

Using Collaborative Peer Coaching as a Construct
to Guide Teaching Around the Use of Student Assessment Data

by

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ABSTRACT

This study details the pilot of a collaborative peer-coaching model as a form of job embedded professional development, to guide teacher collaboration and planning based on benchmark assessments. The collaborative peer-coaching framework used (including reflection and collaboration about student data, and classroom instruction) was informed by the five propositions outlined by the National Board of Professional Teacher Standards (NBPTS). This intervention included teacher training, discussion (pre and post instruction), collaboration about student benchmark data, and classroom observations with further data collected through surveys and interviews. Using a mixed methods approach to data collection and analysis, I focused on how participants engaged in a collaborative peer-coaching model to guide their instruction based on the use of student data they collected from common benchmark assessments.

DEDICATION

To all the teachers I have worked with past and present, this dissertation has been conceived and written in your honor. You have taught me volumes about this profession, and most importantly, you have inspired me to continue my quest to help teachers stay connected to their inner passion for their chosen profession.

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Chapter 1 Introduction

Life-long learning is an oft-used cliché in the field of education. Teachers, for example, facing a different clientele on an annual basis and consistently adjusting to different realities in schools, continue to learn and adapt throughout their careers. In some instances, teachers learn through the practice of monitoring and adjusting their own behaviors according to student outcomes, and at other times, teachers learn through interactions with other teachers.

For the purposes of this study, collaboration is defined as an organized process in which teachers work together to discuss student progress and share ideas for classroom implementations to support student learning (Kasl & Yorks, 2002). This interaction with other teachers, oftentimes via collaborative learning opportunities, can either be structured or unstructured depending on the will and skill of the participating teachers, the school setting, and the guidance or direction of the administration. As a component of job embedded professional development, teacher collaboration has the potential to help teachers reflect on their instructional practices and facilitate student learning (Colton & Sparks-Langer, 1993; Curry, 2008; National Research Council, 2000; Vidmar, 2006). Yet while research characterizes master teachers as having, among other skills, a desire for life long learning as well as a commitment to collaboration and personal reflection (Colton & Sparks-Langer, 1993; Curry, 2008; National Board Professional Teaching Standards, 2002), research also reveals many teachers are unskilled in the art of collaboration (Creswell & Rasmussen, 1996; Nagle, 2009; Pomson, 2005).

Creating an environment to support and sustain collaborative learning opportunities as a form of professional development requires the development of a structure and commitment to the endeavor (Joyce & Showers, 2002). Teachers have to not only believe their contributions are of value, but also their colleagues have meaningful insights and knowledge to share (Curry, 2008; Gill & Hoffman, 2009). In addition, facilitating the move towards increased collaborative learning opportunities by incorporating protocols and guiding questions can help teachers *say the right things* as they develop their collaboration skills to address questions about, for example, data and student performance (Brockbank & McGill, 2006; Costa, D’Arcangelo, Garmston, & Zimmerman, 1988; Curry, 2008). Over time, the use of common protocols and/or guiding questions can become habitual as teachers see value in the outcomes of their interactions and develop trust during the collaborative process (Allen & Blythe, 2004; Curry, 2008).

Studies have been conducted indicating that teachers who engage in collaboration attribute their students’ success in learning and/or their personal effectiveness in the classroom to their participation in collaborative learning opportunities (Andreason, 2009; Basmat, Lewis, & Farris, 2001; Berry, Daughtrey, & Weider, 2009). In addition, teachers who find collaborative learning opportunities beneficial often seek out online networks for collaboration, particularly if there are not collaborative opportunities available at their school sites (Berry et al., 2009).

At the secondary level, however, mandated collaborative learning opportunities are either avoided or can bring about conflict that may be difficult to

overcome without a clear of structure for this type of teacher interaction (Achinstein, 2002; Hargreaves, 1991; Rothberg, 1986; Scribner, 1999). This may be perpetuated by a general high school design where teachers serve as content specialists with over 150 students on their case-load. This can overwhelm teachers, not to mention impede the extent to which they might focus on their professional responsibilities or desires.

Context

During this pilot study, the teachers and administrators at Casa Grande Union High School CGUHS, and the assistant principal [myself], served nearly 1800 students with a faculty of 89 teachers. At the onset, we had been informed of the impending school improvement requirements and the related effects of not adequately contributing to the academic growth of all students as measured by the Arizona Instrument to Measure Standards (AIMS) and the College Board Advanced Placement exams. In addition, we epitomized the above mentioned challenges that prevent teachers from engaging in effective collaborative learning opportunities. We did not embed opportunities for teachers to collaborate within the school day, nor did our high school have a structure in place to support teacher collaboration or job embedded professional development, leaving these important aspects of teaching and professional learning to chance. Furthermore, we had experienced three different principals with three different styles of leadership over the past three years. The staff had an overall reputation in the district for low morale which was frequently cited during district meetings. Teachers were further distressed about the newly earned label and its looming

consequences. As such, some teachers at CGUHS were beginning to question how they might begin to incorporate collaborative learning opportunities as a form of job embedded professional development prior to the mandate of any specific professional development model.

Teachers were already collecting common benchmark data during each quarter to measure student progress towards course goals. Benchmark data comes from assessments designed by teachers to provide formative information about how students are demonstrating their learning in the classroom. Each course had a unique assessment designed by the teachers with concise questions that could be graded quickly yet would provide teachers with information about what students were retaining from the curriculum. These assessments are administered each quarter so teachers are able to provide classroom interventions prior to mid-term or final exams. These data along with corresponding quizzes and teacher observations serve as the bridge to establish collaborative learning opportunities about instructional interventions for students not currently demonstrating an understanding of the content.

While the aforementioned processes occur naturally, whether teachers use these data in to make instructional decisions was yet unknown. The purpose of this pilot study was to focus on the implementation of a collaborative peer-coaching model (Showers & Joyce, 1996; Vidmar, 2006; Zwart, Wubbels, Bergen, & Bolhuis, 2009) to guide teacher participation in collaborative learning opportunities around the use of these data to make instructional decisions, ultimately to better support student learning. This involved merging together a

reflective peer-coaching model (Vidmar, 2006) and a reciprocal peer-coaching model (Zwart, et al., 2009). But while this combination looks like a traditional peer-coaching model (Showers & Joyce, 1996), it focuses more on mutual collaboration about independent reflections documented by each participating teacher.

Collaborative peer-coaching is a professional development mechanism that focuses teachers on the study of their curriculum and instruction through engagement in collaborative learning opportunities with colleagues (Showers & Joyce, 1996; Vidmar, 2006; Zwart, et al, 2009). Due, in part, to district restructuring and the threat to CGUHS of extreme school restructuring, such as firing all staff, there was a low level of interest in or support of professional development at the district or site level during the project period. However, the site administrative team and the participating teachers were at least willing to re-examine their school-wide commitment as well as their methods in place to promote collaborative learning opportunities (Nagle, 2009). As the assistant principal of Casa Grande Union High School, I oversaw and facilitated the implementation of the collaborative peer-coaching model with the teachers who chose to participate.

Chapter 2 Conceptual Framework

Skillful teaching requires foundational knowledge, specific content knowledge, and the ability to apply both in a manner that engages students in thought (National Board for Professional Teacher Standards, 2002). In 1987, in an effort to develop professional standards to typify the expectations of our nation's best teachers, the National Board for Professional Teacher Standards (NBPTS) was created. The National Board's (2002) charge was to determine and define "what teachers should know and be able to do" (p. 1). The NBPTS (2002) ultimately outlined five core propositions to acknowledge and promote teachers who (1) are committed to students and their learning; (2) know the subjects they teach and how to teach those subjects to students; (3) are responsible for managing and monitoring student learning; (4) think systematically about their practice and learn from experience; and (5) are members of learning communities (p. 3-4).

The move towards national standards for teaching and learning has been echoed consistently by other foundations and researchers in the field of education (Darling-Hammond & McLaughlin, 1995; United States Department of Education, 2009; NCTAF, 1996). Much like the NBPTS, the National Commission on Teaching and America's Future (NCTAF) laid out a similar plan stating what should be present to maximize the learning potential of students (1996). Currently, the US Department of Education (USDOE) has also put forth similar requests asking states to respond with plans to address these needs in their Race to the Top applications (2009). But the NBPTS laid their system out as a

voluntary program while the USDOE and the NCTAF put the responsibility back on the public school system to restructure their current practices. Regardless, recommendations from all three organizations about what is needed in the educational system include the enhancement of teacher preparation programs and, specific to this study, job embedded professional development (Darling-Hammond & McLaughlin, 1995; United States Department of Education, 2009; NCTAF, 1996).

According to Darling-Hammond and McLaughlin (1995), “Effective professional development involves teachers both as learners and as teachers and allows them to struggle with the uncertainties that accompany each role” (p.1). Furthermore, over the past decade professional development for teachers has shifted from off-site workshops to a focus on accessing the knowledge and skills possessed by teachers within the school (Dana & Yendol-Hoppey, 2008; Joyce & Showers, 2002). Research also suggests that teachers are more likely to implement newly learned instructional practices when the training includes a combination of theory, demonstration, practice, and peer-coaching (Joyce & Showers, 2002). These professional development structures are evolving into on-site collaborative experiences that include teachers developing and practicing new learning with site-based follow up and ongoing dialogue (Joyce & Showers, 2002).

Peer-coaching is a specific professional development mechanism which focuses teachers on the study of their curriculum and instruction through coordinated conversations with their peers (Showers & Joyce, 1996; Zwart,

Wubbles, Bergen, & Bohuis, 2009). That said, peer-coaching might be used as job embedded professional development, as research on peer-coaching supports this *evolution of teacher learning* through built-in opportunities for reflection and collaboration (Batesky, 1991; Cox, Gabry, & Johnson, 1991; Showers & Joyce, 1996; Zwart et al., 2009). Through this type of peer-coaching, teachers can reflect independently and with peers about how classroom practices are impacting student learning, all the while focusing their collaborative learning opportunities on the implementation of instructional strategies and changes based on student outcomes (Ackland, 1991; Batesky, 1991; Zwart, et al., 2009).

Such peer-coaching, for example, might be used to understand data teachers collect about student progress. This is important because student outcomes should guide instructional practices (Koballa, Eidson, Finco-Kent, Grimes, Knight, & Sambs, 1992; Nolan & Hillkirk, 1991). Nolan and Hillkirk (1991) found that observational data shared during the peer-coaching process guided teachers to make changes in their practices focused on increasing student understanding.

Additionally, peer-coaching guides teachers through self-reflection of their own teaching outcomes and helps them account for what occurs, as compared to what was planned (Cox, et al., 1991; Koballa, et al., 1992). Moreover, teachers working together to determine the data on which they might focus shapes the coaching experience into a more objective process of examining what is working to promote student learning (Koballa, et al., 1992; Vidmar, 2006). The practice of peer-coaching has roots in reflection (Darling-Hammond & McLaughlin, 1995;

Steffy & Wolfe, 2001), collaboration (Little, 1993), and data analysis (Black, Harrison, Lee, Marshall, & William, 2004; Stiggins, 2004).

Reflection

The first and fourth NBPTS propositions emphasize that highly accomplished teachers are reflective of their practice, particularly as related to student learning. Proposition one states, teachers are committed to students and their learning (NBPTS, 2002). Highly accomplished teachers know their students as individuals, they have an understanding about where their students are coming from emotionally and academically, and they combine this with the knowledge they possess about how students learn to create varied opportunities for students to demonstrate their learning (NBPTS, 2002).

Proposition four states, teachers think systematically about their practice and learn from experience (NBPTS, 2002). “ ... [M]asterful teachers develop specialized ways to listen to their students, colleagues and administrators, and reflect on their teaching in order that they might improve their practice” (NBPTS, 2002, p. 17). Highly accomplished teachers consider the entire learning cycle in conjunction with the curriculum and make decisions using their knowledge of best practice. In addition, they seek out the expertise of valued peers to help them make decisions about their teaching (NBPTS, 2002).

John Dewey (1910) defines reflective thought as, “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends” (p. 6).

Rodgers (2002) further clarifies reflective thought as a process that builds on each

new experience gaining deeper understanding of how relationships and experiences are connected. In the classroom, this type of reflective thought is continuous, occurring before, during, and after every instructional sequence (Dewey, 1910; Schön, 1987; Vidmar, 2006). This continuous “stream” of thought provides teachers with opportunities to make decisions and draw conclusions relative to what they know about students and how students respond to the lessons they deliver (Dewey, 1910; Schön, 1987; Vidmar, 2006).

