ability to assess the progress of individual students as well as the whole class is related to student motor appropriate activity. Through informal observations and feedback, a teacher guides his/her students in a manner that produces motor appropriate activity (Alderman, Beighle, & Pangrazi, 2006). In comparison with the findings of other studies that used the ALT-PE instrument, the participants in this study exhibited a large amount of student motor appropriate activity. This finding is in line with portions of the third proposition. Further, NBCPETs exhibited an ability to organize the environment in which they taught. Techniques employed to organize the

learning environments ranged from the use of music to signal students to begin and end movement to the construction of color-coded grid systems which marked specific areas of the class. Overall, participants in this study fulfilled proposition three through their ability to organize their learning environment well.

Proposition three also relates to the concept of classroom management. The ability of a physical education teacher to keep students motivated and interested can influence the emergence of off-task behavior (Alderman, Beighle, & Pangrazi, 2006). Student off-task time is a concept that is assessed by the ALT-PE observational instrument. Derri et al. (2007) found a negative relationship between student off-task time and skill gains in overhand throwing among first grade students. This negative relationship indicates that off-task time spent in physical education will have a negative effect on student achievement. Place and Hodge (2001) determined the average amount of off-task time for students without disabilities was 5% of the class period. In the current study off-task time varied from 1% of Jessica's class period to 13% of Richard's class time. The off-task class time for the NBCPETs, except for Richard, are below that reported by Place & Hodges (2001)

Perceived planning and management changes as a result of the NBC process.

Several participants indicated changes in their planning and management as a result of the NBC process. These are noteworthy changes that could impact the teacher's use of class time. To verify changes for these teachers is not possible at this point. However, changes in practice may mediate successful demonstration of competence in the five core propositions. The literature indicates that motor appropriate activity impacts student achievement (Silverman, 1985; 1990; Ashy, Lee, & Landin, 1988; Silverman, Divillier,

& Ramirez, 1991; Cousineau & Luke, 1990). Further, research indicates that off-task behavior is negatively related to student achievement (Derri et al., 2007). If these teachers' practice changed for the better as a result of the NBC process than their students could be achieving more.

A link between motor competence and the perception of motor competency and incidence of obesity has been reported (Crocker, Eklund, & Kowalski 2000; Fisher et al., 2005; Solmon & Lee, 1996; Stodden & Goodway, 2007; Woods et al., 2007; Telama, Nupponen, & Perion 2005). Physical education that promotes skill acquisition, motor competency, and the perception of motor competency through high levels of motor appropriate activity could help students better balance their energy intake and expenditure (Crocker et al., 2000; Fisher et al., 2005; Solmon & Lee, 1996; Stoden & Goodway, 2007; Telama et al., 2005; Woods et al., 2007).

Personal and General Teacher Efficacy

Another research question addressed in this study was, "What are NBCPET's senses of personal and general teacher efficacy?" The current study employed the Teacher Efficacy Scale (TES) to assess the general and personal teaching efficacy of participants (Gibson & Dembo, 1984). The TES scores, as well as interview data, support the assertion that participants in this study have a high sense of both PTE and GTE. These results are consistent with other research indicating that overall NBCTs hold a higher sense of personal and general teaching efficacies than those who attempt but do not achieve certification (Freund, Russell, & Keilty, 2005). Woods and Rhoades (2010) reported high senses of teaching efficacy among the NBCPET they studied. The TES results indicated that participants in the current study, however, exhibited slightly lower

agreement with GTE statements than with PTE statements. Further, several NBCPETs made statements that were consistent with a lower sense of GTE.

A major theme that emerged was the NBCPET's perceptions that they were highly effective teachers. This theme was directly related to the concept of PTE. Perhaps as a result of the NBC process and through the development of a joint enterprise, shared repertoire, and mutual engagement, these teachers developed better tools to address key issues within their own practice. This ability could increase their sense of PTE. Further, the shared repertoire they may have developed during the NBC process may support the understanding that children can be reached through a variety of instructional methods. Also, these instructional methods could help overcome obstacles that factors outside of the school environment may present. However, because the participants have only an understanding of the versatility of the communal toolbox, not a practical knowledge of the entire communal toolbox, their GTE may be slightly lower, because they lack personal experience with the entirety of the communal toolbox. Without the personal experience they may not have the confidence in those abilities that a more intimate familiarity would facilitate. Further perhaps these teachers have a realistic view on instruction and this is the basis of their beliefs that home environment can have a negative effect on instruction. It should be noted that this is somewhat speculative on the part of the researcher and would require further investigation.

An example of this would be if Eugene and Nathan were to have ongoing collaboration. Through this mutual engagement, hypothetically, Nathan indicates to Eugene that the Heliion Model for Developing Personal and Social Responsibility in physical education works really well with his students. Eugene through this

communication may become aware of the Hellison Model as an appropriate instructional model for inner city students. However, Eugene does not teach in an inner city environment. He has no practical application of this model. He may understand that it is useful, however he has no practical knowledge of its usefulness. Without this practical knowledge, Eugene may not be as confident in this tool, as he would be with one that he has a more practical knowledge.

The obvious question at this point is, “Does the NBCPTS promote a high sense of efficacy among its certified teachers, or is it simply a byproduct of the NBC process?” This question cannot be answered through the findings in the current study. However there is some preliminary evidence that changes in efficacy have occurred during this advanced certification process.

Personal and general teacher efficacy and the five core propositions.

Proposition one states, “Teachers are committed to students and their learning.” A key tenant of this proposition is, “NBCTs are dedicated to making knowledge accessible to all students. They believe all students can learn.” Proposition one is linked to the concept of teacher efficacy. The belief that all students can learn is consistent with a high sense of teaching efficacy (Ashton & Webb, 1986). The NBCPETs repeatedly indicated that they met the core criteria of proposition one and perceived themselves as committed to their students’ learning, which could indicate that they believed they can reach students.

Interestingly, nearly every NBCPETs spoke of being a better teacher as a result of the NBC process. Sarah indicated that she did not believe her effectiveness had changed, but she did state that she felt validated as a result of the certification process. This is similar to Emma’s feeling better about her practice as a result of the NBC process. This

concept of validation through advanced certification could indirectly impact the teacher's feelings of marginalization as physical educators. The ability of a teacher to feel good about their practice, to understand that they are able to reach students, and the ability to justify their practices to both students as well as coworkers, could allow teachers to feel less marginalized.

The notion of the perception of becoming a better teacher as a result of the NBC process directly relates to the concept of personal teaching efficacy. However, the acquisition of new tools for better instruction directly relates to the concept of self-efficacy because with new tools the teacher holds a greater sense of his/her ability to reach students. Through the establishment of the second and third proposition, that are targeted at improving a teachers instruction, and management, a road has been paved for the attainment of proposition one. Therefore, in mandating that NBCTs have competency in instruction and management, the NBPTS is promoting candidates' positive perceptions of their own instructional abilities. Through NBC candidates' accomplishment of propositions two and three, they are able to reach more students - which should positively effect on their efficacy. As a result of this boost in efficacy these teachers are able to achieve proposition one that relates to the concept of teacher efficacy.

Attitudes and Dispositions Towards the Five Core Propositions

Another research question that was, "Do National Board Certified Physical Education Teachers' motivations and dispositions reflect the five core propositions of the National Board?" The participants described their attitudes and dispositions towards the NBPTS' five core propositions. During formal interviews, each of the participants was presented with a list of the five core propositions, and were asked to identify the nature of

the statements. All of the participants were able to accurately acknowledge the five core propositions. The participants were asked to determine whether their practice fit into the constructs described by these statements. Participants described the value of underpinnings of these statements, and noted the application of the propositions in their daily practices. Through documents analysis, observations, and interviews, the researcher concluded that these NBCPETs held attitudes and dispositions that were reflective of the five core propositions, although not all participants were equally invested. For instance, Richard, while indicating that he believed his practices were embodied by the five core propositions, had high amounts of off-task behavior. Proposition three indicates that a teacher should have a high degree of organization, be responsible for the managing of learning, and be in control of their learning environment. Richard's instructional behaviors were less consistent with this proposition than were other teachers'.

The attitudes and dispositions of these teachers with respect to the five core propositions provides insight into the effect of the NBC process. This study cannot infer change in these participants' attitudes or dispositions as a result of the NBC process. In fact, beliefs towards practice have been found to be difficult to change (Doolittle, Dodds, & Placek, 1993). However, these teachers' beliefs at the time of their interviews were in line with what the NBPTS promotes as essential in the establishment of high and rigorous instruction. Finally, these findings are not surprising. These teachers have endured a process that functions to identify teachers who can meet high and rigorous standards.

Discussion of Communities of Practice

Wenger (1998) describes the elements of a CoP as a joint enterprise, mutual engagement, and a shared repertoire. The final question that this investigation attempted

to assess was “Do NBCPETs exhibit traits that would be consistent with them being members of a CoP?” Findings indicate that participants have been involved in mutual engagement, had participated in activities that developed a joint enterprise, and as a result of their involvement in these activities have been party to the establishment of a shared repertoire.

One of the strongest elements of CoP found in the daily activities of the NBCPETs was the concept of mutual engagement. Collaboration became a strong theme that emerged as a result of deductive analysis. Eugene, for instance, discussed his “go to” teachers, explaining that he worked collaboratively with these colleagues to address instructional issues. Eugene noted that this collaboration was beneficial to his completion of the NBC process. Additionally, he discussed how this collaboration was advantageous in his instruction after he had successfully completed certification. He in fact explained how the NBPTS, through the certification process, had forced him into collaboration with teachers with whom he had no such relationship prior to his certification attempt, and that the relationships were maintained after the certification process. Eugene said, “We’ve got a pretty strong community.” Emma also believed that mutual engagement was beneficial to her practice. Much like Eugene and Emma, other NBCPETs repeatedly exhibited diverse forms of mutual engagement. These forms varied from online blogging, personal meetings, phone calls, and convention presentations. Additionally, Jessica and Sarah participated in informal mentoring after their successful certification.

Eugene described a colleague who failed his initial attempt at NBC, and discussed how mutual engagement would have benefited this colleague in his certification attempt. Eugene believed that his colleague would have passed if he had

taken Eugene's advice to collaborate with other teachers, advice that was echoed by NBCTs throughout the school district. However, Eugene explained that when presented with assistance, his coworker refused and explained that he could do it on his own. In this illustration it becomes clear that Eugene believed in the effectiveness of mutual engagement and that collaboratively developed knowledge, specifically, knowledge regarding NBC practices, can contribute to success in certification attempts.

Mutual engagement and the five core propositions. The fifth proposition addresses the potential influence the certification process has on candidates' collaboration. The fifth proposition states that "Teachers should be members of learning communities." This proposition basically places a mandate on the NBC candidate to take part in mutual engagement. Further, to successfully complete the NBC process, a candidate must fulfill all of the core propositions through both portfolio entries as well as formal practical assessment activities. In order to successfully complete the NBC process a teacher must definitively demonstrate his/her competence in all areas that the NBPTS has identified as critical. Consistent with this logic, it can be asserted the NBPTS values mutual engagement and promotes its value in the education of quality teachers.