Reflection is an ongoing process utilized by highly accomplished teachers throughout each instructional day (Colton & Sparks-Langer, 1993; NBPTS, 2002). While reflection starts as a personal practice of metacognition, or thinking about one’s own thinking, it is beneficial for teachers to share their reflections with someone else who shares some common knowledge or experience (Curry, 2008; Vidmar, 2006). Serafini (2002) asserts the importance of dialogue connected with reflection, highlighting the necessity of collegial feedback regarding ideas teachers have for changes they may make in their classroom. Within this research study, reflection is defined as the process in which teachers engage, individually and collectively, to think about student progress and how they can further influence student success through the use of specific strategies (Dewey, 1910; Rodgers, 2002).

As a construct for reflection, collaborative peer-coaching, a form of job embedded professional development, requires attention to four specific classroom components: Content, students, pedagogy, and context (Colton & Sparks-Langer, 1993; Vidmar, 2006). Content refers to the depth of knowledge teachers must

have about the subjects and curriculum they teach, and on which they might reflect (Colton & Sparks-Langer, 1993). Students bring a variety of backgrounds, needs, and abilities to the classroom, and collaborative peer-coaching requires teachers to acknowledge these differences throughout the process of reflection (Colton & Sparks-Langer, 1993). Pedagogy refers to the manner by which teachers convey information to students, such as the strategies used and the examples provided to illustrate the importance of content (Colton & Sparks-Langer, 1993). Last, teachers need to be attentive to the context in which information is taught. The focus on context takes into account the three previously mentioned components (content, students, and pedagogy) and combines them into the bigger picture of how teachers deliver information to build upon what students already know and can do (Colton & Sparks-Langer, 1993).

As such, teachers can benefit from explaining their classroom experiences, including indicators of student progress, to another teacher. This sharing provides an opportunity for teachers to process their experiences with consideration to both their perceptions and those of their colleagues (Costa & Garmston, 2002). This dialogue creates an opportunity for teachers to combine their experiences and knowledge with the experiences and knowledge of others (Colton & Sparks-Langer, 1993; Curry, 2008; Vidmar, 2006).

Content Knowledge

Proposition two states that teachers know the subjects they teach and how to teach those subjects to students (NBPTS, 2002). In other words, highly accomplished teachers know their content, and subsequently know how to

develop their content and plan and deliver coherent lessons. Not only do highly accomplished teachers connect their content to other disciplines, they also understand and use content specific strategies for teaching their subjects. Furthermore, highly accomplished teachers provide students with both *structured and inductive* learning opportunities to assist students in learning targeted content through problem solving and critical thinking (NBPTS, 2002). In combination, these practices lead to varied opportunities for students to demonstrate learning.

For the purposes of this study, participation in collaborative peer-coaching depended on teachers having sufficient content knowledge so they could be prepared to engage in conversations with their peers about why students did or did not understand the information they were presenting in their lessons (Cox, Gabry, & Johnson, 1991; Showers & Joyce, 1996). Collaborative peer-coaching, as a form of job embedded professional development, was focused on the progress students were making while learning given the specific instructional strategies teachers employed (Zwart, et al, 2009). Teachers lacking solid content knowledge were also intended to benefit from content specific professional development prior to engaging in a collaborative peer-coaching experience (Cox et al., 1991).

Collaboration

NBPTS proposition five captures how highly accomplished teachers engage in collaboration. Proposition five states that teachers are members of learning communities (NBPTS, 2002). Highly accomplished teachers collaborate with one another regarding curriculum, all the while examining the appropriateness of content as well as the sequence in which it is taught. In

addition, they work with other teachers to ensure proper services are provided to all students and work collaboratively with parents, treating them as partners in the education of their child (NBPTS, 2002). Teachers working together, sharing their joint knowledge and experiences, can be the key to unlocking higher student outcomes (Colton & Sparks-Langer, 1993; Hargreaves & Dawe, 1990; Joyce & Showers, 2002; Showers & Joyce, 1996).

Equally important is the structure for these collaborative learning opportunities (Hargreaves & Dawe, 1990; Joyce & Showers, 2002; Showers & Joyce, 1996). Structures for teacher collaboration at school sites are varied, as they range from impromptu teacher lounge conversations to conversations that transpire within coordinated professional learning communities and/or peer-coaching conversations. Regardless of whichever structure is chosen for use, however, research suggests that teachers should be included in the process of learning about each structure and how it can support their professional development (Zwart, et al., 2009). Hargreaves (1990) conceives of this shift from “working on teachers to working with them” (p. 229) in terms of their professional development choices and the reciprocal nature of the exchanges that become a part of this learning. The more structured the collaborative experience, the more training and support will be required to grow and sustain the effort (Joyce & Showers, 2002). Therefore, teachers will benefit from continuous opportunities to learn together about how to collaborate and how to transfer these collaborative skills into the various facets of their work at the school site (Showers & Joyce, 1996).

While time is one of the primary reasons given for weak collaboration efforts on school sites, there are specific modes of collaboration that can be embedded within the school day to support teacher needs (Black, et al., 2004; Hargreaves & Dawe, 1990; Joyce & Showers, 1993, 2002). Collaborative peer-coaching is designed to occur during the course of the instructional day. Planning conferences, classroom observations, and follow up dialogue for collaborative reflection can take place over the course of several days (Cox, et al. 1991; Showers & Joyce, 1996) with each exchange ideally lasting 10 to 30 minutes (Vidmar, 2006; Zwart, et al., 2009). Additionally, viewing collaboration as a form of professional development can also support the provision of time as there are ways to creatively schedule professional development opportunities throughout the school day that otherwise may not be justifiable (Joyce & Showers, 2002).

Using Student Data to Inform Practice

NBPTS proposition three defines how accomplished teachers use data to inform practice as they are most responsible for managing and monitoring student learning (NBPTS, 2002). Highly accomplished teachers understand the variety of instructional strategies they can utilize in the classroom to capture students' attention. In addition, they employ these strategies skillfully to match the varied learning styles of students they teach. Engaging students in learning is a skill to which highly accomplished teachers pay close attention, particularly via motivation and planning. Additionally, knowing their students well provides highly accomplished teachers with information that can inform the design and implementation of their lessons (NBPTS, 2002).

Similarly, highly accomplished teachers assess their classroom instruction as well as student learning on an ongoing basis (NBPTS, 2002). They realize that what students do not know can be as informative as what students do know, and comparing students to themselves as well as to each other provides useful information to judge student learning. They also engage students in the process of self-assessment, "... giving students a sense of responsibility for monitoring their own learning" (NBPTS, 2002, p. 15).

An expression used somewhat frequently in education is that "schools are data rich and information poor" referring to the wealth of data collected but the lack of systems in place to help teachers use data to impact practice (Holcomb, 1999). Teachers have opportunities to collect many different types of classroom data and, to varying degrees, use this data to ascertain whether to continue, slow down, stop, or delve deeper into instruction. What can be missing at times for some teachers, however, are the systems in place to help teachers assess the data they are collecting so that they can utilize this information to support student learning (Black, et al., 2004). The analysis of classroom data sets, individually and collectively, most clearly informs how teachers might move forward with instruction (Black, et al, 2004; Stiggins, 2004).

In short, actions in the classroom that most directly impact student learning are those that occur during the course of instruction; those teacher actions that allow students to understand what is right or misaligned about how they represented their understandings (Stiggins, 2004). This continuous action of assessment followed by adjusted instruction is a cycle evident in classrooms

where teachers and students utilize data demonstrating student progress consistently (Black, et al., 2004; Stiggins, 2004). However, knowing what to do with the constant influx of data about student progress can be challenging for teachers (Black, et al., 2004; Stiggins, 2004). Therefore, collaborative learning opportunities might become a valuable tool for teachers who are ready to engage in this level of reflection (Black, et al, 2004).

Intervention

Via this study I implemented a collaborative peer-coaching model as a form of professional development and analyzed its effects. I designed this intervention to focus teachers on how they teach and extend learning for students based on their reflections and collaborative learning opportunities about student benchmark assessment data. Via this study I set out to answer the following research questions: (1) What impact did reflection have on how teachers focused on student learning? (2) How has the implementation of collaborative peer-coaching influenced teachers' use of student assessment data to make instructional decisions? (3) What impact did collaborative learning opportunities have on teachers' instructional practices?

During the August 2010 staff meeting, I presented the CGUHS teaching staff with the concept of collaborative peer-coaching, aligned with the models used by Zwart, et al. (2009) and Vidmar (2006). I presented this professional development opportunity along with the other opportunities to be offered during the 2010-2011 school year. I described collaborative peer-coaching as a professional development mechanism that focuses teachers on the study of their

curriculum, instruction, and assessment through coordinated conversations with their peers (Showers & Joyce, 1996; Zwart et al., 2009). And I invited teachers to choose collaborative peer-coaching as part of their path for professional development. I also tried to make it clear that collaborative peer-coaching would require more commitment (i.e. multiple meetings, observations, and reflections) than some of the other options that required minimal reflection and no group sessions. Purposefully, given the stated requirements of their involvement, I sought out willing and interested participants rather than mandating participation. Teachers who volunteered to participate were also permitted to participate in other professional development opportunities throughout the school year. Teachers received professional development hours towards their recertification for their participation.

Initially, ten teachers agreed to participate in the study, but ultimately eight teachers maintained active in the study throughout the project period. Teacher participants engaged in three hours of online training that occurred during September 2010. During the training, I provided teacher participants with the conceptual framework for collaborative peer-coaching (see Appendix A) along with opportunities for teacher participants to interact with each other and the new information provided (see Appendix B). This training was the first step in the intervention, and was meant to help the teacher participants engage in this form of professional development. Training was provided through a collaborative peer-coaching website (<http://collaborativepeercoaching.webs.com>) I created just for this group of teacher participants.

The first part of the online training provided teacher participants with information about the research supporting peer-coaching as a professional development model. The research guided teacher participants through the work of Showers (1984) and her explanation for how professional development through coaching supports teachers' acquisition of knowledge about and implementation of specific strategies in the classroom. Teacher participants were provided explanations about the benefits of engaging in coaching, information about different models for peer-coaching, and information to read about the evolution of peer-coaching and the concept of critical friends.

During the second part of the training I highlighted the collaborative peer-coaching process. Teacher participants were given information about the phases of this collaborative peer-coaching model: reflection (pre-instruction) and collaboration about student benchmark data, classroom instruction, and reflection (post-instruction). In addition, teacher participants were assigned their partners for the peer-coaching experience. Partners were assigned based on the following considerations: their department affiliation, courses they taught, and pre-stated preferences. Once assigned, participants were asked to engage in the remainder of the training sessions with their partner because opportunities for collaborative planning were embedded within the remainder of the training.

During the third part of the teacher training, teacher participants were given information to prepare them for collaborative peer-coaching. The information was focused on the purposes and objectives of the actual intervention, the collaborative peer-coaching protocols they were to use during the process, and

the timeline for engagement in the project period. There were also specific questions provided that were included to guide teacher participants through each phase of the collaborative peer-coaching process: reflection before instruction (see Appendix C), collaborative data analysis and planning (see Appendix D), instructional observations (see Appendix E), and reflection after instruction (see Appendix F). The guiding questions within these protocols were designed to prompt teacher participants towards thinking about their benchmark assessment data and implications for continued instructional practices to either re-teach or extend learning for students. The protocols also included space for teachers to record their thoughts during parts of the process (e.g., observations they made while teaching, strategies or assessments they would like to discuss with their partner, questions they are having about their practices, etc.).

In terms of the timeline, teacher participants were expected to commit to the process and the respective dates and times required of them to participate. Because benchmark assessments are administered at specific times during the school year, two of which occurred during the project period, teacher participants were expected to engage in the peer-coaching process twice between the months of August and November. The project period began in August with the aforementioned training, and this was followed by actual engagement in the peer-coaching process. That said, each pair of teacher participants provided me with their projected dates for participation in peer-coaching to help with accountability and project tracking. During the project period I also attended and facilitated each of the collaborative coaching sessions for each pair of participants. Given the

constraints of the project period as well as the limited number of data collection opportunities, I found it important to be present to support the fidelity of implementation of this new professional development experience.

Also during the third part of the teacher training, I explained that each collaborative learning opportunity during the collaborative peer-coaching process was designed to take 20 minutes. The reflections (pre and post instruction) were to occur independently. In all, the collaborative peer-coaching process was defined as one that would not take copious amounts of time; however, it would have specific protocols (see Appendixes C, D, E, and F) so that the time spent collaborating and reflecting would stay focused on student learning.