Joint enterprise and the five core propositions. Domains for the participants include physical education teachers, NBCPETs, and NBCTs. However, a joint enterprise is more than the umbrella domain. It is expanded by the community, or renegotiated (Rogers, 2000). The joint enterprise is continually under scrutiny by its members. Community members are constantly adding to the domain, and controlling its trajectory. Physical education teachers may, through reflection, develop new techniques for dealing with a concern in physical education. Through the development of these techniques and

the eventual dissemination of this knowledge, a teacher can expand the domain of physical education. In essence a joint enterprise defines its members, and the members define their joint enterprise. This domain serves to project their collective competency in a given discipline (Rogers, 2000; Wenger, 1998).

Several findings in this study point to the development of a joint enterprise. One of these aspects was the emergence of the concept of reflection. The reflective practitioner was a major construct with the NBPTS. This construct is evident in proposition four, that gives explicit description of how quality teachers or NBC teachers systematically examine their practice. Reflection in the NBC process seems to be endemic, and is reinforced in many of the levels of the certification process. The NBCPETs repeatedly explained how their reflection had either been deepened or changed in some manner as a result of certification. They talked about how reflection was a major aspect of the certification process and was encouraged throughout the entire portfolio process. Wenger (1998) laid out a framework for the implementation of a CoP. He illustrated that reflection can be used as a method for the fostering of a joint enterprise (Rogers, 2000). Through reflection, community members expand their practices (Rodgers, 2000; Wenger, 1998). By developing individual responses to instructional situations through reflection, individual members of a CoP are able to bring locally developed tools to the community. These tools will eventually aid in the development of a shared repertoire.

With the apparently mandated reflection that takes place as a part of the NBC process it seems that the development of a joint enterprise is encouraged by the NBPTS. This fostering is either inadvertent or purposeful, however, this formation allows for the

renegotiation of the communal domain. Through reflection these teachers are able to renegotiate their practice which promotes a greater understanding of their overall discipline. This acts to expand their domain beyond that of the original concept.

Shared repertoire and the five core propositions. Finally, a shared repertoire was the most difficult element of a CoP to identify among these NBCPETs. A shared repertoire is described as communal histories, strategies, or tools that the community develops (Wenger, 1998; 2008). Tools within the educational context refer to instructional methods or organizational methods. The educational tools that have been developed as part of a shared repertoire could be considered elements of a communal toolbox. During the course of this investigation practices emerged that could be parts of a communal tool set. Several practices of these NBCPETs were shared. The first of these similar practices was the use of a color-coding system of the gymnasium for organization. Four of the six participants used this system for organizing their gymnasias. This organizational grid system assisted these teachers in controlling their learning environment. Additionally, music as a motivator and management tool was used by four of the six participants. The use of music worked well, and the students in these classes were mostly well behaved and on task. This organization was reflected in the ALT-PE results. Further, participants often indicated that they engaged in practices that were developed as a result of the mutual engagement with other professionals. Specifically, Eugene discussed his “go to” NBCTs. Eugene, Emma, and Nathan spoke of practices that worked well in their teaching contexts that were developed through collaboration or mutual engagement. Additionally, many of the participants described practices that they incorporated in to their instruction as a result of collaboration. The addition of practices

to their own instruction as a result of mutual engagement could be considered the establishment of a shared repertoire.

Participants, and a Community of Practice. In conclusion, participants in this study exhibited traits that would be consistent with their participation in a CoP. These data indicate a participant population who partake in mutual engagement, have a joint enterprise that they are actively renegotiating, and are in the process of building a shared repertoire. While these data are not conclusive they do suggest that a CoP is at work. Further, through the mutual engagement they have described, it is apparent that there are many other members of this CoP. For example, Eugene described three to four other NBCTs with whom he actively collaborates. Emma has multiple teachers who she engages with online. Other participants have also indicated engagements with fellow NBCTs. Wenger (1998) contends that a CoP represents a negotiated regimen of competence. This competence has the ability to affect practice. This might explain the high scores these participants achieved on the ALT-PE and QMTPS assessments.

Discussion of Emergent Themes

The theoretical lens that was used in this study was CoPT. The themes assisted in support of the notion that a NBC CoP exists and has been fostered by the NBPTS. Reflection-in-action and reflection-on-action, instructional collaboration with other physical education professionals, perceived changes in professional practices as a result of NBC, and a perception of own quality instruction were themes that emerged. While CoPT represented an overall framework for the establishment of excellence through the NBC process, several other theories and conceptual models supported the themes. This study used Schon's (1983) Reflective Practice Theory, and Kolb's (1984) Experiential

Learning Theory to explain reflection-in-action and reflection-on-action. For instructional collaboration with other physical educators a framework for collaborative problem solving (Casalini, Janowski, & Estevez, 2006) used to explain professional collaboration, while perceived changes in professional practices as a result of the NBC process was explored through the lens of key characteristics and dispositions found to be essential for successful and sustained change (Cothran, 2001; Rovegno & Bandhauer, 1997). Finally, the perception of own quality instruction was supported by Bandura's (1977) Self-Efficacy Theory.

Reflection-in-action and reflection-on-action. Each participant described reflection as a key component of the NBC process, whereby they repeatedly explained the extent to which the process changed and reinforced thoughts and ideas about reflection. In some instances teachers described that they were reflective practitioners prior to the process, however, the NBC procedure changed their concepts of reflection and promoted more intense reflection. Schon (1983), as well as Kolb (1984), described reflection as a key aspect of learning. Through reflection a practitioner is able to decipher her/his practice, establish instructional strategies and determine if they are effective. Through this process a teacher is able to renegotiate what s/he determines to be the aim of her/his practice, and what steps need to be initiated in order to hone his/her discipline. From the theories of Schon (1983) and Kolb (1984), this aspect alone should have the effect of improving the NBCPETs practice. However, when reflective practice is examined within the context of CoPT, it is clear that the process of reflection is essential in the formation of a joint enterprise. Through the lens of CoPT it is apparent that through the emphasis on reflection, the NBPTS has initialized a communal learning experience

that could have the effect of expanding their disciplines and honing their enterprises. The sharpening of their practice through the development of communal relationships and the creation of communal tools could be described as a negotiated regimen of competence (Wenger, 1998).

Instructional collaboration with other physical education professionals. The participants regularly took part in forms of collaboration and mutual engagement that enriched their practices. They indicated that they had direct collaboration with other NBCTs. Jessica and Sarah spoke of informally mentoring a candidate through the NBC process. Participants indicated that interactions took place at district meetings, and state conferences, with several participants serving as presenters at state conferences. Casalini, Janowski, and Estevez, (2006) developed a framework that illustrates how collaborative problem solving can assist in collaborative learning. The process of collaborative problem resolution is not as simple as a solitary group meeting to solve a singular issue. A group can solve arising problems through partial solutions that have arisen as the product of previous collaboration.

The collaborations mentioned by NBCPETs generally took place, first during the certification process, and then continuing after certification. These collaborative efforts appeared to have two purposes. First was the successful achievement of NBC, and second was collaborative efforts used to improve practice. Improvement was indicated by Eugene as an ongoing process. He illustrated that the NBC process forced him into collaborative association. He described how these collaborative associations had benefited his practice. When these two purposes are examined, however, it is clear that they are similar. Teachers need to demonstrate that their practices fall within the

guidelines the NBPTS has established for highly qualified teachers. To achieve these high standards they must be evidenced in their practice. Through established collaborations, these teachers were able to alter their practice to successfully certify. The NBPTS only has a 45% success rate (NBPTS, 2008a). The NBCPETs noted collaboration as a major resource for successful completion of the NBC process.

Perceived changes in professional practices as a result of NBC. Change through certification was a major theme wherein each participant indicated some aspect of his/her professional routine that had changed as a result of the NBC process. Cothran (2001) outlined three key characteristics for successful change. Participants indicated two of these key characteristics were prominent in their situations. These two are reflected in the previous two themes. First is the utilization of reflection as a major aspect of change, and second is the utilization of external resources as a way to compound change. The external resources used by the participants were their collaborative efforts with other professionals.

Rovegno & Bandhauer (1997) described five key dispositions essential to the establishment of sustained change. Participants in this study demonstrated several of these key dispositions. Specifically, participants indicated that their ability to reflect has changed as a result of the NBC process. A key disposition in sustained changes in physical education is the disposition toward reflection (Rovegno & Bandhauer, 1997). Also, participants exhibited a degree of collaboration. The ability to collaborate within physical education is a disposition which allows for the sustainability of change in physical education. Finally, participants demonstrated an excellent grasp of content

knowledge which also is a key disposition in the sustaining of change in physical education.

Results in this study indicate that the NBCPETs exhibited the capability and sustainability of change in their practice. Moreover, the changes in practice that these teachers discussed can be explained by a CoP functioning as a regimen of competence. By the means of this collective competence, CoPT predicts that changes in practice results from the establishment of a communal toolbox, in which members of the community tailor their practice based on the appropriateness of tools that are available. The utilization of this toolbox should have the effect of improving practice that could help explain the high QMTPS and ALT-PE among participants. Certainly CoPT makes available the possibility that the development of a CoP could have an impact on instruction.

Perception of own quality instruction. Each participant exhibited a strong belief in his/her own ability to reach children, individually rating his/her instruction as excellent. Each said their instruction was a key component in student learning, and they believed that they could reach even the most difficult student. These elements came together to describe a population of teachers who held a high sense of personal teaching efficacy (PTE). This was also exhibited in their TES scores. The TES measures the degree to that a participant agreed with statements that were in line with GTE or PTE. The participants exhibited high agreement with PTE traits. A high degree of self-efficacy can be a predictor of student achievement (Tournaki & Podell, 2005; Ross, 1998; Henson, 2001; Tschannen-Morgan, Wookfolk, & Hoy, 1998; Chase, Lirgg, & Sakelos, 2002). Teachers with a high degree of both general and personal teacher efficacy may be able to

reach children better, and by reaching them more effectively they may be able to impart more learning (Tournaki & Podell, 2005; Ross, 1998; Henson, 2001; Tschannen-Morgan, Wookfolk, & Hoy, 1998; Chase, Lirgg, & Sakelos, 2002). Research shows that NBCTs have a higher sense of teacher efficacy, than their non-NBCT counterparts. Little is known about NBCPETs' teaching efficacy. A study conducted by Woods & Rhoades (2010) found this population to have a high sense of PTE as well as GTE. Their findings appear consistent with the observation and interview analysis conducted in the current study. Positive changes in a teacher's practice increase their sense of efficacy, wherein a teacher is able to make positive changes in his/her practice, and sees the effects of those positive changes. This change in practice could change his/her beliefs about his/her abilities to affect student learning which might have the effect of increasing their sense of teaching efficacy (Ashton & Web, 1986).