After all three training sessions were complete, teacher participants established a schedule for when they would engage in the collaborative peer-coaching process. Since this process was designed to focus on benchmark assessment data, participants provided me with dates they would be prepared to collaborate with each other about their student data. Prior to each collaborative learning opportunity, participants recorded their reflections (pre-instruction) on the collaborative peer-coaching website created for this group. I read all teacher reflections (pre-instruction) in preparation for their collaborative peer-coaching meetings. This provided me with information about what they were thinking about their student data and what they planned to do to address student learning. I responded to some teachers' reflections electronically, providing feedback as necessary. Using the website for reflective data collection allowed teacher participants to keep an electronic journal of their thought processes throughout the

intervention semester as well. Additionally, using the website allowed partners to read each other's reflections (pre-instruction) prior to the collaborative planning meetings.

Next, the eight teacher participants met in their pairs to engage in collaborative planning. These collaborative planning meetings occurred during participant planning periods or after school, depending on participant preferences. The purpose of these meetings was for participants to discuss their student benchmark assessment data, their reflections (pre-instruction), and the specific intervention strategies they intended to use in the classroom to support student learning with their partner. Each participant brought their own reflection (pre-instruction) along with their notes from their review of their partner's reflection (pre-instruction).

During the collaborative planning meeting, teacher participants shared information, ideas, and asked questions of one another using the pre-instruction reflection protocol (see Appendix C) and the collaborative data analysis and planning protocol (see Appendix D) to guide their discussions. I observed and facilitated each of these meetings to guide and support teachers through the collaborative peer-coaching process. If teachers were engaging in collaborative conversations about their data and their suggested strategies, I allowed them to manage their own progression through the questions. The meeting ended with each participant reviewing an overview of the specific lesson they were going to implement to teach the target learning goal students did not meet.

Next, each participant provided me with a date and period that I could come in and observe the implementation of the lesson they described during the collaboration and planning meeting. I observed each participant deliver the lesson, and I used the classroom observation protocol (see Appendix I) to document their efforts at teaching the lesson discussed during the collaborative learning opportunity with their partner. I observed in each classroom for the duration of the planned lesson as described by each participant. Some lessons were 15 minutes and other lessons were 50 minutes. Again, each participant designed each of the lessons I observed given his/her interpretation of what type of learning experience students needed and his/her peer's input.

Then, following the classroom observation, I provided teachers with a copy of the classroom observation feedback with my notes for them to review. Generally, I would leave a copy of feedback in their mailbox for them to pick up at their convenience. Additionally, participants scheduled time during the same school day to talk with me about each of the observed lessons. While it was not required, often times participants would request their partner to be present during these feedback conversations.

Finally, as teaching is cyclical, so is collaborative peer-coaching. Following the delivery and observation of the lesson, each teacher participant again logged onto the website (<http://collaborativepeercoaching.webs.com>) and completed an individual reflection (post-instruction) documenting what they had learned during the collaborative peer-coaching cycle (see Appendix F). The post-instruction reflection was designed to help refocus teacher participants' attention

on what occurred during their instructional lessons, the conversations they had with their colleagues, and on what they were going to do next for their students. Again, I read and responded to each participant's entry electronically using this information as one measure to determine how much support each pair or individual teacher participant needed as he/she worked through the collaborative peer-coaching process.

In sum, this study included two cycles of the collaborative peer-coaching process (reflection pre-instruction, collaborative planning, classroom observation, and reflection post-instruction). Additionally, throughout the course of this study, I met with participant pairs to monitor their timelines, dialogue about the process, and provide continued assistance, helping them use the protocols (see Appendix C, D, E, & F) I designed to guide them through the process. Combined, these protocols also facilitated the data collection process and helped me determine the effectiveness of the collaborative peer-coaching model I developed for this study.

Chapter 3 Methods

Again, throughout this study I collected data to answer the following research questions: (1) What impact did reflection have on how teachers focused on student learning? (2) How has the implementation of collaborative peer-coaching influenced teachers' use of student assessment data to make instructional decisions? (3) What impact did collaborative learning opportunities have on teachers' instructional practices?

To answer these research questions, I used a mixed methods approach collecting qualitative and quantitative data to detail and understand my intended effects, via the implementation of this intervention and its resulting outcomes (Creswell & Plano Clark, 2007; Gelo, Braakmann, & Benetka, 2008).

Specifically, as understanding the effectiveness of this intervention relied in part on the reflections and collaborations of those involved, I collected qualitative data to provide information through action research (Miles & Huberman, 1994) about what the teacher participants, collectively and individually, understood about this collaborative peer-coaching process and how they perceived their participation contributed to increased student learning. However, I did not analyze actual increases in student learning. This was not possible given the short duration of this study, the few pairs of participants involved, and limited access to high-quality assessments that would afford me the opportunity to analyze changes in learning, across subject areas, appropriately and validly. I did, however, collect quantitative data to capture demographic details about who my participants were

providing background information to guide my instructional decisions prior to the onset of the intervention.

Participants

Again, eight high school teachers were included as participants in this study. While their years of teaching experience varied from one to over ten years, all were highly qualified and appropriately certified for the courses they were assigned to teach, as defined by the Arizona Department of Education (ADE). Of the eight teacher participants, three were math teachers, two were English teachers, two were special education teachers, and one was a health teacher. Seven were under my direct supervision for their instructional duties at CGUHS during the period of study and the other participant was directly supervised by the site principal.

Because teachers at CGUHS had two options for professional development during the 2010-2011 school year, and they had the freedom to choose which of the offerings, if any, were of interest to them throughout the school year, I utilized a convenience sampling technique (Gelo et al., 2008) allowing participants to self select into this study. Once they self selected in, they received an invitation letter (see Appendix G) detailing the purpose, scope, innovation, and general data collection methods that would be a part of the study. Teachers then returned this letter indicating their desire to participate and noting their consent to use their data for research purposes.

These eight teachers also indicated their preference regarding with whom they wanted to partner for this project. I reviewed their choices considering their

department affiliation, years of experience, and course assignment. I recommended two changes, based on my attempts to stratify new teachers with more experienced teachers and given the mentorship relationships that were already in place. When recommending these changes, I first spoke to the teachers individually and then spoke to them as a group, providing the rationale for why I wanted them to work in a different configuration. This modification of the sampling plan to incorporate purposeful sampling (Marshall, 1996) allowed teachers to continue with their previously established mentoring activities while participating in the collaborative peer coaching activities (Miles & Huberman, 1994). With the exception of one pair, all participants were paired with colleagues teaching in the same content area.

There were two pairs of math teachers, one pair of English teachers, and one pair that had a special education English teacher partnered with a freshman health teacher. The math teachers were paired based on their level of teaching experience and their strengths identified previously through the teacher evaluation process. Each math pair had an experienced teacher partnered with a teacher who had one or less years of teaching experience. The English teachers also had a more experienced teacher and a teacher with less years of experience. The remaining pair was challenging to match at first based on the lack of similarity between their subjects (special education English and freshman health). However, the teaching styles of both teachers was similar and they fit the pattern of having one more experienced teacher with a teacher who had less than three years of experience in the classroom.

Data Collection Measures

Professional development survey. Before the study commenced, I administered a professional development survey electronically to all participants. I designed the professional development survey (see Appendix H) to gather information about teacher-participants' experiences and preferences regarding professional development. The survey included 19 Likert-type questions, seven free response questions, and six demographic questions. I divided the survey into five different constructs: professional development, collaboration, data analysis, reflection, and peer-coaching. These constructs each contained a minimum of five questions. I also included a section to collect demographic data.

Within each construct, the questions were designed to identify participant opinions and self reported behaviors that would align with what the NBPTS would consider actions of highly accomplished teachers. The first construct, professional development, aligned with core proposition five relating to teachers being members of learning communities. The questions within the second construct, collaboration, aligned most closely with the fourth core proposition, addressing the systematic thought about practices and learning from experience. The next construct, data analysis, was aligned to core proposition three, the responsibility for managing and monitoring student learning. The fourth construct, reflection, was most closely aligned to core proposition two regarding how a teacher knows the subjects they teach and how to teach those subjects to students. The fifth and final construct was aligned with proposition five regarding teacher engagement in learning communities. The five constructs of the

professional development survey altogether aligned with proposition one, and were included to capture participants' overall commitment to students and their learning.

Individual teacher reflection (pre-instruction). I designed the individual teacher reflection (pre-instruction) protocol (see Appendix C) to help participants think through how they analyzed their student benchmark data in preparation for both the planning of their follow-up lesson and collaborative planning with their partner. By design, this tool was intended to guide participants through reflections about the variety of specific student variables highly accomplished teachers might take into consideration while planning for instruction (NBPTS, 2002). Using this instrument, I asked all participants to respond to four open-ended questions, twice within the study, in an electronic forum as they planned for upcoming lessons to teach content based on student benchmark data. Participants engaged in the pre-instruction reflection after they collected their student benchmark data and prior to their engagement in collaborative planning.

Classroom observations. I designed the classroom observation protocol (see Appendix E) to help me, as researcher-observer, collect information in the classroom while participants were teaching. I used these observational data to examine the alignment between teacher planning, collaboration, and implementation of strategies as compared to the characteristics outlined to promote highly accomplished teaching (NBPTS, 2002). Additionally, I used these

data to examine whether there was a clear focus on the specific learning targets identified during reflection and collaborative learning opportunities.

I conducted two classroom observations per participant after each collaborative planning meeting, and each observation lasted between 15 and 50 minutes dependent on the lessons designed by the participants. Also, participants chose the date and time for their classroom observations. Each participant engaged in two collaborative peer-coaching cycles during this study; therefore, I observed each participant delivering a lesson twice during the project.

Individual teacher reflection (post-instruction). I designed the individual teacher reflection (post-instruction) protocol (see Appendix F) to help focus participants' reflections regarding how to move forward with their planning, based on what they learned about student progress and their own instructional practices via this intervention. By design, this tool was intended to guide participants through systematic reflections about their practices with questions about how they might learn from their collaborative learning opportunities about assessment data and teaching experiences via this intervention. Participants were asked to respond to three open-ended questions in an electronic forum on the collaborative peer-coaching website (<http://collaborativepeercoaching.webs.com>) at the culmination of both collaborative peer-coaching cycles. Participants were asked to respond within 24 hours of their classroom observations to keep the time frame of the full collaborative peer-coaching cycle confined within a period of two or three days. In addition, I read each of the post –instruction reflections and responded electronically on the website within a similar time frame to promote

closure of the cycle and encourage the participants to move forward. Additionally, I took personal notes in the form of researcher memos following the completion of each cycle to store my reflections, ultimately so that I could either recall my thoughts in the future or use them in the analysis that was to transpire.

Interviews. I designed semi structured interview questions (see Appendix I) to gather individual information about participants' views of their involvement in this intervention. Specifically, these data were used to identify what connections participants were making between their recorded reflections, collaborative learning opportunities, and classroom instruction as well as how participants specifically articulated their use of student benchmark assessment data to make instructional decisions based on the same framework. Additionally, these open-ended questions helped me to identify how closely participants aligned their reported thinking with the characteristics of highly accomplished teachers as outlined in the five core propositions (NBPTS, 2002). I engaged each participant in an individual semi-structured interview at the culmination of the first of the two collaborative peer-coaching cycles. Participants were provided a copy of the questions so they could follow along during the interview. Each interview was digitally recorded and then transcribed. Interviews were conducted in my office during after school appointments and lasted from 15 to 50 minutes depending on participants' responses.

Data Analysis

I utilized both quantitative and qualitative data analysis techniques to better understand the impact or influence this collaborative peer-coaching model

had on how teachers focused their instructional practices based on student learning data.

Quantitative data. For the numerical and Likert-type data collected via the professional development survey (see Appendix G) I utilized Predictive Analytics Software (PASW) software to analyze the data within and across the five constructs of the professional development survey. I analyzed this information to determine participants' perceptions of each element of the collaborative peer-coaching process prior to their engagement in the intervention. Additionally, I utilized the reliability statistics of Cronbach's alpha (1951) to determine reliability, or the consistency with which participants responded to the items included within this data collection instrument.

Qualitative data. I analyzed my qualitative data using deductive coding methods using themes I constructed within the data based on the characteristics of highly accomplished teaching characterized in the five propositions outlined by the NBPTS (2002) (Miles & Huberman, 1994). To further frame the coding process, I used the subcategories outlined by the stages of peer coaching (pre-instruction reflection, collaboration, classroom observation, and post-instruction reflection) to help me identify relationships within my data across these constructed categories (Mile & Huberman, 1994). As I read through the data teachers recorded in the individual teacher reflections, pre and post instruction (see Appendix C & F) I first coded the information across the five propositions defining highly accomplished teaching and then mapped those codes across the subcategories of the peer coaching process. I followed the same coding pattern

when analyzing the transcripts from the collaborative data analysis and planning sessions (see Appendix D), the semi-structured interviews (see Appendix H), and the final focus group (see Appendix J). In addition, I utilized my researcher memos to remind me of what was happening at the school during each of the data collection cycles, time spent with each pair of participants, their general tones, etc.

Validity and Reliability

In an effort to demonstrate the internal validity of this project I utilized the process of triangulation. I compared, across the data I collected, how teachers reflected, collaborated, and taught their lessons focused on student learning goals generated via analyzing their students' benchmark assessments (Gelo et al., 2008). The professional development survey, reflection (pre and post instruction), collaborative planning protocol, classroom observation protocol, and semi-structured interview questions all mapped onto the five core propositions created by the NBPTS characterizing what accomplished teachers should know and be able to do. As such, I also attempted to further establish the internal validity of this project by using the five core propositions to analyze these data to clearly connect the analysis with the framework of this study .

In addition, to increase the reliability of my data, I worked with two additional educators when coding both the reflection (pre and post instruction) and interview data. Using a practice of check-coding (Miles & Huberman, 1994), we coded these data independently and then compared our first level codes prior to forming second level, working themes. Check coding helped me eliminate

some of the bias that is commonly present when one researcher collects and analyzes the data in isolation (Miles & Huberman, 1994). This process also helped me construct more valid themes given they were formed across more than just one researcher.

As mentioned previously, I also utilized Cronbach's alpha to determine the level of reliability of the professional development survey across the five constructs (Table 1). Nine Likert type questions were eliminated from the survey as they were poorly constructed for this type of analysis. Overall, the professional development survey yielded a coefficient of 0.295. The range of coefficients across the five constructs was -1.105 to 0.480. Considering an acceptable outcome for such a test would be 0.70 (Nunnally, 1978) my overall coefficient demonstrated significantly low reliability.

This may have occurred for a number of reasons. First, the two items measured within the construct of collaboration that yielded a negative coefficient used different scales for measuring participant responses. My small sample size (n=8) likely also contributed to the low reliability ratings. Additionally, the progression of questions and the redundancy of questions may have been confusing to teachers. Another point to consider is that the survey was administered prior to the establishment of common definitions for terms and practices referenced in the instrument. While I piloted this instrument in the spring of 2010, I did not increase reliability enough to warrant a more reliable instrument.

Table 1

Reliability Coefficients of Constructs

Constructs	N of items	Cronbach's Alpha
Professional Development	2	0.281
Collaboration	2	-1.105 ^a
Data Analysis	1	^b
Reflection	6	0.480
Peer-Coaching	0	^b
Overall	10	0.295

^a Indicates the value is negative due to a negative average covariance among items.

^b Indicates there were too few questions to calculate Alpha.

As a final check of reliability and validity, I conducted a follow-up focus group after I collected and analyzed all of the data to present participants the themes I constructed. I conducted this member check to not only provide all participants the opportunity to clear up any misconceptions or points of confusion, but also to review, verify, and refine my working assertions prior to my final write-up and submission (Bowen, 2009).

Chapter 4 Findings

Quantitative Measures

Quantitative data were collected via the electronic professional development survey prior to participant engagement in the defined intervention. Again, I designed the professional development survey to gather preliminary information about participants' involvement and experience with and knowledge about collaboration, data analysis, and reflection. This survey was only used to collect data at the onset of the project period.

I used the demographic data collected to inform how I would partner teachers for the intervention, considering subjects taught and years of teaching experience. I used the other self-reported information to develop and refine the intervention. For example, all participants (100%) reported that they preferred professional development to be built around collaboration with their peers. Therefore, I was strategic in pairing teachers with colleagues who taught similar courses and embedded opportunities for partners to collaborate during the online training portion of the intervention. When asked about their primary modes for assessing student learning, participants unanimously (100%) noted they used quizzes and teacher observations to do this. I used this information to help participants utilize protocols they had in common given their data preferences. All (100%) reported that they engaged in individual reflection about student learning on a weekly basis, at a minimum. Furthermore, five of the participants (63%) indicated that they shared their reflections with other teachers on a weekly basis. I

utilized this information to make connections with participants' reported current practices. This informed the reflection stage of the intervention.

Also of note was that there was a statistically significant, positive relationship ($r = 0.75, p \leq 0.05$) between whether participants reported collaborating about student performance and their likelihood to talk to colleagues about how student performance impacted their instructional choices. Because participants reported they were accustomed to talking about their instructional practices as a function of student performance, I would be able to reinforce this practice throughout the intervention. While the survey as a whole would need considerable revisions if I were to administer this again, administering this survey still provided valuable information that helped me prepare the initial training for participants and helped me further support their engagement in the intervention.

Qualitative Measures

Qualitative data were collected to help me determine the impact each of the four intervention stages (pre-instruction reflection, collaboration, classroom observation, and post-instruction reflection) had on participants' overall focus on student learning, use of student assessment data to make instructional decisions, and on teacher practices through collaborative learning opportunities. Qualitative findings are organized as such and are presented next, within each stage of the process as aligned to the core propositions around which each stage was built.

Individual teacher reflection (pre-instruction). Individual teacher reflection (pre-instruction) was designed to force participants to consider their students' benchmark assessment results as a formative assessment tool that could

guide their instructional decisions. I aligned this stage of the collaborative peer-coaching process with NBPTS core propositions (2) Teachers know the subjects they teach and how to teach those subjects to students and (3) Teachers are responsible for managing and monitoring student learning. And I analyzed the semi-structured interview transcripts, the individual teacher reflection (pre-instruction) protocol, and the collaboration transcripts to examine the impact this intervention stage had on how participants focused on student learning and how participants utilized student assessment data to make instructional decisions.

First, I found that teachers were not accustomed to taking time to formally reflect on their instructional practices, especially using student assessment data. During the semi-structured interview, one of the less experienced participants responded to a question about reflection in a manner that resonated across other participants:

I like how [the process] follows along that you really need to think about, um, you know whatever you are using as an assessment, thinking about what you did, what worked well, what you need to change, and why - it is that process you know I think we think that way we just don't write it down you know.

Another participant responded, "I know we are learning about the bones, but I don't actually think about what I want them to know." Participants seemed to be accustomed to going through the motions of teaching, fulfilling the delivery of curriculum without stopping to focus their thinking about student learning, student progress, or what student data had to offer.

Yet the data also revealed that teachers did not have the time to reflect.

Another teacher described not being able to spare time to think about student data:

I think that sometimes you get into a habit of grading quizzes and moving on. But to literally go through and think about every assessment and each student is time consuming. And I only did it with one period but it was nice to take time in the day to analyze the data and individualize the data from the assessments.

Within the data derived via the individual teacher reflection (pre-instruction) protocol, one participant highlighted how she also spent little time reflecting because of her underlying preoccupation or habit of focusing inordinately on curriculum deadlines. Specifically, she stated, “I will continue with the next assessment as planned; however, bell work, as a review, will [interfere] with the projected timeline.” Another participant noted, “I have to move on to the next chapter, but I will try to pay more attention to the struggling students.”

Within the data derived from the collaboration transcripts, one participant also shared that he wanted to consider the data from all of his classes but only had time to really consider one class. Specifically he stated, “I wanted to [analyze the data] for all five classes but it was too stressful in the time frame we chose. So I chose one class and took my time to analyze the data.” His partner echoed a similar sentiment with an alternate strategy for data analysis:

What I found is I didn’t have time to get through the full assessment for each student but picked questions within the assessment that I wanted to

analyze for each student. I found this gave me information to use for each class.

Participants also identified time as a factor prior to the onset of the intervention, asking how much time training would take and approximately how much time would be involved outside of the school day. Clearly, the external pressures of curriculum coverage were ingrained as a high priority for teachers, clouding their instructional instincts to examine data to further promote student learning.

Secondly, due to a self-reported lack of experience formally reflecting prior to instruction, during this part of the intervention participants relied on the protocol and the reflections of their colleagues to further focus their thinking around their students' data, largely in preparation for collaborative learning opportunities with their partners. During the semi-structured interview, six participants (75%) noted that the individual reflection forced them to consider their student data in ways they had not done previously. One participant shared:

[Student benchmark data] opens [sic] my eyes. I say it is not me it is not me, it is always the students. This has given me the opportunity to think about myself and the way the students learn and kind of improve myself instead of blaming the students.

One of the more veteran participants talked about his experience with the independent reflection as a reminder of what he knew he should have been doing all along.

[Reflecting about student benchmark data] has caused me to be more focused on a specific skill and doing it more in depth. Sometimes we get

into a hurry and we start doing the mile wide and inch deep curriculum. This has really helped me keep coming back to what [I] could do better, what [I] could do differently. That has been the biggest benefit to me so far.

Within the data derived from the individual reflection (pre-instruction) protocol participants also identified specific learning targets, via their assessment data, that their students needed further support to master. One participant explained, “Before we get into adding and subtracting radical expressions, or dividing them I need to make sure they understand the simple fraction operations.” Another participant reflected on students’ needs in this manner, “My next series of lessons will have students refine their methods of linear equations to sharpen their skills with equations.” An additional participant was specific not only about where students needed assistance, but also how she would measure student progress. “I plan to teach, as a review, the process for finding LCM (least common multiple). I will assess using [four] adding and subtracting problems and [two] reading problems which require adding and subtracting fractions with unlike denominators.” These statements demonstrate participants’ efforts to actively reflect, during the intervention, to specifically pin-point the concepts their students were not mastering, again based on the benchmark assessment data.

On that note, it was also evident that participants consistently acknowledged this stage saying to each other things like “I was reading about this in your [reflection].” Another participant read his partner’s written reflection prior to their collaborative session and decided to use his partner’s reflection to shape

his perspective on how to address his students' learning needs. "[He] and I are at the same place in the curriculum and noticing the same patterns in student misconceptions. In reading his reflections and hearing his explanations, I am going to plan a similar project-based review." While reading each other's reflections was not an implicit part of this intervention, it proved helpful to participants to see how their partner was planning to address student learning. Based on participants' self-reported lack of experience reflecting individually prior to instruction, it appears beneficial that they had the opportunity to review each other's reflection prior to engagement in their collaborative learning opportunities.

In sum, while participants demonstrated a willingness to make time for reflection during the intervention, they struggled with how they would be able to integrate this as a consistent practice as defined within the study. The amount of assessment data for analysis and the number of students on their case load combined with the top down priority of curriculum coverage were all key factors impeding a consistent practice of individual teacher reflection as designed in this intervention. However, during independent reflection, participants demonstrated more focused thinking about student data, student learning, and related, their instructional plans. This focus proved beneficial as participants read their partners' reflections, during this early stage of the intervention, and used this information to generate ideas to bolster their own instructional planning. In addition, as the participants became more familiar with how the cycle of collaborative peer coaching would progress from start to finish, the purpose for

the individual reflection became more evident. This was also reflected in cycle two with more clearly defined learning targets evident across all participants.

Collaboration. The collaborative planning sessions were designed to formally engage participants in discussion with colleagues about their use of students' benchmark assessment results as a formative assessment tool that could guide their instructional decisions. I aligned this stage with NBPTS core propositions (2) Teachers know the subjects they teach and how to teach those subjects to students, (4) Teachers think systematically about their practice and learn from experience, and (5) Teachers are members of learning communities. I analyzed the transcripts from the collaborative learning opportunities, the semi-structured interviews, as well as the information from the classroom observation protocol to examine the influence this intervention stage had on how participants used student assessment data to make instructional decisions and the impact collaborative learning opportunities had on teacher practices.

First, I found that the collaborative learning opportunities provided participants an outlet to share ideas regarding how to teach and re-teach instructional topics in different ways. During these sessions teachers were most often planning on implementing a variety of instructional strategies to give students new opportunities to interact with familiar content that they were still not mastering. During the collaborative learning opportunities, teachers spent approximately 75% of their time discussing instructional strategies they could use to address their identified learning objectives and student deficits in these areas. Six participants (75%) consistently discussed the use of instructional strategies

that represented different ways of presenting previously introduced content to students.

For example, one participant wanted to have students review overall concepts by, “[having students] explain the chapter they [we]re assigned using specific questions I assign[ed]. They [would] have the rubric as their guide for their presentation.” Another participant opted for group work to review a previously delivered concept stating, “Students should be able to explain, in their groups, how each of the three methods can be used to graph an equation.” To address the review of vocabulary words, one pair decided to have students complete a Frayer model and share their work in a review activity called inside outside circles. This was a novel use of instructional strategies for one of the participants who reacted in this manner during the collaborative learning opportunities, “I hate playing games. I will know this is working if students have an adequate Frayer model that others can use to study their words.”