Communities of Practice and the NBPTS

Previous studies indicate that teacher learning is possibly occurring as a product of the NBC process (Park & Oliver, 2008). This concept of education as a part of the certification is not what the initial charter of the NBPTS stated. The NBPTS was to establish a certification process by which they would identify teachers who met high and rigorous standards. Nothing in their initial documentation stated that the NBPTS would be an educational institution. However, it seems as though the NBC process is performing more than simply identifying highly qualified teachers.

This researcher believes that evidence gathered during the course of this study indicates the NBPTS has fostered a CoP among its certification candidates. The fostering of this CoP may have been intentional or a concomitant occurrence. The main piece of

evidence for the fostering of a CoP among NBC candidates is based upon the five core propositions. These core principles of the NBPTS stand as a foundation for all of the content standards for which candidates must demonstrate competence. In order for a candidate to successfully complete the NBC process s/he must not only meet these high standards, but must also demonstrate an aptitude in these standards. This demonstration is established through the completion of four portfolio entries, as well as practical assessments that are conducted at assessment centers across the United States. A full illustration of this highly speculative interactions among the five core propositions and the possible CoP established through them is presented in Figure 5.01.

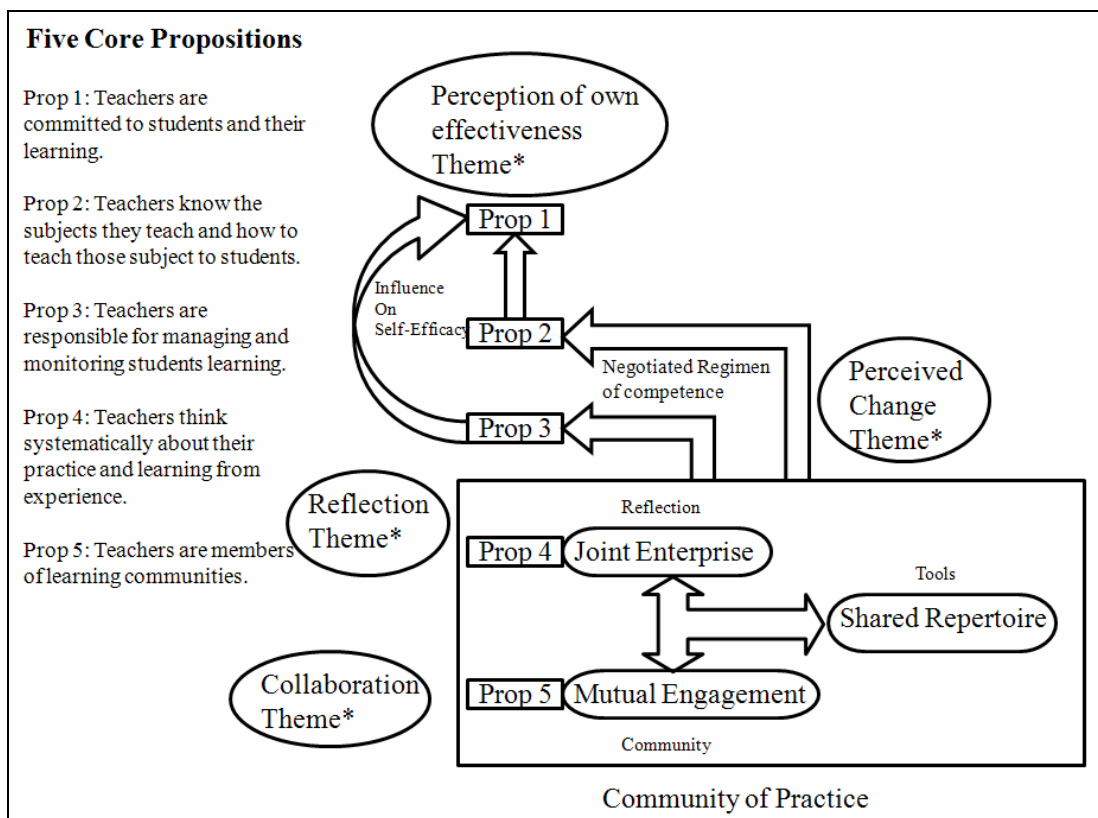


Figure 5.01 Possible model for five core propositions and CoP.

This section will describe the potential interaction between the five core propositions and the possibility of a CoP being fostered by them. When examining the propositions with respect to the data gathered it makes sense to describe the propositions in reverse order. The fifth proposition states that “Teachers should be members of learning communities.” This proposition could be considered a directive for mutual engagement that is a key component in the development of a CoP. The NBPTS emphasis on this collaborative effort indicates that a teacher who has achieved NBC should be able to work collaboratively and build relationships within the learning community. Most of the cases revealed teachers who had achieved some sort of mutual engagement. Eugene even indicated that the NBC process had forced him into collaborations both within and outside of his school. Proposition five is a directive for NBCTs to participate in mutual engagement.

The fourth proposition states “Teachers think systematically about their practice and learn from experience.” This proposition consists of tenets mandating that a candidate read, question, and try new things. They are to critically assess their practices through experimentation, in an effort to expand their repertoires. This proposition is tied to the concept of reflective practice. The concept of reflective practice and the reflective practitioner became a major theme in this investigation. Every participant indicated changes in the area of reflection. The ability to critically analyze ones practice and then implement changes based on those reflections are key components of proposition four. Interestingly, the notion of a joint enterprise also encases the concept of reflection. A joint enterprise allows a discipline to expand beyond its origin. Wenger (1998) emphasizes that a method of fostering a joint enterprise is the encouragement of

reflection among the members of a community. The NBPTS through proposition four has fostered the creation of a joint enterprise. This joint enterprise creates a larger discipline by way of incorporating tools that each member creates through his/her reflective practice and experimentation.

Wenger (1998) described a shared repertoire as the narratives, stories, practices, and tools of a community. These communal tools that are available to the entire community help establish what Wenger calls a negotiated regimen of competence. It is the interaction of the joint enterprise and mutual engagement that produces a shared repertoire. This shared repertoire is what really makes the community useful. The NBPTS, through proposition four and five, have encouraged the establishment of joint enterprises, and further fostered the establishment of mutual engagements. These two elements help to establish a shared repertoire over time.

Participants described occasions when they exchanged ideas through mutual engagement. These ideas and their exchange could be seen as the development of a shared repertoire. This shared understanding allows the community members to use community knowledge within their own contexts. It would stand to reason that this shared repertoire allows a teacher to improve practice in a variety of ways. Wenger (1998; 2008) describes that through mutual engagement, joint enterprise, and a shared repertoire, a group establishes a CoP; this CoP represents a regimen of competence. Through negotiated learning, members of a CoP are able to hone their enterprises; they are able to become more effective at their profession. This improvement of their discipline would have a direct effect on propositions two and three that are discussed below.

Proposition two mandates that an NBC know the subjects they teach and how to teach those subjects to students. This proposition directly relates to the concepts assessed in the QMTPS. This study found that the NBCPETs had QMTPS scores that were above what would be considered a baseline score for student achievement. This could be a result of the competence that NBCTs achieve through their participation in a CoP.

Proposition three dictates that a teacher is responsible for managing and monitoring student learning. This proposition relates to concepts assessed in the ALT-PE instrument. Again participants in this study demonstrated competency in areas of the ALT-PE that might be a result of competence gained from their communal tools.

Proposition one states that teachers are committed to students and their learning. One of the tenets of this proposition states that “Teachers are to believe that all students can learn.” This is a key aspect of teacher efficacy, and as such can be influenced by the perception of one’s’ practice. Indeed, if the NBPTS has fostered a CoP as a result of the fourth and fifth proposition, this community could affect practice by honing their practice. This improvement in their practice would affect their ability to achieve propositions two and three. As a result of their improved practice, they could then have a positive effect on their sense of GTE and PTE. This increase would assist in the successful completion of proposition one. It becomes apparent that these propositions function as a unit in order to improve practice, and in improving their practice allow teachers to successfully complete the NBC process. The researcher believes that in essence the NBPTS is attempting to identify highly qualified teachers. However they have provided a framework by which teachers can become members of learning

communities. In exchange for their membership in these learning communities candidates learn quality instructional practices.

It is clear, however, that some of the teachers who achieve NBC could have been effective teachers prior to certification. Further, these teachers may have a high sense of efficacy because they believe in their practices. Does this belief drive them to attempt NBC? This logic leads to two lines of thinking. First is learning through the NBC process. A candidate learns new practices through the process that impacts their belief in their practice. This increased belief in practice has an effect on their efficacy. In the second track, a highly qualified teacher attempts certification, moves through the process, and is identified as a teacher who can meet the high and rigorous standards of the NBPTS. The consequential portion of these two tracks is the end result; highly qualified physical education teachers.

Implications for Physical Education

This study raises several interesting questions that may inspire future investigations. The notion of CoP as method for change is powerful. The idea of improving practice through the systematic fostering of learning communities could impact physical education teacher preparation programs. Alongside the educational system as a whole, physical education has a set of hurdles to overcome that might also be assisted by the fostering of a CoP. This study has shown that these teachers who have gone through the NBC process, have a strong sense of teaching efficacy, high indicators of student success, and feel validated in their enterprise.

Fostering of a CoP at the university level during formal training could enhance what Wenger (1998) described as a regimen of competence. The principles of joint

enterprise, mutual engagement, and shared repertoire implemented and encouraged by a university teacher education program could in support the establishment of excellence that is supported by the NBPTS.

Limitations

This study had four identifiable limitations, these being, the number of site visits, the limited number of participants, and an inability to make comparisons, and the unknown effectiveness of these participants prior to NBC. First, the number of site visits is a limitation because of the possibility that the researcher observed the participants on either a good or bad day of instruction. This occurrence would limit the transferability of any of the results produced. Second, there were only six participants in this study. The small number of participants limits the generalizability of these results. Further, all six participants were from the state of South Carolina, which makes these results more difficult to transfer to other contexts. Third, because these participants taught in different school districts, and different instructional contexts, a comparison with other teachers is not possible. These participants' results could only be compared with literature on effective instruction. Finally, there is no way to know how each of these teachers instructed prior to their certification. It is impossible to verify any changes that came about as a result of the NBC process. Any data reported on change is only relevant to the perception of change by the participants.

Future Investigations

The NBPTS began with the goal of identifying and certifying teachers who met high and rigorous standards. However, this study provides evidence that this organization has through its certification process, initiated changes in the NBCPET's teaching. This

investigation has pointed in the direction of a CoP as the method for changes in practice that occur during the NBC process. Further these changes seem to persist after successful completion of certification. Evidence developed during the course of this study indicates that perhaps the NBPTS has inadvertently or deliberately fostered a CoP through the promotion of the five core propositions. These five core propositions appear to promote the key ideals embodied within a CoP. The development of a negotiated regimen of competence among its certified teachers, allows its members to tune their enterprises this tuning or honing promotes the development of quality practices that have a greater impact on their students.