Classroom observation data demonstrated that during this stage, six participants (75%) planned for the implementation of instructional strategies that would help them re-teach concepts that were not sufficiently mastered as well. Yet while throughout these discussions, participants maintained a focus on planning for the use of strategies to re-introduce previously presented content, participants also rejected this notion or took the concept of re-teaching to a more enlightened level.

During the semi-structured interviews, one participant shared that working with another teacher helped her refine her practices and become more focused on

more innovative strategies she could use to teach previously introduced content. “[She] helped me understand how to fine tune the lessons I used to introduce [and explain] new strategies to my students rather than los[e] another week to re-teaching in the same manner I did the first time around.” Another participant stated, “I have been thinking [during this intervention] it might not make an impact to just re-teach but [maybe I should] try to teach something differently [the second] time.” These participants utilized these collaborative learning opportunities to discuss different strategies to teach previously introduced material. Overall, the focus was on making the “old new again” through either traditional or more innovative means of interacting with students and their un-mastered learning targets.

Secondly, I found that participants not only relied on each other and me to hold them accountable to implement the plans they designed, they planned opportunities to follow up with each other after their observations to discuss the impacts of their implemented plans. During these collaborative planning sessions participants identified plans for re-teaching, as evidenced, and scheduled opportunities to follow up with each other following lesson delivery, and all of the participants (100%) communicated with their partners about how they were going to determine if the new strategy was helpful for students. For example, two participants decided to each try a different lesson plan and then talk afterwards about what did and did not work for their students. One stated, “I am not comfortable using the dominoes, but can plan for the whiteboards...do you want to [follow up] with each other afterward to see if [the strategy] worked?” Another

participant suggested, “If we use the same rubric we will be able to have follow-up conversations about how students did with this type of learning because we will have looked for the same things.”

In addition, during the semi-structured interviews, participants noted that they also relied on my observations to plan for and implement their planned lessons. One of the less experienced participants explained that he often had ideas and drafted plans that he thought he could implement to help his students make progress; however, with no one watching or asking him what he was doing to address gaps in student learning, he opted out of doing anything with his plans. From his perspective working with his partner/me held him accountable for following through with trying new ideas. He stated, “To actually schedule a specific time for you to observe in my classroom [to watch me do what I planned] that forces me to do something, well to actually do what I planned for the students.” One of the more experienced participants saw my observation as a motivating factor as well, because he felt it forced him to also implement his plan and consider what to do if it did not work as he intended. This participant shared:

It has been a long time since my feet were held to the fire to do something. But I am relieved that you actually saw [what I am dealing with] so now we can move on to talking about what I should do next.

Participants had not been accustomed to observations tied to specific lesson plans prior to this intervention. As such, it was not surprising that each other’s and my own observations served as the primary motivating factor for them to implement their lessons. Furthermore, data derived from the classroom

observation protocol revealed that all participants (100%) attempted to implement the plans they discussed during their collaborative sessions. Of the 16 classroom observations, there were only two occasions (13%) when the identified strategy was not fully implemented as planned. These two occasions involved two different participants who were forced to alter their original plans due to classroom management issues.

Third, it became evident during this phase of the intervention that two pairs consisting of four of the eight total participants (50%) took more ownership of the collaborative peer-coaching process than their participant peers. These more committed participants consistently sought out opportunities for support and more information, and they were more likely to share ideas about how parts of this process could be adopted in their department. While experiencing the same time constraints evidenced previously, these participants chose to spend more time collaborating about how to make this intervention something that would help their department become more effective at examining and addressing student learning needs. For example, one participant stated:

Our course group meetings include a lot of complaining about [non-instructional topics] that are not relevant to what we need to accomplish. If we were to use this protocol, maybe change it a little, I think it could focus our time and maybe make for a shorter meeting.

Data derived during the collaborative learning opportunities also revealed that these more committed pairs of participants spent approximately 1-2 hours formally collaborating with their partners and me compared to the approximately

30 minutes their less engaged colleagues spent in similar activities. They also spent more collaboration time working through ideas to share parts of this process with their colleagues who were not participants in the intervention. Further demonstrating their commitment to adopting portions of the intervention into their regular practices, they also made requests during the semi-structured interviews to allow them to be more formally trained in the use of the observation protocol.

One stated:

[We] want to observe each other in the classroom using the tool you use. When you watch, you look at what students are doing and hear what we are saying. No offense, but we will watch [those things] and we will listen for how the math is explained and how students talk about math. [We] think this is a content specialized way of giving feedback that we do not get often.

In sum, participation in collaborative learning opportunities provided an avenue for participants to share ideas, old and new, regarding how to teach and re-teach instructional topics in different ways and to plan for a variety of instructional strategies to address the learning gaps identified. Although the planning was specific and thorough, it was also evidenced that participants relied on their partners and me to push them into actually implementing their plans in the classroom via observations. It also became evident, however, that half of the participants took a more active interest in the intervention here, and further considered adopting the observation protocol, for example, into their regular

departmental functions to focus attention on student learning beyond the project period timeline.

Classroom observation. The classroom observation protocol was designed as an instructional and accountability tool that would help me ensure that the lesson plans developed actually were delivered to students. I aligned this stage of the collaborative peer-coaching process with NBPTS core propositions (2) Teachers know the subjects they teach and how to teach those subjects to students and (3) Teachers are responsible for managing and monitoring student learning. I analyzed the classroom observation protocols, the individual teacher reflection (post-instruction) protocols, and the semi-structured interview transcripts to examine the impact this intervention stage had on how participants focused on student learning and how participants utilized student assessment data to make instructional decisions.

First, I found that during the classroom observations, participants communicated the learning goals to students using verbal and visual formats outlining for students what they were expected to know and be able to do at the culmination of the lesson. The classroom observation protocols revealed that during the 16 classroom observations, 100% of the participants evidenced their efforts to clearly communicate the learning goals based on the benchmark assessment results. All participants (100%) communicated to students the learning objectives verbally and six of the eight participants (75%) consistently provided a visual representation of the learning goal in conjunction with their verbal explanation. For example, one participant wrote the following learning goal on

the front board and then read the goal to her students, “Before the period is over today, you will show me how you can apply literary terms to the poetry we are going to read.” Another teacher provided students with a handout that had the learning objective printed on the top of the page and then asked students to follow along as he read the learning goal out loud, stating, “Students will be able to use coordinating and subordinating conjunctions to create longer and more varied sentences.”

Additionally, within the individual teacher reflection (post-instruction), three teachers (38%) referenced their communication of learning goals during the lesson as a way to guide students towards what they were expected to accomplish by the end of the period, based on the learning gaps identified through the benchmark assessment data. One participant wrote:

During the lesson, I provided handouts with the objective and what they had to do at the end of the period written on the top. So students knew they were going to have to create a quiz to give to the next class and they knew they had to make an answer key. It seemed like this kept them focused to my instruction so they would be able to finish making their quiz before the period was over.

Two other participants referenced their communication of the learning goals. One participant reflected:

My students seem to forget what we are doing about halfway into the period. When I started writing the [learning goal] on the white board, I was able to refer them to reread the objective. After hearing me redirect

them a few times, they started to look at the board instead of asking me to repeat [what we were doing].

Furthermore, during the semi-structured interviews, five participants (63%) shared that they believed that their communication of the learning goals, both verbally and visually during the classroom observations, supported students' attention to the planned lesson. One participant's thoughts summarized the sentiments of all five:

Before, I'd write 'ch 2 1-8' on the board and call it my objective. Now that I am writing a learning goal, including the topic and what I want the [students] to be able to do, my students seem more interested.

Another participant indicated that because her lesson was based on the learning gaps identified by analyzing the students' benchmark assessments, it made it more important for her to communicate the learning goals in a very precise manner. She said, "Knowing that the majority of my students can't write a sentence with a subordinating clause made it clear that they needed me to tell them exactly what we were going to accomplish during our 50 minutes." In short, during the classroom observations, participants consistently communicated the learning goals to students as a way to let students know what they were going to learn and how they were going to demonstrate their learning during the class period.

Secondly, during the classroom observations, I found that while participants implemented progress monitoring strategies as a way to assess students' learning during the lessons, they had varying degrees of satisfaction or success with these efforts. During the classroom observations I noticed that 14 of

the 16 observed lessons (88%) included the implementation of strategies chosen for the purpose of monitoring student progress during the lesson. One participant explained her choice of progress monitoring strategy to her students like this, “I need you to raise your white board, once you have your answer, to right below your chin so only I will see your response. This will help me decide what to do next.” Another participant utilized a ticket-to-leave strategy which required students to respond to specific questions in writing so she could then review the responses to determine if students were making progress in retaining the content addressed in the learning goals.

Within the individual teacher reflections (post-instruction), participants recounted their use of progress monitoring strategies during their observed lessons. One participant reflected, “I liked having my students respond to questions in small groups so I could listen to their responses and know whether or not I could keep going.” On the other hand, another participant reflected on her missed opportunity regarding how she implemented the progress monitoring strategy of exit questions. She reflected, “It was sort of frustrating that I forgot to review the exit questions until about two days later. They didn’t do well and I had already moved on.”

Furthermore, during the semi-structured interviews, participants continued to share their experiences with progress monitoring during their observed lessons. One of the veteran participants was frustrated that his students were not cooperating during the progress monitoring portions of the observed lesson. He recounted his experience, “The discipline was so bad and I just couldn't do it

[progress monitoring] and I had to quit and pass out papers, it didn't matter to me anymore whether they were making progress." Three participants (37%) were able to make progress monitoring work as designed. When they talked about their experiences with progress monitoring during the classroom observations they spoke of it in terms of what they learned from the students. For example, one participant shared, "Asking students to explain in writing what they did incorrectly in processing a math problem was instrumental for me to figure out how to teach them the skills they were not getting."

In sum, while all teachers made an effort to implement progress monitoring strategies during their observed lessons to determine if student learning was occurring, they did not all feel successful in all of their attempts. Participants understood the value of progress monitoring but were not all experienced in monitoring student progress within a lesson leading to frustration in some of the cases. While they were in general successful with framing the learning objectives and helping students understand more clearly what it was they were expected to know and be able to do, measuring whether students met the objectives was one area in which the participating teachers, and likely others who were not involved, are in dire need of more professional development.

Individual reflection (post-instruction). Individual teacher reflection (post-instruction) was designed to force participants to consider what they had learned about students and their learning during the collaborative peer-coaching cycle. I aligned this stage of the collaborative peer-coaching process with NBPTS core propositions (1) Teachers are committed to student and their learning and (4)

Teachers think systematically about their practice and learn from experience. I analyzed the individual teacher reflection (post-instruction) protocols, the semi-structured interview transcript, and the collaboration transcripts to examine what impact this stage of the collaborative peer-coaching process had on their instructional practices.

First, I found that during the individual teacher reflection (post-instruction), participants focused on how they could change their practices to benefit student learning. Of the 16 post-instruction reflections, 12 (75%) included reflections that helped participants focus on how they could modify their practices to improve student learning. For example, one participant reflected about the varying levels of student ability in her classroom in relation to the learning goal she selected for the observed lesson. She shared, “Many [students] asked questions beyond the level I thought they would. In the future I should have different variations of the same problem to [challenge students at all levels.]” Another participant reflected on how he changed his practices immediately following his observed lesson. He recounted his experience as follows:

My lesson did not go well, I did not plan for time management. So, between periods I assigned times for each phase of the lesson to help keep me and the students on track. That way the next period [students] could have a chance at getting through the lesson.

Even when a lesson went well, participants reflected on how this change in their practice should become consistent. For example, one participant stated, “As a

result of today, I will continue with presentations and refine my criteria. In time I might have this [strategy] refined.”

Additionally, during the semi structured interviews, participants talked about their use of the individual reflection (post-instruction) as a time to consider their delivery of the lesson and their attention to student learning. Of the eight interviews, six (75%) included participant references to how they could modify their practices to impact student learning. One participant shared that she had never reflected like that (post-instruction) before and was surprised at the growth she felt she needed. She stated, “I can’t believe I kept talking and going on when clearly my students demonstrated that they did not know what I was talking about. I should know better, right?” Another participant referred to his post-instruction reflection as his opportunity to slow down and consider whether he did what he said he was going to do within his lesson. He shared:

My post-instruction reflection gave me time to decide if I should continue with what I am doing or if I am way off base. I am new and need that time to decide if what I am doing with kids is working.