The concept of collaborative learning needs to be tested at the university level. The fostering of a CoP during formal physical education teacher education also should be examined. These studies could be carried out as an intervention and performed as a longitudinal study. A study of the effects of a CoP could measure a baseline product of a preparatory program. An initial study seeking to establish a programmatic baseline could employ the ALT-PE and QMTPS instruments. Once this baseline was established, an intervention could be conducted and phased in over the course of three to five years. During this intervention, the targeted PETE program would implement curricular initiatives that would foster the development of mutual engagement, joint enterprise, and shared repertoire. An emphasis on reflective practices, and the discussion of field practices among cohort members, could be established throughout the program. Perhaps online activities, taking place between students in the program and teachers in the field, could be implemented. After the phased completion of these program themes, product measures (ALT-PE and QMTPS) would be repeated. Further, it would be beneficial to

track these teachers as they become in-service teachers. This would promote an understanding of the influences and practical concerns that physical education graduates confront. In understanding these issues, PETEs may be able to further examine their programs in an effort to produce better prepared graduates.

Closing

Evidence presented in this dissertation points to teachers who are highly qualified. These results could be used to infer that these participants are able to have a positive effect on student achievement. Further, these teachers discussed changes that they believe came about as a result of the NBC process. This implies that positive changes had been made in their practices and that the NBC process could likewise have a positive effect on other physical educators. Through careful inspection, it is apparent that the NBPTS has in part helped foster a CoP.

It is our responsibility to establish high and rigorous standards within our PETE programs. This study has illustrated that this population of NBCPETs may have been influenced by a CoP which has been fostered by the NBPTS. The establishment of practices within PETE programs that foster the growth of a CoP, the development of communal tools, and the establishment of a regimen of competence, could also positively influence program graduates. There are many roads in the pursuit of quality physical education, the decline of marginalization, and the establishment of accountability within the profession.

References

- American Educational History (AEH). (2008). *American educational history: A hyper text timeline*. Retrieved December 19, 2008 from <http://www.cloudnet.com/~edrbsass/educationhistorytimeline.html>
- Amerin, A., & Berliner, D. (2003). The effects of high stakes testing on student motivation and learning. *Educational Leadership, 10*(18), 32-38.
- Alderman, B., Beighle, A., & Pangrazi, R. P. (2006). Enhancing motivation in physical education: promoting intrinsic motivation, enhancing perceived physical competence, and creating a mastery-oriented environment will increase students' enjoyment of physical activity. *The Journal of Physical Education, Recreation & Dance, 77*(2), 41-46.
- Ashton, P. T., & Webb, R. B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement*. New York, NY: Longman.
- Ashy, M. H., Lee, A. M., & Landin, D. K. (1988). Relationship of practice using correct technique to achievement in a motor skill. *Journal of Teaching in Physical Education, 7*, 115-120.
- Bailey, R. P. (2006). Quality daily physical education benefits physical education and sport in schools: A review of benefits and outcomes. *Journal of School Health, 76*(8), 397- 401.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review, 84*, 191-215.

- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bechtel, P. A., O'Sullivan, M. (2007). Enhancers and inhibitors of teacher change among secondary physical educators. *Journal of Teaching in Physical Education, 26*, 221-235.
- Behets, D., (1995). Specialist and non-specialist teaching behaviors in elementary school physical education. *European Physical Education Review, 1*, 148-154.
- Berliner, D. C., (1988). *The development of expertise in pedagogy*. Washington, DC: American Association for Colleges for Teacher Education.
- Block, K., & Beckett, K. D. (1990). Verbal descriptions of skill by specialists and non-specialists. *Journal of Teaching in Physical Education, 10*, 21-37.
- Bloom, B. S. (1986). Automaticity: The hands and feet of genius. *Educational Leadership, 43*(5), 70-77.
- Bond, L., Smith, T., Baker, W. K., & Hattie, J. A. (2000). *The certification system of the National Board for Professional Teaching Standards: A construct and consequential validity study*. Greensboro, NC: Center for Educational Research and Evaluation.
- Buck, M., Harrison, J. M., & Bryce, G. R. (1990). An analysis of learning trials and their relationship to achievement in volleyball. *Journal of Teaching in Physical Education, 10*, 134-152.
- Burgeson, C. R., Wechsler, H., Brener, N. D., Young, J. C., & Spain, C. G. (2001). Physical education and activity: Results for the school health policies and programs study 2000. *Journal of School Health, 71*, 297-293.

- Burroughs, R., Schwartz, T. A., & Hendricks-Lee, M. (2000). Communities of practice and discourse communities: Negotiating boundaries in NBPTS certification. *Teacher College Record*, 102(2), 344-374.
- Campbell, J. (2003). Goals 2000: A modest proposal for reform. *Research for Educational Reform*, 8(2), 40-45.
- Carnegie Foundation (CF). (2008). *Carnegie Foundation history*. Retrieved December 18, 2008 from <http://www.carnegiefoundation.org/about>
- Carnegie Task Force on Teaching as a Profession (CTFTP) (1986). *A nation prepared: Teachers for the 21st century*. New York, NY: Carnegie Foundation.
- Casalini, M.C., Janowski, T., Estevez, E. (2006). A process model for collaborative problem solving in virtual communities of practice. In L. Cararinha-Matos, H. Afsarmanesh, & M. Ollus (Eds.), *International Federation for Information Processing, Network-centric collaboration and supporting fireworks* (pp. 343-350). Boston, MA: Springer.
- Cavalluzzo, L. C. (2004). *Is National Board certification an effective signal of teacher quality?* Alexandria, VA: The CAN Corporation.
- Centers for Disease Control and Prevention (CDC). (2000). *National Center for Health Statistics, National Health and Nutrition Examination Survey: Prevalence of overweight among children and adolescents: United States 1999-2000*. Atlanta, GA: CDC.
- Chadwick, B. A., Bahr, H. M., & Albrieht, S. L. (1984). *Social science research methods*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

- Chase, M. A., Lirgg, C. D., & Sakelos, T. J. (2003). *Teacher efficacy and effective teaching behaviors in physical education*. Paper presented annual meeting of the American Alliance for Health, Physical Education, Recreation and Dance, Philadelphia, PA.
- Clinton, W. (1994). *Remarks by President Clinton at Goals 2000 bill signing ceremony*. Retrieved May 7, 2010, from <http://www.presidency.ucsb.edu/ws/index.php?pid=49895>
- Cothran, D.J. (2001). Curricular change in physical education: Success stories from the frontline. *Sport, Education and Society*, 6, 67-79.
- Coskie, T. L., & Place, N. A. (2008). The national board certification process as professional development: The potential for changed literacy practice. *Teaching and Teacher Education*, 24, 1893-1906.
- Cousineau, W. J., & Luke, M. D. (1990). Relationships between teacher expectations and academic learning time in sixth grade physical education basketball classes. *Journal of Teaching in Physical Education*, 9, 262-271.
- Crocker, P. R., Eklund, R. C., & Kowalski, K. C. (2000). Children's physical activity and physical self-perceptions. *Journal of Sports Science*, 18, 383-394.
- Darling-Hammond, L. (1994). *Reinventing our schools: A conversation with Linda Darling-Hammond*. Retrieved December 18, 2008 from [http://www.ait.net/AnationAR\Darling Hammond 1994.mht](http://www.ait.net/AnationAR\Darling%20Hammond%201994.mht)
- Darling-Hammond, L. (1996). *What matters most: Teaching for America's future*. New York, NY: National Commission on Teaching and America's Future.

- Darling-Hammond, L. (1997). *Doing what matters most: Investing in quality teaching*. New York, NY: National Commission on Teaching and America's Future.
- Darling-Hammond, L. (2007a). Evaluating no child left behind. *The Nation*, 284(20), 11-18.
- Darling-Hammond, L. (2007b). Race, inequality and educational accountability: The irony of 'No Child Left Behind.' *Race Ethnicity and Education*, 10(3), 245-260.
- Darst, P. W., Zakrajsek, D. B., & Manchini, V. H. (1989). *Analyzing physical education and sport instruction*. Champaign, IL: Human Kinetics.
- DeLeon, A. G. (2003). *After 20 years of educational reform, progress, but plenty of unfinished business*. Retrieved November 2, 2008 from <http://www.carnegie.org/results/03/Deleon2003.htm>
- Derri, V.; Emmanouilidou, K.; Vassiliadou, O.; Kioumourtzoglou, E. y Loza Olave, E. (2007). Academic learning time in physical education (ALT-PE): Is it related to fundamental movement skill acquisition and learning? *Revista Internacional de Ciencias del Deporte*, 6(3), 12-23.
- Dodds, P. (1994). Cognitive and behavioral components of expertise in teaching physical education. *Quest*, 46, 153-163.
- Doolittle, S. A., Dodds, P., Placek, J. H. (1993). Persistence of beliefs about teaching during formal training of pre-service teachers. *Journal of Teaching in Physical Education*, 12, 355-365.
- Dunkin, M. J., & Biddle, B. J. (1974). *The study of teaching*. New York, NY: Holt, Rinehart & Winston.

- Faucette, N., McKenzie, T.L., & Patterson, P. (1990). Descriptive analysis of non-specialist elementary physical education teachers' curricular choices and class organization. *Journal of Teaching in Physical Education*, 9, 294-293.
- Fisher, A., Reilly, J. J., Kelly, L. A., Montgomery, C., Williamson, A., & Paton, J. Y. (2005). Fundamental movement skills and habitual physical activity in young children. *Medicine & Science in Sport & Exercise*, 37, 684-688.
- Flexner, A. (1910). *Medical education in the United States and Canada: A report to the Carnegie Foundation for the Advancement of Teaching; bulletin No. 4*. New York, NY: Carnegie Foundation for the Advancement of Teaching.
- Franklin, S. (2007). *No Child Left Behind and the public schools*. Ann Arbor, MI: U of Michigan Press.
- French, K. E., Rink, J. E., Rikard, L., Mays, A., Lynn, S., & Werner, P. H. (1991). The effects of practice progressions on learning two volleyball skills. *Journal of Teaching in Physical Education*, 10, 261-274.
- Freund, M., Russell, V. K., & Kavulic, C. (2005). *A study of the role of mentoring in achieving certification by the National Board for Professional Teaching Standards*. Arlington, VA: NBPTS.
- Gage, N., & Needels, M. (1998). Process-product research on teaching: A review of criticisms. *The Elementary School Journal*, 89(3), 253-300.
- Gardner, H. (1994). *Reinventing our schools: A conversation with Howard Gardner*. Retrieved December 18, 2008 from <http://www.ed.psu.edu/insys/ESD/gardner/Reform.html>

- Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569-582.
- Goals 2000 Partnership. (1996). *Goals 2000: A progress report*. Washington, D.C.: Department of Education.
- Goldberger, M. E., & Gerney, P. (1986). The effects of direct teaching styles on motor skill acquisition of fifth grade children. *Research Quarterly for Exercise and Sport, 57*, 215-219.
- Goldhaber, D., Perry, D., & Anthony, E. (2004). The National Board for Professional Teaching Standards (NBPTS) process: Who applies and what factors are associated with NBPTS certification? *Educational Evaluation and Policy Analysis, 26*(4), 259-280.
- Goldhaber, D. & Anthony, E. (2007). "Can Teacher Quality be Effectively Assessed? National Board certification as a signal of effective teaching." *Review of Economics and Statistics, 89*(1), 134-150.
- Goldhaber, D. (2007). A descriptive analysis of the distribution of NBPTS-certified. *Economics of Education Review, 26*(2), 160-172.
- Gordon-Larsen, P., Nelson, M. C., & Popkin, B. M. (2004). Longitudinal physical activity and sedentary behavior trends: Adolescence to adulthood. *American Journal of Preventive Medicine, 27*(4), 277-283.
- Graber, K. C. (2001). Handbook of research on teaching. In V. Richardson (Ed.), *Research on teaching in physical education* (pp. 491-519). Washington, DC: American Educational Research Association.

- Gusthart, J. L., Kelly, I. M., & Rink, J. E. (1997). The validity of the qualitative measures of teaching performance scale as a measure of teacher effectiveness. *Journal of Teaching in Physical Education, 16*, 196-210.
- Gusthart, J. L., Kelly, I. M., & Graham, T (1995). Minimum levels of teachers' performance and student's achievement in volleyball skills. *Perceptual Motor Skills, 80*(2), 555-562.
- Gusthart, J. L., & Kelly, I. M., (1993). Teacher's instructional variables in volleyball and students' improvement in motor skill. *Perceptual and Motor Skills, 76* (3), 1015-1024.
- Guthrie, J. W., & Springer, M. G. (2004). 'A Nation at Risk' revisited: Did "wrong" reasoning result in "right" results? At what cost? *Peabody Journal of Education, 79*(1), 7-35.
- Greenwood, J. (1993). Reflective practice: A critique of the work of Argyis and Schon. *Journal of Advanced Nursing, 18*, 1183-1187.
- Hakel, M. D., Anderson Koenig, J., & Elliott, S. W. (2008). *Assessing accomplished teaching: Advanced-level certification programs*. Washington, D.C.: National Research Council.
- Hellison, D. (1995). *Teaching responsibility through physical activity*. Champaign, IL: Human Kinetics.
- Henson, R. K. (2001). *Teacher self-efficacy: Substantive implications and measurement dilemmas*. Presented at Keynote address Educational Research Exchange, Texas A&M University, College Station, TX.
- Holland, R. (1999). Goals 2000 in 2001. *Education Week, 19*(7), 37.

- Holmes Partnership. (2008). *Origins of the Holmes Partnership (1987-1997)*. Retrieved December 18, 2008 from <http://www.holmespartnership.org/history.html>
- Henderson, M., & Bradley, S. (2008). Shaping online teaching practices: The influence of professional and academic identities. *Campus-Wide Information Systems*, 25(2), 85-92.
- Hiatt, M. D., & Stockton, C. G. (2003). The impact of the Flexner Report on the fate of medical schools in North America after 1909. *Journal of American Physicians and Surgeons*, 8(2), 37-40.
- Jones, R. (1985). *Research method in the social and behavioral sciences*. Sunderland, MA.: Sinauer Associates Inc.
- Kelly, B. (1999). National Board for Professional Teaching Standards: Accomplished teaching through National Board certification. *Teaching and Change*, 6(4), 339-345.
- Kolb, D. A., (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, N.J.: Prentice-Hall, Inc.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Lieberman, A., & Miller, L. (2000). Teaching and teacher development: A new synthesis for a new century. In R. Brandt (Ed.), *Education in a new era* (pp. 47-66). Alexandria, VA: Association for Supervision and Curriculum Development.
- Lieberman, J. (2002). *Administrative support for teachers seeking National Board certification. Presentation*. Paper presented at the annual meeting of the American

Association of Administrators, National Counsel of Professors of Educational Administration, San Diego, CA.

Lincoln, Y. S., and Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, Calif.: Sage.

Lynn, S., Rink, J., & French, K. (1990). *The relation of content knowledge to instructional performance in pre-service teachers*. Paper presented at the annual meeting of the AAHPERD, New Orleans, LA.

Lynn, L., Gao, D., Bradlee, L., Cupples, A., Sundarajan-Ramamurti, A., Proctor, M., Hood, M., Singer, M., & Ellison, C. (2003). Physical activity in early adolescence supports the hypothesis that higher levels of physical activity during childhood lead to the acquisition of less body fat by the time of early adolescence. *Preventive Medicine*, 37(1), 10-18.

Marshall, J. D., & Bouffard, M. (1997). The effects of quality daily physical education on movement competency in obese versus non-obese. *Adapted Physical Activity Quarter*. 14(3), 222-237.

Masser, S. L. (1987). The effect of refinement on student achievement in a fundamental motor skill in grades K through 6. *Journal of Teaching in Physical Education*, 6, 174-182.

McKenzie, T. L., Marshall, S. J., Sallis, J. F., & Conway, T. L., (2000). Student activity levels, lesson context, and teacher behavior during middle school physical education. *Research Quarterly for Exercise and Sport*, 71(3), 249-259.

McKenzie T. L., Nader P. R., Strikmiller P. K., Yang M., Stone E. J., Perry C. L., Taylor W. C. , Epping J. N., Feldman H. A., Luepker R. V., & Kelder S. H. (1996).

- School physical education: Effect of the child and adolescent trial for cardiovascular health. *Preventative Medicine*. 25(4), 423-31.
- Moeller, A. J., & Ishii-Jordan, S. (1996). Teacher efficacy: A model for teacher development and inclusion. *Journal of Behavioral Education*, 6(3), 293-310.
- National Board for Professional Teaching Standards (NBPTS) (2000). *A distinction that matters: Why national teacher certification makes a difference. Highlights from a study of the National Board for Professional Teaching Standards certification process*. Arlington, VA.: NBPTS.
- National Board for Professional Teaching Standards (NBPTS). (2002). *Why America needs NBCTs?* Retrieved December 18, 2008 from <http://www.nbpts.org/index.cfm?t=downloader.cfm&id=545>
- National Board for Professional Teaching Standards (NBPTS). (2003). *Q & A: Questions and answers for teachers about National Board certification*. Arlington, VA.: NBPTS.
- National Board for Professional Teaching Standards (NBPTS). (2008a). *National Board certification process*. Retrieved January 2, 2008 from http://www.nbpts.org/for_candidates.
- National Board for Professional Teaching Standards (NBPTS). (2008b). *Early and middle childhood physical education: Scoring guide*. Retrieved January 2, 2008 from http://www.nbpts.org/pdf/sg/18_emc_pe.pdf
- National Board for Professional Teaching Standards (NBPTS). (2008c). *Listing of research on National Board certified teachers*. Retrieved April 25, 2008 from http://www.nbpts.org/resources/research/browse_studies

- National Board for Professional Teaching Standards (NBPTS). (2008d). *Five core propositions of the NBPTS*. Retrieved December 21, 2008 from http://www.nbpts.org/the_standards/the_five_core_propositions.pdf
- National Board for Professional Teaching Standards (NBPTS). (2008e). *Early adolescence through young adulthood: Scoring guide*. Retrieved January 2, 2008 from http://www.nbpts.org/pdf/sg/19_EAYA_pe.pdf
- National Board for Professional Teaching Standards List Serve (NBPTSLS). (2008). *List serve for the NBPTS*. Retrieved January 7, 2008 from <http://www.cde.ca.gov/PD/ps/te/nbptsml.asp>
- National Commission on Excellence in Education (NCEE). (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: U. S. Department of Education.
- National Education Goals Panel (NEGP). (2008). *Reform history 1989 to present*. Retrieved November 14, 2008 from <http://govinfo.library.unt.edu/negp/page1-7.htm>
- Okely, A. D., Booth, M. L., & Chey, T. (2004). Relationships between body composition and fundamental movement skills among children and adolescents. *Research Quarterly for Exercise & Sport*, 75(3), 238-247.
- Olshansky, S. J., Passaro, D. J., Hershow, R. C., Layden, J., Carnes, B. A., & Brody, J. (2005). A potential decline in life expectancy in the United States in the 21st century. *The New England Journal of Medicine*, 352(11), 1138-1145.

- Palincsar, A. S., Magnusson, S. J., Marano, N., Ford, D., & Brown, N. (1998). Designing a community of practice: Principles and practices of the GISML community. *Teaching and Teacher Education, 14*(1), 5-19.
- Patton, M. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Park, S, Oliver, J. S. (2008). National board certification (NBC) as a catalyst for teachers' learning about teaching: The effects of the NBC process on candidate teachers' PCK development. *Journal of Research in Science Teaching, 45*(7), 812-834.
- Parker, M. (1989). Academic learning time-physical education (ALT-PE), 1982 revision. In P. W. Darst, D. B. Zakrajsek & V. H. Mancini (Eds.), *Analyzing physical education and sport instruction* (2nd ed., pp. 195-205). Champaign, IL: Human Kinetics.
- Petty, T. M. (2002). *Identifying the wants and needs of North Carolina high school mathematics teachers for job success and satisfaction*. Retrieved from ProQuest Digital Dissertations. (AAT 3070673)
- Phillips, A. (2008). A Comparison of National Board certified teachers with non-National Board certified teachers on student competency in high school physical education. *Physical Educator, 65*(3), 114-121.
- Pinheiro, V. E. (1989). Motor skill diagnosis: *Diagnostic processes of expert and novice coaches*. Retrieved from ProQuest Digital Dissertations. (90100054)
- Placek, J. H., & Randall, L. (1986). Comparison of academic learning time in physical education: Students with specialist and non-specialists. *Journal of Teaching in Physical Education, 5*(3), 157-165.

- Placek, T. H. (1984). A multi-case study of teacher planning in physical education. *Journal of Teaching in Physical Education, 4*, 39-49.
- Place, K., & Hodge, S. R. (2001). Social inclusion of students with physical disabilities in general physical education: A behavioral analysis. *Adapted Physical Activity Quarterly, 18*, 389-404.
- Podgursky, M. (2001). Defrocking the National Board. *Education Next, 2*, 79-82.
- Pool, J., Ellett, C., Salvatore, S., & Carey-Lewis, C. (2001). How valid are the National Board for professional teaching standards assessments for predicting the quality of actual classroom teaching and learning? Results of six mini case studies. *Journal of Personnel Evaluation in Education, 15*(1), 31-48.
- President's Council on Physical Fitness and Sports, Washington, DC, & Centers for Disease Control and Prevention (DHHS/PHS) (1996). *Physical activity and health. A report of the Surgeon General*. Pittsburgh, PA.:DHHS/PHS.
- Public Broadcasting Service (PBS). (2008). *Making schools work with Hendrick Smith, help for your community*. Retrieved December 20th, 2008. from <http://www.pbs.org/makingschoolswork/hyc/bor/timeline.html>
- Quinn, P., & Bobbitt, S. (1996). *The status of teaching as a profession: 1990- 91*. Washington, D.C.: U. S. Department of Education.
- Rink, J. E. (1993a). *Teaching physical education for learning 2nd edition*. St. Louis, MO: Times Mirror Mosby.
- Rink, J. E. (1993b). Teacher education: A focus on action. *Quest, 45*(3), 308-320.