Similarly, within the collaboration transcripts, participants made reference to what they had learned about their instruction from their prior post-instruction reflection. Of the four collaborative learning opportunities, three pairs involved (75%) included references to the modification of their instructional practices that came out of the post-instruction reflection. One example of such a reference came from a veteran participant who admittedly had not spent consistent time reflecting after lessons prior to the intervention. She shared:

During my reflection I realized that I don't follow the curriculum if it differs from how I was taught. Looking at how students did during the lesson and then at the short cuts I was trying to teach them made me consider that maybe I need to focus more on the curriculum and less on what I think might work.

Another participant shared, "My post-instruction reflection felt like professional development for me. I felt like I was asking myself a lot of questions and thinking of articles I need to go back and read."

All in all, participants utilized the individual reflection (post-instruction) as an opportunity to look at their own practices and how they might change what they are doing to have a stronger impact on student learning. Participants took this opportunity to look introspectively at their practices and consider how their actions influenced student learning. Teachers identified planning for lesson variety, refining their expectations for student outcomes, and sticking with their plans as defined by the curriculum as some of the key ways they might modify their own practices to enhance student learning.

Finally, during the individual teacher reflection (post-instruction), I noticed that participants analyzed their comfort with the implemented activities as opposed to analyzing student learning. All 16 of the individual teacher reflections (100%) included references to participants' opinions about the activities they implemented. Participants were more preoccupied with whether they liked the activities as opposed to whether the activities impacted student learning. For example, one participant wrote, "I enjoyed the activity using the cards more than

a 'book lesson.' I might do that one again." Another participant shared, "I like how guided notes worked with my students, that way I can manage what they are doing [while I am at the board]." And yet another participant reflected on the activity she implemented, "I think I had as much fun as my students, we will have to do that again." No mention was made regarding whether students actually learned as a result.

Furthermore, during the semi structured interviews, four of the eight participants (50%) talked about their post-instruction reflection and how it helped them determine which activities they would use again and which they did not prefer. One participant shared that the post-instruction reflection allowed her time to think about which activities caused behavior problems in her class therefore she would not use them again. Again, no direct focus on student learning was apparent. Her rationale about her reflection was, "It was nice to have the time [during the reflection phase] to figure out which activities I like to use with my students. They are rowdy, so I can't use just any activity." Another participant shared, "My reflection time was valuable to think about what I liked about the activity so I would know if I should save my materials to use again or not." Another example came from a participant who thought the reflection (post-instruction) was an appropriate time to create a pro and con list for her activities. She shared her idea, "In my reflection, I started a journal to track the activities I try and whether I like how they fit into my lessons."

Additionally, I noticed that within the four collaboration transcripts from cycle two, two of the transcripts (50%) included dialogue about how teachers

reflected (post-instruction) on their preferences for certain activities. One pair of participants was trying to decide what activity to use for their second cycle of observations and one participant shared their notes from their individual reflection (post-instruction). He said, “I put that I didn’t like how the three person group assignment worked, the students were too noisy. I wrote a note to myself that I want a more teacher directed activity next time.”

As such, during this part of the intervention, participants inordinately focused their post-instruction reflections on their preference of activities based on teacher likes and dislikes, as opposed to impact on student learning. Participants did not reference activities in relation to student learning during their post-instruction reflections, citing personal and professional preferences and marginalizing student learning, indirectly, all the while. While participants likely believed that preferencing things like student discipline and classroom management would ultimately lead to increased student learning, student learning was more peripheral given participants’ reflective responses.

Chapter 5 Conclusions

This pilot study originated as a means to provide an opportunity for high school teachers to collaborate about students' benchmark assessments so they would use the information to guide their instruction. While the NBPTS has clearly defined the characteristics of effective teachers, I was hoping to find, within this model, a mechanism that would help teachers refine their skills in alignment with these same characteristics. Even though this study was short in duration, the eight participants were able to engage in two cycles of collaborative peer-coaching, and they were able to provide valuable feedback to guide further growth of this model. Hopefully, this model will eventually support other teachers in their quest to refine their practices using student assessment data.

More specifically, however, and in response to research question number one, I found that this intervention influenced how participants planned and implemented their lessons based on students' benchmark assessment data. Through this intervention I provided teachers with guidance and focus for their planning and implementation, and time to analyze their benchmark data. Knowing that time is a primary barrier to instituting innovations in schools, I made a conscious effort to build time into participants' professional day to facilitate their attention to planning and data analysis (Black, et al., 2004; Cox et al., 1991; Hargreaves & Dawe, 1990). Furthermore, participants relied on the protocols I developed to guide their reflections, while even reading the reflections of their peers helped them organize their thoughts about what to do instructionally for their students. During their collaborative learning opportunities, participants came

up with ways to make familiar content new, and to present content to students in ways different than they had done before. As a result, participants were also able to pin-point and communicate specific learning goals providing students with purportedly clearer understandings of what they were supposed to know and be able to do.

In response to research question two, I found that this intervention did not influence teacher participants' behaviors towards managing and monitoring student learning. During this intervention, I did not provide enough consistent support to help participants manage and monitor student learning. Participants definitely struggled with this aspect of the process and many times reverted to focusing on what felt comfortable to them and what instructional practices seemed to help them manage their classrooms. As a result, participants were at a disadvantage when classroom situations required them to analyze student learning on the spot and make immediate decisions to monitor and adjust for student learning in the middle of a lesson (Black et al., 2004; Cox et al., 1991). In a future implementation of this intervention, I would allow for adequate pedagogical training in this area prior to and while guiding teachers through the collaborative peer-coaching model (Cox et al., 1991; Showers & Joyce, 1996). Additionally, I would encourage the inclusion of specific guiding questions to support participants' planning for the management of student learning, as well as guiding the monitoring of student learning during instruction.

In response to research question three, I found that this intervention did encourage teachers to think systematically about their practices and learn from

their experiences. As a part of this intervention, I created an environment for teachers to think about their students' benchmark assessment data, and again, I created the time for them to do so. Time is a constant and often prohibitive factor in professional development implementations (Hargreaves & Dawe, 1990). Therefore, it is crucial that future implementations of this intervention continue with the provision of time for collaborative learning opportunities and data analysis possibly including even more creative use of release time within the school day (Hargreaves & Dawe, 1990; Showers & Joyce, 1996). In addition, as I would have hoped, there were participants within the study who took this intervention to another level examining specific aspects of the process and how they could integrate them within and across their departments. It has been shown that when teachers become intrinsically motivated to implement change through professional development, true professional learning can occur (Zwart et al., 2009). Inquiring further into what motivated these four participants to latch onto components of this intervention could inform future implementations and increase the sustainability of this professional development model.

Further implementations of collaborative peer coaching could be informed by the outlier data that was constructed during the coding process. Teachers described their perception of connections between this process and curriculum, materials, other professional development experiences and the current status of school employees. This outlier information, while interesting, was not aligned with the five propositions or the framework utilized in this study and these data were not prevalent across multiple participants. Even so, each of these or

combinations of these issues are worthy of further consideration when refining this intervention.

As important as the refinements to the process will be to future implementations, so is the necessity of having a dedicated administrator that can orchestrate the environment for teachers to be successful while participating in collaborative peer coaching. I had a close relationship with the teachers who participated in this study. There was an element of trust we had that provided me the ability to continually prod them to keep up with the timeline of the process. This same trust kept them working through the obstacles of time and curricular obligations to participate in the process. As their administrator, I was a key factor in the continued implementation of the collaborative peer coaching process.

In conclusion, through this intervention I provided the structure for teacher participants to engage in a form of job embedded professional development that, through my research, evidenced its capacity to support teacher engagement in collaborative learning opportunities about student assessment data. Participants realized the importance of communicating their planned learning goals to students, basing their instruction on their analysis of students' benchmark assessment data, relying on each other for ideas and support throughout the collaborative peer-coaching process, and although participants were not accustomed to taking time to formally reflect on their instructional practices based on students' benchmark assessment results, they modified their practices during this intervention to focus on gaps in student learning. Finally, during this

intervention participants revealed pedagogical and process weaknesses that served to inform potential changes in future implementation of this intervention.

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APPENDIX A

PEER COACHING: COLLABORATING ABOUT STUDENT DATA

PROFESSIONAL DEVELOPMENT MODULE

Peer Coaching:
collaborating about student data

Professional Development Module
August 2010

1

Overview of Module Topics

- Training Effectiveness
- Benefits of Peer Coaching
- Models of Peer Coaching
- Evolution of Peer Coaching

Day One: Research on Peer Coaching

- Reflection
 - Characteristics of highly accomplished teachers
 - Content
 - Context
 - Pedagogy
- Collaborative Planning
 - Characteristics of highly accomplished teachers
 - Identifying partner for collaboration
- Data Analysis
 - Characteristics of highly accomplished teachers

Day Two: Peer Coaching Process

- Reflection
 - Characteristics of highly accomplished teachers
- Collaborative Planning
 - Characteristics of highly accomplished teachers
- Data Analysis
 - Characteristics of highly accomplished teachers

Day Three: Peer Coaching Protocols

- Reflection
- Collaborative Planning
- Data Analysis

2

Overview of Module Topics

- Training Effectiveness
- Benefits of Peer Coaching
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- Evolution of Peer Coaching

Day One: Research on Peer Coaching

- Reflection
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Day Two: Peer Coaching Process

- Reflection
 - Characteristics of highly accomplished teachers
- Collaborative Planning
 - Characteristics of highly accomplished teachers
- Data Analysis
 - Characteristics of highly accomplished teachers

Day Three: Peer Coaching Protocols

- Reflection
- Collaborative Planning
- Data Analysis

3

Defining our Context

Take a minute to reflect on your experience with professional coaching.

- What did it look like?
- Feel like?
- Did it impact your professional practices?

Please record your reflection in the space provided.

4

Training Effectiveness

In your handouts (pg. 5) identify how effective you would consider each of the following forms of training relative to knowledge, skills, and classroom application.

What degree of proficiency is transferred in each area based on the mode of delivery?

Use the following key when ranking effectiveness.

Very Low = 5%
Low = 10%
Middle = 40%
High = 80%

5

Training Effectiveness

	Training Outcomes		
	Knowledge	Skills	Classroom Application
Theory (lecture) + Demonstration	Middle/High	Low	Very Low
Practice + Coaching	High	Low/Middle	Very Low
	High	High	Very Low
	High	High	High

Key
Very Low = 5%
Low = 10%
Middle = 40%
High = 80%

Note: *the rows are cumulative; the strength of coaching rests on the total effect of theory, demonstration, practice, curriculum and coaching.*

6

Peer Coaching as Professional Development

Peer coaching supports teacher reflection.

- * provides an opportunity for teachers to reflect on their practices
- * encourages teachers to think about how much they know about their students and their content
- * supports thoughtful consideration to learning goals and how they are established

7

Peer Coaching as Professional Development

Peer coaching supports teacher collaboration

- * provides a structure for discussions about curriculum
- * provides a structure for discussions about which instructional strategies align with the curriculum
- * provides a structure for discussions about what is and is not working in the classroom

8

Peer Coaching as Professional Development

Peer coaching supports the use of student data to make instructional decisions.

- * provides a focus for evaluating student performance and learning compared to learning goals
- * highlights the importance of determining how learning will be measured prior to instruction
- * creates an opportunity to evaluate the connections between assessment and instruction based on what is happening in the classroom with students

9

Training Effectiveness

- What implications does this information have for you as a classroom teacher?
- What would you like to focus on in terms of classroom application this school year?

10

Models of Peer Coaching

- Arrange yourselves in groups of four.
- Find pages 9-12 in your module.
- Jigsaw Activity:
 - Identify who will read about expert coaching, team coaching, cognitive coaching, and peer coaching study teams
 - Read your selection to yourself, highlighting key information to share with your group
 - Come back together as a table team and take turns summarizing what you read
- Be prepared to share your summaries with the larger group.

11

Models of Peer Coaching

Expert Coaching	Team Coaching
Cognitive Coaching	Peer Coaching Study Teams

12

Critical Friends

- “It is only when you change the lens through which you view student learning – or your own practice – that you discover whether a new focus is better or worse. But if you never change the lens, you limit your vision” (Costa & Kallick, 1993, 49).

13

Reflecting on Day One

Please respond to the follow questions in the space provided. Use a post it to leave your questions on the chart for review prior to our next session.

- What resonated with you the most from the information shared during this session?
- What questions do you have about peer coaching after today’s session?

14

Models of Peer Coaching

- Arrange yourselves in groups of four.
- Find pages 9-12 in your module.
- Jigsaw Activity:
 - Identify who will read about expert coaching, team coaching, cognitive coaching, and peer coaching study teams
 - Read your selection to yourself, highlighting key information to share with your group
 - Come back together as a table team and take turns summarizing what you read
- Be prepared to share your summaries with the larger group.