- Rink, J. E. (2003). Effective instruction in physical education. In S. J. Silverman, & C. D. Ennis (Eds.), *Student learning in physical education: Applying research to enhance instruction* (pp. 165-186). Champaign, IL: Human Kinetics.
- Rink, J., & Williams, L. (2003). Chapter 1: Developing and implementing a state assessment program. *Journal of Teaching in Physical Education*, 22(5), 473-493.
- Rogers, J. (2000). Communities of practice: A framework for fostering coherence in virtual learning communities. *Educational Technology & Society*, 3(3), 384-392.
- Ross, J. A. (1998). The antecedents and consequences of teaching efficacy. In J. Brophy (Ed.), *Advances in research on teaching* (Vol. 7, pp. 49-74). Greenwich, CT: JAI Press.
- Rothstein, R. (1999, December 22). Lessons; Goals 2000 score: Failure 8, U.S. 0. *New York*, pp. 15.
- Rovegno, I., & Bandhauer, D. (1997). Psychological dispositions that facilitated and sustained the development of knowledge of a constructivist approach to physical education. *Journal of Teaching in Physical Education*, 16, 136-154.
- Salzman, S. A., Denner, P. R., Bangert, A. W., & Harris, L. B. (2002). *Connecting teacher performance to the learning of all students: Ethical dimensions of shared responsibility*. Paper presented to the annual meeting of the American Association of Colleges for Teacher Education, Jacksonville, FL.
- Sanders, W., Ashton, J., & Wright, S.P. (2005). "Comparison of the effects of NBPTS certified teachers with other teachers on the rate of student academic progress." *Report prepared for the National Board for Professional Teaching Standards*. Cary, NC: SAS Institute, Inc.

- Scharf, L. A. (2004). *Teachers' perceptions of the national board certification process: developing a sense of professionalism*. Retrieved from ProQuest Digital Dissertations. (AAT 3169474)
- Schwandt, T. (2000). Three epistemological stances for qualitative inquiry: Interpretivism, hermeneutics, and social constructionism. In N. K. Denzin & Y. S. Lincoln (Eds.), *The handbook of qualitative research* (2nd ed, pp. 189-214). Thousand Oaks, CA: Sage.
- Schwandt, T., Lincoln, Y. S., & Guba, E. G. (2007). Judging interpretations: But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *Enduring Issues in Education, 114*, 11-25.
- Schon, D. (1983). *The reflective practitioner*. New York, NY: Basic Books.
- Shute, S., Dodds, P., Placek, J., Rife, F., & Silverman, S. (1982). Academic learning time in elementary school movement education: A descriptive analytic study. *Journal of Teaching in Physical Education, 4*(4), 4 -14.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*, 1-22.
- Siedentop, D., & Eldar, E. (1989). Expertise, experience, and effectiveness. *Journal of Teaching in Physical Education, 8*, 254-260.
- Siedentop, D., & Metzler, M. (1979). *A process approach to measuring effectiveness in physical education*. Paper presented at the American Alliance for Health, Physical Education, Recreation and Dance National Convention, New Orleans, LA.
- Silverman, S. (1985). Relationship of engagement and practice trials to student achievement. *Journal of Teaching in Physical Education, 5*, 13-21.

- Silverman, S. (1990). Linear and curvilinear relationships between student practice and achievement in physical education. *Teacher and Teacher Education*, 6(4), 305-314.
- Silverman, S. (1991). Research on teaching in physical education. *Research Quarterly for Exercise and Sport*, 62(4), 352-364.
- Silverman, S. (1993). Student characteristics, practice, and achievement in physical education. *Journal of Educational Research*, 87(1), 54-61.
- Silverman, S., Divillier, R., & Ramirez, T. (1991). The validity of academic learning time-physical education as a process measure of achievement. *Research Quarterly for Exercise and Sport*, 62(3), 319-325.
- Silverman, S., Tyson, L., & Karpnitz, J. (1992). Teacher feedback and achievement in physical education: Interaction with student practice. *Teacher and Teacher Education*, 8(4), 333-344.
- Silverman, S., Tyson, L., & Morford., L. (1988). Relationships of organization, time, and student achievement in physical education. *Teacher and Teacher Education*, 4(3), 247-257.
- Smith, T.W., Gordon, B., Colby, S.A., and Wang, J. (2005). *An examination of the relationship between depth of student learning and national board-certification status*. Arlington, VA: NBPTS.
- Solmon, M. A., Lee, A. M., & Hill, K. (1991). *The role of content knowledge in teaching physical education*. Paper presented at the annual meeting of the American Alliance for Health, Physical Education, Recreation and Dance Convention, San Francisco, CA.

- Solmon, M. A., & Lee, A. M. (1996). Entry characteristics, practice variables, and cognition: Student mediation of instruction. *Journal of Teaching in Physical Education, 15*(2), 136-150.
- South Carolina Physical Education Assessment Program (SCPEAP). (2008). *SCPEAP helpful resources and information*. Retrieved December 23, 2008 from http://www.scahperd.org/SCPEAP_Resources_and_Info.html
- Southern Regional Education Board, Atlanta, GA. (2003). *SREB states continue to lead the nation in National Board certified teachers*. Atlanta, GA: SREB.
- Starr, L. (2004). *NBCPTS: Building better teachers*. Retrieved :http://www.education-world.com/a_issues/chat/chat100.shtml May 19, 2009
- Stoden, D. F., & Goodway, J. D. (2007). The dynamic association between motor skill development and physical activity. *Journal of Physical Education Recreation and Dance, 78*(8), 33-49.
- Stone, J.E. (2002). *The value-added achievement gains of NBPTS-certified teachers in Tennessee: A brief report*. Johnson City, TN: Education Consumers Clearinghouse.
- Stronge, J. H. (1997). *Evaluating teaching: A guide to current thinking and best practice*. Thousand Oaks, CA: Corwin Publications, Inc.
- Sweeting, T., & Rink, J. E. (1999). Effects of direct instruction and environmentally designed instruction on the process and product characteristics of fundamental skill. *Journal of Teaching in Physical Education, 1*, 216-233.
- Telama, R., Nupponen, H., & Perion, M. (2005). Physical activity among young people in the context of lifestyle. *European Physical Education Review, 11*(2), 115-137.

- Tournaki, N., & Podell, D. M. (2005). The impact of student characteristics and teacher efficacy on teachers' predictions of student success. *Teaching and Teacher Education, 21*, 299-314.
- Tschannen-Morgan, M., Wookfolk, A., & Hoy, K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202-248.
- United States Department of Education (USDE). (2000). *A distinction that matters*. Washington, D.C.:USDE.
- United States Department of Education (USDE). (2001). *Back to school, moving forward: What "No Child Left Behind" means for America's communities*. Washington, D.C.: USDE.
- United States Department of Education (USDE). (2003). *No Child Left Behind, a parent's guide*. Washington D.C.: USDE.
- United States Department of Education (USDE). (2008). *Four pillars of No Child Left Behind*. Retrieved December 21, 2008 from <http://www.ed.gov/nclb/overview/intro/4pillars.html>
- United States Department of Health and Human Services (USDHHS). (1996). *Physical activity and health: A report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.
- United States Department of Health and Human Services (USDHHS). (2001). *The Surgeon General's call to action to prevent and decrease overweight and obesity*. Rockville, MD: USDHHS, Public Health Service, Office of the Surgeon General.

- Van der Mars, H. (1989). Observer reliability: issues and procedures. In P. W. Darst, D. B. D. B. Zakrajsek, and V. H. Mancini (Eds), *Analyzing physical education and sport instruction* (pp. 53–80.). Champaign, IL: Human Kinetics.
- Vandevoort, L. G., Amrein-Beardsley, A., & Berliner, D. C. (2004). National Board certified teachers and their students' achievement. *Education Policy Analysis Archives*, 12(46), 1-117.
- Viteritti, J. P. (2004). From excellence to equity: Observation on politics, history, and policy. *Peabody Journal of Education*, 79(1), 64-86.
- Walberg, H. J. (1986). Synthesis of research on teaching. In M. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 214-229). New York, NY: Macmillan.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.
- Wenger, E. (2008). *Communities of Practice*. Retrieved January 2, 2008 from <http://www.ewenger.com/theory/index.htm>
- Werner, P., & Rink, J. (1989). Case studies of teacher effectiveness in second grade physical education. *Journal of Teaching in Physical Education*, 8, 280-297.
- Wise, A. E., & Liebbrand, J. (2000). Building a system of quality assurance for the teaching profession moving into the 21st century. *Phi Delta Kappan*, 1(8), 612-621.
- Wildman, T. M., Niles, J. A. (1987). Reflective teachers: tensions between abstractions and realities. *Journal of Teacher Education*, 38, 25-31.

- Wong, K. K., & Nicotera, A. C. (2004). Educational quality and policy redesign: Reconsidering the NAR and federal Title I policy. *Peabody Journal of Education*, 79(1), 87-104.
- Wong, K., Guthrie, J., & Harris, D. (2004). "A Nation at Risk: A 20-year reappraisal." *Peabody Journal of Education*, 19(1).
- Woods, A. M., Bolton, K. N., Erwin, H. E., Graber, K. C., Castelli, D. M., Valley, J., & Woods, M. K. (2007). Influences of perceived motor competence and motives on children's physical activity. *Research Quarterly for Exercise and Sport*, 78, A-77.
- Woods, A. & Rhoades, J. (2010). National Board certified physical education teachers: General and personal teaching efficacy. *Research Quarterly for Exercise and Sport*, 81, A-78.

Appendix A: NBPTS Five Core Propositions and Tenets

Proposition 1: Teachers are Committed to Students and Their Learning

- NBCTs are dedicated to making knowledge accessible to all students. They believe all students can learn.
- They treat students equitably. They recognize the individual differences that distinguish their students from one another and they take account for these differences in their practice.
- NBCTs understand how students develop and learn.
- They respect the cultural and family differences students bring to their classroom.
- They are concerned with their students' self-concept, their motivation and the effects of learning on peer relationships.
- NBCTs are also concerned with the development of character and civic responsibility.

Proposition 2: Teachers Know the Subjects They Teach and How to Teach Those Subjects to Students.

- NBCTs have mastery over the subject(s) they teach. They have a deep understanding of the history, structure and real-world applications of the subject.
- They have skill and experience in teaching it, and they are very familiar with the skills gaps and preconceptions students may bring to the subject.
- They are able to use diverse instructional strategies to teach for understanding.

Proposition 3: Teachers are Responsible for Managing and Monitoring Student Learning.

- NBCTs deliver effective instruction. They move fluently through a range of instructional techniques, keeping students motivated, engaged and focused.
- They know how to engage students to ensure a disciplined learning environment, and how to organize instruction to meet instructional goals.
- NBCTs know how to assess the progress of individual students as well as the class as a whole.
- They use multiple methods for measuring student growth and understanding, and they can clearly explain student performance to parents.

Proposition 4: Teachers Think Systematically about Their Practice and Learn from Experience.

- NBCTs model what it means to be an educated person – they read, they question, they create and they are willing to try new things.
- They are familiar with learning theories and instructional strategies and stay abreast of current issues in American education.
- They critically examine their practice on a regular basis to deepen knowledge, expand their repertoire of skills, and incorporate new findings into their practice.

Proposition 5: Teachers are Members of Learning Communities.

- NBCTs collaborate with others to improve student learning.
- They are leaders and actively know how to seek and build partnerships with community groups and businesses.
- They work with other professionals on instructional policy, curriculum development and staff development.
- They can evaluate school progress and the allocation of resources in order to meet state and local education objectives.
- They know how to work collaboratively with parents to engage them productively in the work of the school.

Appendix B: Teacher Informed Consent Form

You are invited to participate in the above-titled research project that is being conducted by Dr. Amelia Woods, Responsible Project Investigator and Associate Professor in the Department of Kinesiology and Community Health at the University of Illinois @ Urbana-Champaign, and Jesse Rhoades, Doctoral Candidate in the Department of Kinesiology and Community Health at the University of Illinois @ Urbana-Champaign. The purpose of this project is to descriptively analyze your classroom practices and teaching methods. Descriptive analysis will involve examining video recordings of your classes, interview data, and survey results, in an effort to accurately describe your practices as a physical educator. This research has no specific benefit for you; however knowledge that will be gained may be utilized by teacher educators in the production of excellent physical education instructors.

If you agree to participate, you will be asked to: (a) allow the investigators to observe and video record approximately six of your classes, three in November 2009 and three in January 2010 (b) participate in one informal interview lasting approximately one hour that will be tape recorded and later transcribed, (c) complete a brief survey instrument. These six lessons will be video recorded for the entirety of the lesson, the interview will take approximately 45 minutes to complete, and finally the survey instrument should only take 15 minutes to finish.

There are minimal foreseeable risks from participating in this project. You may also discontinue participation in the project at any time without prejudice. Participation is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you would otherwise be entitled. You understand that you will receive no monetary compensation for your participation.

The results from this study will be used primarily for research presentations and publication in professional journals. Any information that is obtained in connection with this study and that can be identified, will remain confidential. As interview tapes are transcribed, your name will be transcribed using a pseudonym. The only document with your name will be this signed consent form. Only the researchers in the study will have access to the data.

If you have any questions about the research at any time, please call or write Dr. Amelia Woods, Department of Kinesiology and Community Health, Louise Freer Hall, University of Illinois, 906 S. Goodwin Avenue, Urbana, IL 61801 (phone: 217-333-9602 or e-mail: amywoods@illinois.edu). If you desire additional information about your rights as a participant, please feel free to contact the UIUC Institutional Review Board Office at 217-333-2670 or irb@illinois.edu. Collect calls will be accepted if you identify yourself as a study participant. You will be given a copy of this form for your records

Primary Investigator's Signature

Date

I have read and understand the above consent form and I voluntarily agree to participate in this study.

Participant's Signature

Date

Please check one of the following:

_____ I agree to be audiotaped

_____ I do **not** agree to be audiotaped

_____ I agree to be video recorded

_____ I do **not** agree to be video recorded

Appendix C: Parent's Informed Consent Form

Your child is invited to participate in a research study about National Board Certified Physical Education Teachers. This research is being conducted by Dr. Amelia Woods, Responsible Project Investigator and Associate Professor in the Department of Kinesiology and Community Health at the University of Illinois @ Urbana-Champaign, and Jesse Rhoades, Doctoral Candidate in the Department of Kinesiology and Community Health at the University of Illinois @ Urbana-Champaign.

As you may be aware your child's physical education teacher is a National Board Certified Teacher. Because of his/her certification, a research team from the University of Illinois is interested in analyzing his/her teaching in the classroom. As part of this study, the researchers would like to videotape several your child's physical education classes. The videotaping will allow the researchers to closely study your child's physical education teacher. This research has no specific benefit for your child; however knowledge that will be gained may be utilized by teacher educators in the production of excellent physical education instructors. The results from this study will be used primarily for research presentations and publication in professional journals. Any information that is obtained in connection with this study and that can be identified will remain confidential.

The videorecording would be for one class period on two separate occasions. The researchers would like to come for one class period in the November and another in January. Your child will not be singled out during videotaping. These tapes will be used to analyze how your child's physical education teacher organizes and teaches lessons. The videotaped classes will be viewed only by the researchers involved in this study. The videotapes of the classes will kept for four years and then destroyed. Your child's identity would remain completely confidential.

Participation in this study is completely voluntary. There is no known risk to participation in this study beyond that of normal participation in your child's physical education class. There will be no penalty to your child if you choose not to allow him/her to be videotaped as part of these classes. Your child will also be given the opportunity to refuse participation. If a child is not a participant in this study they will attend class as normal, when video recording occurs, the camera will be set to make sure your child remains out of frame.

If you have any questions about the research at any time, please call or write Dr. Amelia Woods, Department of Kinesiology and Community Health, Louise Freer Hall, University of Illinois, 906 S. Goodwin Avenue, Urbana, IL 61801 (phone: 217-333-9602 or e-mail: amywoods@illinois.edu). If you desire additional information about your rights as a participant, please feel free to contact the UIUC Institutional Review Board Office at 217-333-2670 or irb@illinois.edu. Collect calls will be accepted if you identify yourself as a study participant. You will be given a copy of this form for your records.

Name of Student _____

Name of Parent/Guardian _____

I have read and understand the above consent form and I voluntarily agree to allow my child to participate in this study.

Parent/Guardian signature _____ Date _____

Please check one of the following:

_____ My child may be video recorded during physical education class

_____ My child may NOT be video recorded during physical education class

Appendix D: Child 8-17 Years of Age Informed Assent

You are invited to be a part of a research study that is being done by Dr. Amy Woods, a teacher at the University of Illinois. Amy has sent a student of hers to observe your class, his name is Jesse Rhoades. Your teacher has a very special type of teacher, and Jesse would like to learn more about your teacher.

If you would like to be a part of this study Jesse will watch your physical education class. He will need to video tape your class so he and Amy can study your teacher closer when he gets back to the University of Illinois. No one but Jesse and Amy will ever see the tape of your classes. After four years the tapes will be destroyed.

No one will know who you are on the video and the only paper with your name on it will be this signed assent form. Only the people researching for this study will be able to see anything about you.

If you sign below you are letting us know that you have read this paper and are agreeing to participate in the study. (We will give you a copy of this assent document.)

Participants Signature

Date

Please check one of the following:

_____ I agree to be video taped

_____ I do not agree to be video taped

Appendix E: Teacher Efficacy Scale (TES)

Please read each sentence carefully and determine the extent to which it describes your beliefs about teaching. Using the following scale, indicate the extent of your agreement with each statement by circling the number that best represents your response.

1	2	3	4	5	6	7
Strongly Agree		Mildly Agree		Mildly Disagree		Strongly Disagree

1) A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.

1 2 3 4 5 6 7

2) If students are not disciplined at home, they aren't likely to accept any discipline.

1 2 3 4 5 6 7

3) The hours in my class have little influence on students compared to the influence of their home environment.

1 2 3 4 5 6 7

4) The amount that a student can learn is primarily related to family background.

1 2 3 4 5 6 7

5) The influences of a student's home experiences can be overcome by good teaching.

1 2 3 4 5 6 7

6) If parents would do more with their children, I could do more.

1 2 3 4 5 6 7

7) Even a teacher with good teaching abilities may not reach many students.

1 2 3 4 5 6 7

8) If a student masters a new math concept quickly, this might be because I knew the necessary steps in teaching that concept.

1 2 3 4 5 6 7

9) When the grades of my students improve it is usually because I found more effective teaching approaches.

1 2 3 4 5 6 7

10) When I really try, I can get through to most difficult students.

1 2 3 4 5 6 7

11) If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.

1 2 3 4 5 6 7

12) When a student does better than usual, many times it is because I exerted a little extra effort.

1 2 3 4 5 6 7

13) If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly.

1 2 3 4 5 6 7

14) If one of my students could not do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.

1 2 3 4 5 6 7

15) When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.

1 2 3 4 5 6 7

16) When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student.

1 2 3 4 5 6 7

Appendix F: Academic Learn Time – Physical Education

P_____	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
	L																											
	I																											
P_____	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
	L																											
	I																											
P_____	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
	L																											
	I																											
P_____	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
	L																											
	I																											
P_____	C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
	L																											
	I																											

P = Pupil

C = Context of the interval

LI = Level of involvement of pupil

Context Level (C)			Learner involvement level (LI)	
<i>General content</i>	<i>Subject matter knowledge</i>	<i>Subject matter motor</i>	<i>Not motor engaged</i>	<i>Motor engaged</i>
Transition (T)	Technique (TN)	Skill practice (P)	Interim (I)	Motor appropriate (MA)
Management (M)	Strategy (ST)	Scrimmage/routine (S)	Waiting (W)	Motor inappropriate (MI)
Break (B)	Rules (R)	Game (G)	Off-task (OF)	Supporting (MS)
Warm-up (WU)	Social behaviour (SB)	Fitness (F)	On-task (ON)	
	Background (BK)		Cognitive (C)	

Appendix G: November Interview Guide

Dispositions

Why did you choose this profession?

What are your responsibilities to you students?

Describe your role in student learning?

Do you have a duty to reflect on your practice, how do you achieve this?

Describe the collaboration among faculty in your school,

- Other National Board Certified Physical Education Teachers

- Other general National Board Certified Teachers?

How would you rate your teaching effectiveness?

Compare your feelings about teaching and student learning, between when you were first certified and now.

Task presentation

In your view what is the most effective way to instruct physical education?

Take me through a typical class from start to finish. When do you present the drills, when do you provide feedback etc.?

Describe the nature of the feedback that you provide to your students?

How sure are you about your content knowledge, at some points in the lesson are you unsure of the content.

How do you know when your instruction has clarity?

Has your teaching changed from before you were board certified, do you present lessons differently?

Opportunity to learn

Describe a well organized class?

Describe an effective learning environment?

Does the amount of practice time affect student success?

What other factors contribute to student success?

Describe a physically educated person who is a graduate of your program (or 5th grade?)?

Define success in physical education; do you believe that your students are successful?

How much time during each lesson do your students spend in motor activity?

For example, how much time are they actually participating as opposed to getting instruction, waiting, or being managed?