15

Reflection
(Shon, 1987)

- Reflection “in action”
- Reflection “on action”

- Talk at your tables about how you incorporate both types of reflection.
- ***Which type of reflection do you utilize most frequently to enhance your instructional practices?***

16

Reflection
Characteristics of highly accomplished teachers
(NBPTS, 2002)

- Teachers know their students and adjust their teaching based on this knowledge.
 - Who are they as learners
 - What details do you know about your students as individuals and as learners
 - What do you know about how students in your classroom(s) learn/develop?

17

Reflection
Characteristics of highly accomplished teachers
(NBPTS, 2002)

- Teachers think systematically about their teaching and learn from their experiences.
 - How do you know your students are learning?
 - How comfortable are you changing your plans in the middle of a lesson?
 - What is your primary source of information to stay current with your instructional practices?

18

Reflection: Content
(Colton, Sparks-Langer, 1993)

- **What you are teaching is as important as the techniques used to transfer the information.**
 - Do you understand the alignment of your curriculum?
 - Do you understand how the concepts you are assigned to teach map to the standards?
 - Do you know and understand the requisite knowledge students must have to be successful with the content you are working to transfer?
 - Are you aware of the common misconceptions students have about the concepts you are teaching?
 - Have you determined what knowledge is essential and what knowledge is “nice to know”?

19

Reflection
Characteristics of highly accomplished teachers
(NBPTS, 2002)

- Teachers think systematically about their teaching and learn from their experiences.
 - How do you know your students are learning?
 - How comfortable are you changing your plans in the middle of a lesson?
 - What is your primary source of information to stay current with your instructional practices?

20

Reflection: Pedagogy
(Colton, Sparks-Langer, 1993)

- **How you engage students in the new learning impacts their retention.**
 - What strategies do you use to engage students in the learning?
 - How much variety of instructional strategies do you incorporate on a daily/weekly/monthly basis?
 - How do you react when students are not “catching on” to the information you are asking them to practice implementing?
 - What strategies do you implement on a daily basis to determine if learning is taking place?
 - How often in a learning period do you assess student progress? And how so?

21

Collaborative Planning

- Structures for teacher collaboration at school sites are varied, as they range from impromptu teacher lounge conversations to conversations that transpire within coordinated professional learning communities and/or peer coaching conversations.
- Regardless of which structures is chosen, research suggests that teachers should be included in the process of learning about each structure and how it can support their professional development (Zwart, et al., 2009).
- What structures are currently in place for collaboration amongst teachers?
- How often do you engage in collaboration with your colleagues at your school site?

22

Collaborative Planning
Characteristics of highly accomplished teachers
(NBPTS, 2002)

- **Teachers know the subjects they teach and how to best teach this information to others**
 - Which instructional strategies are most effective given the goals you have for student learning?
 - What types of strategies do you have access to in your instructional repertoire?
 - How do you know when a specific strategy is or is not working for your students?
 - Is there a possibility to vary strategies based on student needs?
 - How can your instructional strategies inform you of student progress?

23

Collaborative Planning
Characteristics of highly accomplished teachers
(NBPTS, 2002)

- Teachers engage in learning communities
 - Who do you currently collaborate with regarding your planning, instruction and assessment?
 - When do you currently engage in collaboration with colleagues?
 - What do you talk about when you engage in collaboration with colleagues?
 - What learning communities do you engage in on a regular basis?

24

Collaborative Planning Identifying a Partner for Collaboration

- For the purposes of peer coaching it is important that each participant have a partner that remains constant throughout the semester.
 - In determining partners, I took the following variables into consideration.
 - Department
 - Courses
 - Known personality/teaching styles
 - Any indicated preferences (i.e. some teachers signed up together for this opportunity to grow as professionals)
 - For the duration of the training, please work with the partner identified for you.
- Partners are listed on the front board, please, when you return from your break, sit with your partner and discuss what you have taken from the training sessions thus far.

25

Data Analysis

- ...data rich ... information poor (Holcomb, 1999)
- What is missing sometimes are the systems in place for teachers to use to assess the data they are collecting to ensure the information can be used to support student learning (Black, et al., 2004).
- Actions in the classroom that most directly impact student learning are those that occur during the course of instruction and those that allow students to understand what is right or misaligned about what they are being taught and, in response, what students evidence they are learning (Stiggins, 2004).

At your tables, discuss the above three assertions and how they are exemplified in your practices. Be prepared to share some examples. If this is an area for further personal growth, identify your next steps.

26

Data Analysis Characteristics of highly accomplished teachers (NBPTS, 2002)

- Teachers know and use a variety of instructional strategies to engage students in learning.
 - How do you decide the method for evaluating student progress for each lesson?
 - How do you determine that the assessments you have chosen are aligned to the goals you have set?
 - What evidence do you collect on a daily basis relative to student progress?
 - How do you document student progress on a daily basis?
 - What do your assessments of student learning tell you about your instruction?

27

Reflecting on Day Two

We have spent a lot of time discussing the elements of peer coaching today, reflection, collaboration, and data analysis.

* In the space provided, take some time to reflect, independently, about where you are in each of the three areas

- How often do you reflect on your practices before, during, and after instruction?
- What arrangements have you made to incorporate regular collaboration with colleagues into your schedule.
- What types of data do you generally collect? Do you think this represents variety sufficient to the goals you set and the needs your students exhibit?

28

Day Three Peer Coaching Protocols

Objectives

- Teachers will discuss the peer coaching protocols.
- Teachers will practice using the peer coaching protocols.
- Teachers will schedule dates and times for their engagement in the peer coaching process.

29

Peer Coaching Scheduling and Protecting Time

	Timeline for Peer Coaching Implementation																		
	Training			Cycle 1				Cycle 2				Cycle 3				Cycle 4			
	Day	Day	Day	R*	C*	DA*	R	C	DA	R	C	DA	R	C	DA	R	C	DA	
August	X	X	X																
September				X	X	X													
October							X	X	X										
November										X	X	X							
December													X	X	X				

30

Peer Coaching Scheduling and Protecting Time

	Timeline for Peer Coaching Implementation																		
	Training			Cycle 1				Cycle 2				Cycle 3				Cycle 4			
	Day	Day	Day	R*	C*	DA*	R	C	DA	R	C	DA	R	C	DA	R	C	DA	
August																			
September																			
October																			
November																			
December																			

31

Reflecting on Day Three

32

APPENDIX B

PEER COACHING PROFESSIONAL DEVELOPMENT OUTLINE

Table of Contents
Timeline for Implementation

Part One

Section One: Research on Peer Coaching

- Training Effectiveness
- Benefits of Peer Coaching
- Models of Peer Coaching
- Critical Friends

Part Two

Section Two: Peer Coaching Process

- Identify coaching partner
- Reflection
 - Characteristics of highly accomplished teachers
 - Content
 - Context
 - Pedagogy
- Collaborative Planning
 - Characteristics of highly accomplished teachers
 - Identifying partner for collaboration
- Data Analysis
 - Characteristics of highly accomplished teachers

Part Three

Section Three: Peer Coaching Protocols

- Practice using protocols
- Introduction to website for reflection
- Set dates/times for collaborative sessions

Journal Materials

Section Four:

Cycle One: September

Cycle Two: October

Cycle Three: November

Cycle Four: December

APPENDIX C
INDIVIDUAL TEACHER REFLECTION PROTOCOL
(PRE-INSTRUCTION)

Individual Teacher Reflection Protocol (Pre-instruction)

Consider the unit of study you are teaching. Respond to the following questions detailing how the upcoming lesson will address your objectives and how you will know students are learning.

1. What do you want your students to know and be able to do as a result of the lesson?

2. What strategies will you use to engage your students in the lesson?

3. How will you determine how well your students have acquired the new knowledge during the lesson?

4. What materials and or equipment/technology will you need to best facilitate student learning during this lesson?

Go back over your reflections above and highlight the key ideas/questions you have that you want to be the focus of phase two, collaborative planning.

APPENDIX D

COLLABORATIVE DATA ANALYSIS AND PLANNING PROTOCOL

Collaborative Data Analysis and Planning Protocol

Start this phase of the peer coaching process using your phase one planning sheet. Summarize where you are in your curriculum, the objective for the lesson of focus, your key strategies for teaching the concept(s), and how you will determine degrees of student learning.

1. What data will you collect and how will it look if students are learning?
(what does success look like for this lesson?)

2. What are some alternate strategies you can employ if your students are not demonstrating progress?

APPENDIX E
CLASSROOM OBSERVATION PROTOCOL

Classroom Observation Protocol				
Information from individual reflection and collaborative planning	4	3	2	1
1. What do you want your students to know and be able to do as a result of the lesson?	Teacher communicates the learning goal and desired lesson outcome to students as communicated during reflection and planning.	Teacher communicates either the learning goal or the desired lesson outcome to students as communicated during reflection and planning.	Teacher teaches the lesson as communicated during reflection and planning; however, does not communicate the learning goal or desired lesson outcome to the students.	Teacher teaches a lesson not reflective of the reflection or collaborative planning and does not communicate the learning goal or desired lesson outcome to the students.
2. What strategies will you use to engage your students in the lesson?	Teacher employs strategies as described during reflection and planning acknowledging student readiness as the lesson builds, maintaining student engagement.	Teacher employs strategies as described during reflection and planning; however, does not monitor student readiness as the lesson builds and/or is not able to maintain student engagement.	Teacher tries to employ strategies as described during reflection and planning; however, is not able to maintain student engagement.	Teacher does not employ strategies described during reflection and planning.
3. How will you determine how well your students have acquired the new knowledge during the lesson?	Teacher collects student data throughout the lesson using the methods described during reflection and planning. As appropriate,	Teacher collects some of the student data described during reflection and planning. As appropriate, during the lesson, teacher	Teacher collects some of the student data described during reflection and planning. Teacher does not make adjustments, as	Teacher does not collect student data during the lesson as discussed during reflection and planning.

	during the lesson, teacher makes adjustments based on student data.	makes adjustments based on student data.	appropriate, during the lesson.	
4. What are some alternate strategies you can employ if your students are not demonstrating progress?	Teacher is prepared to employ alternate strategies as a response to student learning or lack thereof. Teacher employs these strategies as needed maintaining student engagement.	Teacher is prepared to employ alternate strategies as a response to student learning or lack thereof. Teacher employs these strategies as needed.	Teacher is prepared to employ some of the alternate strategies as a response to student learning or lack thereof; however does not employ as needed.	Teacher is not prepared to employ alternate strategies as a response to student learning or lack thereof.
Additional Comments/Observation:				

APPENDIX F
INDIVIDUAL TEACHER REFLECTION
(POST-INSTRUCTION)

Individual Teacher Reflection (Post-instruction)

Consider the peer coaching process; specifically the collaborative data analysis. Respond to the following questions detailing your next steps in the instructional cycle with your students based on what you have learned about their current progress.

1. What should you be aware of as you go forward with your instruction based on what you learned about your students and your instruction from this lesson?

2. How can you think about student mastery differently? What can you do to support the development of student skills? What can you do to enhance student application of newly acquired information?

3. What goals are you considering for your students based on your peer coaching collaboration/data analysis?

APPENDIX G
TEACHER INVITATION LETTER

August 2010

Teachers,

I am currently pursuing my doctoral degree at the College of Teacher Education and Leadership at Arizona State University under the direction of Audrey Amrein-Beardsley. I am conducting a research study about how the implementation of a collaborative peer coaching model at Casa Grande Union High School may impact the use of student data in instructional decision making.

This study will include training for participating teachers as well as ongoing support throughout the project period (August – December 2010). Participating teachers will learn about and engage in a collaborative peer coaching model with attention paid to how they engage in reflection (pre and post instruction), how they collaborate with each other, and how they reciprocally communicate about data analysis. I will provide the training and ongoing support through observations and interviews. The peer coaching model we will implement will be embedded into project/planning time and professional development credit will be provided for all time spent in training, collaborating, interviewing, and otherwise supporting the implementation of the peer coaching model.

Your participation in this study is voluntary. Your choice to participate or not to participate will not impact your job standing, evaluation, or treatment as a teacher on this campus. Collaborative peer coaching is just one of the offerings we will have to provide teachers with professional growth this school year; therefore, you will have additional opportunities to collect professional development hours if you choose. It is important to note that if you choose to withdraw from the study once it has begun, there will be no impact on your job, evaluation, or how you are treated.

The results of this research study may be published but your name will not be used. Additionally, there are no risks associated with your participating in this study. Through this study, we will collect valuable data that will inform our continued development of collaborative peer coaching and professional development in general at our campus. This will afford us data to improve the offerings we have and the professional learning we provide at Casa Grande Union High School.