Has your classroom environment changed sense you have been certified?

Has your classroom management changed sense you have been certified?

Appendix H: January Interview Guide

General and Personal Teacher Efficacy

G: How do parents of your students affect their learning?

G: How much does family background influence student achievement?

P: How much does your teaching influence student achievement?

G: Do you think a student's home environment influences their ability in your classroom?

P: Can you reach even the most difficult students?

G: Respond to this statement "Some students are simply unreachable"

P: Do you believe that there is an effective teaching strategy for all students?

-Is it simply a task of finding the appropriate strategy?

Do you think that your feelings towards your abilities to teach students have changed from before you achieved national board certification?

Planning

How do you assess student achievement?

What does your curriculum look like?

Generally what do you try to cover in your lessons over the course of the entire year?

Do you set goals for your classes as well as individual students...?

-Do you adjust your curricular and lesson planning according to student progress towards these goals?

How do you plan lessons from day to day?

Do you allow parents to have input on your lessons or curriculum?

Do you follow your schools curriculum guide?

Do you collaborate with your colleagues on lesson and unit planning?

Has your planning changed since you have been certified.

Do you participate in any online activities which assist you in gathering new ideas. Could you list them?

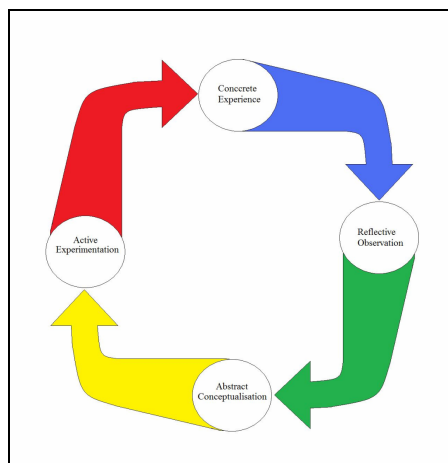
Have you presented at any professional organizations annual convention?

Are you a member of your state or national professional organization?

What do the five propositions mean to you?

1. Teachers are Committed to Students and Their Learning
2. Teachers Know the Subjects They Teach and How to Teach Those Subjects to Students.
3. Teachers are Responsible for Managing and Monitoring Student Learning.
4. Teachers Think Systematically about Their Practice and Learn from Experience.
5. Teachers are Members of Learning Communities.

What does this picture mean to you?



Appendix I: Qualitative Measure of Task Performance Scale

Teacher _____ Coder _____
 Focus of lesson _____
 Lesson number _____

Task		Presentation of task					Student response appropriate to focus	Specific congruent feedback	Type of task I – Informing R – Refining (quality) E – Extend (variety) Re – Repeat (repeat same task) A – Apply self-testing
Number	Type of task	Clarity	Demonstration	Number of cues	Accuracy of cues	Qualitative cues			
1								Clarity 1 – Yes 2 – No	
2									
3									
4								Demonstration 1 – Full 2 – Partial 3 – None	
5									
6									
7								Number of cues 1 – Appropriate 2 – Inappropriate 3 – None given	
8									
9									
10								Accuracy of cues 1 – Accurate 2 – Inaccurate 3 – None given	
11									
12									
13								Qualitative cues 1 – Yes 2 – No	
14									
15									
								Student of responses 1 – All 2 – Partial 3 – None	
Total		1- 2- 3-	1- 2- 3-	1- 2- 3-	1- 2- 3-	1- 2- 3-	1- 2- 3-	Specific congruent feedback 1 – Yes 2 – Partial 3 – No	
Percent for each category		1- 2- 3-	1- 2- 3-	1- 2- 3-	1- 2- 3-	1- 2- 3-	1- 2- 3-		
Percent most desirable								Total QMTPS:	

Author's Biography

Jesse Lee Rhoades was born in Champaign, Illinois on May 19th, 1978. He graduated from Monticello High School in May of 1997. His collegiate career began that summer at Parkland Community College where he attended until May of 1999. While at Parkland he earned All-American Honors three times in the shot-put and Discus. After completing his Associates degree in Physical Education at Parkland, he was offered and accepted an athletic scholarship to Indiana State University (ISU). At ISU Jesse completed his Bachelor's degree in Physical Education (K-12) teaching. He then taught seventh and eighth grade physical education for two years at Crete-Monee middle school at University Park, Illinois. Jesse returned to ISU in the fall of 2004 and earned his Master's of Science degree in exercise science with a concentration in biomechanics. Finally, Jesse returned to Champaign in order to complete his Doctorate in Kinesiology at the University of Illinois. He defended his dissertation on June 1st 2010, which was subsequently accepted by his dissertation committee.

Curriculum Vita

Jesse Lee Rhoades Assistant Professor, University of North Dakota

EDUCATION

University of Illinois at Urbana-Champaign, Urbana, IL <i>Ph.D. – Pedagogical Kinesiology</i>	August, 2010
Indiana State University, Terre Haute, IN <i>M.A. – Exercise Science</i>	December, 2006
Indiana State University, Terre Haute, IN <i>B.S. – Physical Education Teaching</i>	May, 2002
Parkland Community College, Champaign, IL <i>A.S. – Physical Education</i>	May, 1999

UNIVERSITY TEACHING EXPERIENCE

University of Illinois, Urbana, IL	2007-Present
<i>Instructor</i>	
❖ Kinesiology 268: Children's Movement	
❖ Kinesiology 460: Pedagogical Technology	
<i>Teaching Assistant</i>	
❖ Kinesiology 100: Conditioning and Weight Control	
❖ Kinesiology 100: Weight Training	
❖ Kinesiology 102: Bowling	
❖ Kinesiology 268L: Children's Movement Laboratory	
<i>Sports Fitness Program Coordinator</i>	
❖ Individual/Dual Activities Coordinator	
Parkland Community College, Champaign, IL Present	2008-
<i>Part-time Faculty</i>	
❖ Kinesiology 181: Health Education	
❖ Kinesiology 186: Introduction to Human Movement	
❖ Kinesiology 183: First Aid and CPR	
❖ Kinesiology 288: Exercise Physiology	
Indiana State University, Terre Haute, IN	2002-2006
<i>Teaching Assistant</i>	

- ❖ PE 101: Intro to Physical Fitness
- ❖ PE 485: Analysis of Human Motion Laboratory
- ❖ PE 585: Advanced Exercise Physiology Laboratory

Adjunct Faculty

- ❖ ATTR 210L: Human Anatomy for Allied Health Professional Laboratory
- ❖ PE 220L: Human Physiology for Allied Health Professional Laboratory

RESEARCH EXPERIENCE

University of Illinois, Urbana, IL 2006-present
Pedagogy Research Assistant

- ❖ National Board Certified Physical Education Teachers national survey
- ❖ National Board Certified Physical Education Teachers direct observations and interviews in South Carolina
- ❖ Physical Education Teacher Education (PETE) national survey
- ❖ SCPEAP data analysis

Indiana State University, Terre Haute, IN 2004-2006
Biomechanics Research Laboratory

- ❖ Analysis of experimental starting blocks, utilizing three dimensional digitization and modeling
- ❖ Analysis of experimental auto digitizing reflective markers

K-12 TEACHING EXPERIENCE

Crete Monee School District, Crete, IL 2002-2004

Middle School Physical Education Teacher

- ❖ Crete Monee Middle School University Park, IL

Coaching

- ❖ Head Wrestling Coach, Crete Monee High School 2002-2004
- ❖ Head Track Coach, Crete Monee High School 2003-2004

AWARDS

Illinois Alliance for Health, Physical Education, Recreation and Dance St. Charles, IL
Student-Mentor Award 2009
National Board Certified Physical Education Teachers: Perceptions of Workplace Environments

Illinois Alliance for Health, Physical Education, Recreation and Dance St. Charles, IL
Student-Mentor Award 2008
Characteristics of Illinois National Board Certified Physical Educators

Illinois Alliance for Health, Physical Education, Recreation and Dance St. Charles, IL
Student-Mentor Award 2007

PROFESSIONAL MEMBERSHIPS

American Alliance for Health, Physical Education, Recreation and Dance

Illinois Alliance for Health, Physical Education, Recreation and Dance

PRESENTATIONS

Rhoades, J., & Woods, A.M. (2009) National Board Certified Physical Education Teachers: Perceptions of Workplace Environments. Poster presented at the annual Illinois Alliance for Health, Physical Education, Recreation and Dance convention, St. Charles, IL.

Woods, A., & **Rhoades, J.** (2009). National Board Certified Physical Educators: Personal and Professional Characteristics. at the annual American Alliance for Health, Physical Education, Recreation and Dance convention, Tampa, FL.

Rhoades, J., & Woods, A. (2009). National Board Certified Physical Education Teachers: Dispositions and Perceived Efficacy. Presented at the annual Illinois Alliance for Health, Physical Education, Recreation and Dance Mid-state conference, Charleston, IL.

Graber, K., Erwin, H., Woods, A., **Rhoades, J.,** & Zhu, W. (2008). Demographic Characteristics of Physical Education Teacher Educators by Carnegie Classification. Presented at the annual American Alliance for Health, Physical Education, Recreation and Dance convention. Fort worth, TX.

Graber, K., Woods, A., Erwin, H., **Rhoades, J.,** & Valley, J. (2008). Professional Characteristics of Physical Education Teacher Educators. Presented at the annual American Alliance for Health, Physical Education, Recreation and Dance convention. Fort worth, TX.

Hall, T., Woods, A., Doutis, P., Nilges, L., & **Rhoades, J.** (2007). South Carolina Policy Change: People, Politics and Perseverance. Presented at the Historic Traditions and Future Directions of Research on Teaching and Teacher Education in Physical Education conference. Pittsburg, PA.

Rhoades, J., & Woods, A.M. (2007) National Board Certified Physical Education Teachers: A State by State Analysis. Paper presented at the annual Illinois Alliance for Health, Physical Education, Recreation and Dance convention, St. Charles, IL.

Rhoades, J., Finch, A.E., & Ariel, G. (2006). Effects of Starting Block Width Spacing on Sprint Sprinting Kinematics. Presented at the annual ISBS Symposium, Salzburg, Austria

PUBLICATIONS

Woods, A.M., & **Rhoades. J.L.** (2009) National board certified physical educators: background characteristics, subjective warrants, and motivations. *Journal of Teaching in Physical Education*. (accepted, awaiting publication)

GRANTS

Woods, A.M., & **Rhoades. J.** (2008). *National Board Certified Physical Education Teachers*. Illinois Alliance for Health, Physical Education, Recreation and Dance . \$5224.00.

Woods, A.M., & **Rhoades. J.** (2008). *Characteristics of National Board Certified Physical Education Teachers*. American Alliance for Health, Physical Education, Recreation and Dance, \$4,838.00.

Rhoades. J., & Finch, A.(2005) *Effects of Starting Block Width Spacing on Spring Kinematics*, Gill athletics, equipment grant (Experimental Starting blocks ~ \$500)