Please fill out the form below and indicate if you intend to participate in this study of collaborative peer coaching during the 2010-2011 school year at Casa Grande Union High School. Please return this information to your administrator by August 13, 2010. If you have any questions or concerns about this research study, please contact me directly in person, via email kwright@cguhs.org, or via telephone 520-836-8500 ext. 3103.

I appreciate your consideration,

Kerri Wright

Name: _____ Date: _____

Yes, I intend to participant in the peer coaching study

APPENDIX H
PROFESSIONAL DEVELOPMENT SURVEY

1. CGUHS Professional Development Survey: Spring 2010

Thank you for launching the CGUHS Professional Development Survey. This survey is intended to collect information to guide professional development planning for the upcoming school year. Your responses will remain anonymous. Demographic data is requested at the end of the survey to allow for further disaggregation of the data to the department level for use in planning in conjunction with other items collected within the survey. Kerri

This survey is designed in six parts.

1. Professional Development
2. Collaboration
3. Data Analysis
4. Reflection
5. Peer Coaching
6. Demographics

Please respond freely and see me directly if questions arise for you while working through this brief survey. Thank you for providing input to help us plan for the upcoming school year.

2. Professional Development

*** 1. What type of professional development design do you prefer? Check all that apply.**

- University course work
- Workshops provided by off-site providers
- Workshops provided by peers on-site
- Book studies
- Reading professional literature
- Online courses/workshops
- Collaboration with instructional coach
- Collaboration with peer/s
- Other (please specify)

*** 2. During the most recent semester, how often did you engage in professional development activities?**

- Once a week
- Twice a month
- Once a month
- Once a semester
- Not at all

*** 3. In general, with what frequency do you implement your new learning into your classroom practices?**

- Always
- Sometimes
- Never

*** 4. Who do you talk to most often about new things you are putting in place in your classroom?**

- Peers within my department
- Peers outside of my department
- Peers in education not working at my site
- Friends outside of education
- Administrator/s
- Other (please specify)

*** 5. Please list professional development topics in which you are interested for the upcoming school year.**

3. Collaboration

*** 6. Is time for collaboration scheduled and protected within your work day?**

- Yes
- No

*** 7. Approximately how often do you collaborate with your colleagues at your school site?**

- Daily
- 2-3 times a week
- Weekly
- 2-3 times a month
- Monthly
- Other (please specify)

*** 3. In general, with what frequency do you implement your new learning into your classroom practices?**

- Always
- Sometimes
- Never

*** 4. Who do you talk to most often about new things you are putting in place in your classroom?**

- Peers within my department
- Peers outside of my department
- Peers in education not working at my site
- Friends outside of education
- Administrator/s
- Other (please specify)

*** 5. Please list professional development topics in which you are interested for the upcoming school year.**

3. Collaboration

*** 6. Is time for collaboration scheduled and protected within your work day?**

- Yes
- No

*** 7. Approximately how often do you collaborate with your colleagues at your school site?**

- Daily
- 2-3 times a week
- Weekly
- 2-3 times a month
- Monthly
- Other (please specify)

*** 8. When things are not going as you have planned in your classroom, do you seek assistance and/or support from your colleagues?**

- Yes
- No
- Sometimes

*** 9. Do you talk with your colleagues about student performance and how it impacts instructional choices?**

- Yes
- No
- Sometimes

*** 10. When talking with colleagues, do you discuss instructional strategies and how certain strategies do or do not work well within your instruction?**

- Yes
- No
- Sometimes

4. Data Analysis

*** 11. How often does student data impact your instructional decisions?**

- Daily
- Weekly
- Quarterly
- Semesterly
- Annually
- Other

*** 12. What types of student data do you use on a consistent basis? Check all that apply.**

- Quiz
- Writing Samples
- Work sheets
- Notes
- Observations
- Homework
- Other (please specify)

*** 13. Do you and your colleagues give common assessments other than midterms and final exams?**

- Yes
- No

*** 14. Do you and your colleagues share data analysis to inform your curriculum and/or instructional design?**

- Yes
- No

*** 15. Do you engage your students in the analysis of the data collected about their learning?**

- Yes
- No

5. Reflection

*** 16. Do you keep a journal or record of what you have tried in your classroom?**

- Yes
- No
- Sometimes

*** 17. Do you keep track of what you have tried with a group of students in terms of what has worked well in meeting their learning needs?**

- Yes
- No
- Sometimes

*** 18. Do you keep track of what you have tried with a group of students that has not worked well in meeting their learning needs?**

- Yes
- No
- Sometimes

*** 19. When you receive feedback, do you think about how this might impact student learning?**

- Yes
- No
- Sometimes

*** 25. Would you be interested in working collaboratively with a teacher from another department on collaborative professional development activities?**

Yes

No

Please briefly explain why or why not

*** 26. Number the following in order of how impactful the following activities are to your classroom instruction. (1 is most impactful and 5 is least impactful)**

Personal reflection on student data

Collaboration with colleagues in my department about student data

Collaboration with colleagues outside of my department about student data

Collaboration with my administrator about student data

Other

7. Demographics

The following information is requested to allow for the disaggregation of data to the department level. Additionally, this information will be used to determine if there are correlations between years of experience, class size, department affiliation, and the other items within the survey. Your survey is anonymous and no attempts will be made to match surveys with individuals.

*** 27. Gender**

Male

Female

*** 28. What department do you work in during the majority of your work day?**

- Exceptional Student Services
- Science
- Math
- English
- Social Studies
- Career and Technical Education
- Fine Arts
- World Languages
- Physical Education/ Health
- Other

*** 29. What was your average class size during the 2009-2010 school year?**

- Under 15 students
- 15-25 students
- 26-35 students
- 36-40 students

*** 30. How many years have you worked in the Casa Grande Union High School District?**

- 1-3 years
- 4-6 years
- 7-9 years
- 10 or more years

*** 31. How many years have you been teaching?**

- 1-3 years
- 4-6 years
- 7-9 years
- 10 or more years

*** 32. Have you taught in any K-12 district outside of Casa Grande, Arizona?**

- Yes
- No

*** 33. I intend to participate in the CGUHS peer coaching project during the 2010-2011 school year.**

- Yes
- No

APPENDIX I
SEMI-STRUCTURED INTERVIEW PROTOCOL

Semi-Structured Interview 1 Questions: Peer Coaching

1. Describe your experience with peer coaching.
2. In general, what are your perceptions about collaboration, data analysis, and reflection?
3. What data do you use on a regular basis to guide your instructional practices?
4. Think about when you meet to collaborate with other teachers; what is the focus of your discussion/collaboration?
5. Describe the last time you shared data with another teacher.
6. How often do you talk about data with other teachers? In these conversations, what types of reciprocal exchanges occur?
7. Now that you have engaged in the peer coaching process do you have questions for me about the project and/or the peer coaching process?
8. Do you have other thoughts about professional development, collaboration, or data analysis that you would like to share with me at this time?

Description of next steps to be used at the culmination of Interview 1

It is highly important that I capture the accurate essence all of you communicated during this interview as well as during my observations throughout the peer coaching process. As I continue collecting and analyzing data, I will ask some of you to meet with me to review my summaries. Additionally I will ask you to review my analysis to verify my interpretations represent an accurate reflection of what you have communicated and what you have experienced. Some of you may be asked to meet with me individually for additional one on one interview to further expand on concepts and ideas that would enhance the peer coaching process. Throughout the peer coaching project period, I will seek ideas for modifying our professional development to incorporate collaboration and focus on the use of student data to make decisions.

APPENDIX J
FOLLOW-UP FOCUS GROUP

1. What might have helped you with your implementation of collaborative peer-coaching?
2. How could the tools be modified for continued use?
3. In reviewing the preliminary findings, what stands out to you and are there any surprises?
 - a. Time
 - b. Lack of prior formal experience with reflection on benchmark assessment data prior to instruction
 - c. Sharing of strategies to address skill deficits identified by student benchmark assessment data
 - d. Reliance on accountability to motivate implementation of planned lessons
 - e. Levels of commitment to utilizing elements of the collaborative peer-coaching process during and after the project period
 - f. Focus on learning targets based on benchmark assessment data
4. Did the design of this professional development, switching to a web based model, have an impact on your ability to understand what you needed to do throughout the intervention?

APPENDIX K
INSTITUTIONAL REVIEW BOARD APPROVAL



Office of Research Integrity and Assurance

To: Audrey Beardsley
FAB

From: Mark Roosa, Chair *MR*
Soc Beh IRB

Date: 08/02/2010

Committee Action: Expedited Approval

Approval Date: 08/02/2010

Review Type: Expedited F7

IRB Protocol #: 1007005363

Study Title: Using Collaborative Peer Coaching as a Construct to Guide Teaching Around the Use of Student Assessment Data

Expiration Date: 08/01/2011

The above-referenced protocol was approved following expedited review by the Institutional Review Board.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date. You may not continue any research activity beyond the expiration date without approval by the Institutional Review Board.

Adverse Reactions: If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Soc Beh IRB immediately. If necessary a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Soc Beh IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.

Appendix I
Teacher Invitation Letter

August 2010

Teachers,

I am currently pursuing my doctoral degree at the College of Teacher Education and Leadership at Arizona State University under the direction of Audrey Amrein-Beardsley. I am conducting a research study about how the implementation of a collaborative peer coaching model at Casa Grande Union High School may impact the use of student data in instructional decision making.

This study will include training for participating teachers as well as ongoing support throughout the project period (August – December 2010). Participating teachers will learn about and engage in a collaborative peer coaching model with attention paid to how they engage in reflection (pre and post instruction), how they collaborate with each other, and how they reciprocally communicate about data analysis. I will provide the training and ongoing support through observations and interviews. The peer coaching model we will implement will be embedded into project/planning time and professional development credit will be provided for all time spent in training, collaborating, interviewing, and otherwise supporting the implementation of the peer coaching model.

Your participation in this study is voluntary. Your choice to participate or not to participate will not impact your job standing, evaluation, or treatment as a teacher on this campus. Collaborative peer coaching is just one of the offerings we will have to provide teachers with professional growth this school year; therefore, you will have additional opportunities to collect professional development hours if you choose. It is important to note that if you choose to withdraw from the study once it has begun there will be no impact on your job, evaluation, or how you are treated.

The results of this research study may be published but your name will not be used. Additionally, there are no risks associated with your participating in this study. Through this study, we will collect valuable data that will inform our continued development of collaborative peer coaching and professional development in general at our campus. This will afford us data to improve the offerings we have and the professional learning we provide at Casa Grande Union High School.

Please fill out the form below and indicate if you intend to participate in this study of collaborative peer coaching during the 2010-2011 school year at Casa Grande Union High School. Please return this information to your administrator by August 13, 2010. If you have any questions or concerns about this research study, please contact me directly in person, via email kwright@cguhs.org, or via telephone 520-836-8500 ext. 3103.

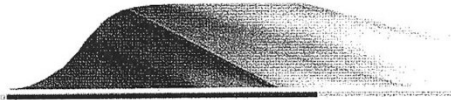
I appreciate your consideration,

Kerri Wright

Name: _____ Date: _____

Yes, I intend to participant in the peer coaching study

ARIZONA STATE UNIVERSITY IRB
APPROVED BY IRB
DATE: 8/2/10 - 8/1/11
NAME: Sm



Office of Research Integrity and Assurance

To: Audrey Beardsley
FAB

From: Mark Roosa, Chair *SM*
Soc Beh IRB

Date: 09/20/2010

Committee Action: Amendment to Approved Protocol

Approval Date: 09/20/2010

Review Type: Expedited F12

IRB Protocol #: 1007005363

Study Title: Using Collaborative Peer Coaching as a Construct to Guide Teaching Around the Use of Student Assessment Data

Expiration Date: 08/01/2011

The amendment to the above-referenced protocol has been APPROVED following Expedited Review by the Institutional Review Board. This approval does not replace any departmental or other approvals that may be required. It is the Principal Investigator's responsibility to obtain review and continued approval of ongoing research before the expiration noted above. Please allow sufficient time for reapproval. Research activity of any sort may not continue beyond the expiration date without committee approval. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol on the expiration date. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study termination.

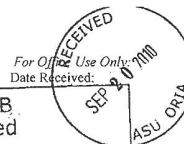
This approval by the Soc Beh IRB does not replace or supersede any departmental or oversight committee review that may be required by institutional policy.

Adverse Reactions: If any untoward incidents or severe reactions should develop as a result of this study, you are required to notify the Soc Beh IRB immediately. If necessary a member of the IRB will be assigned to look into the matter. If the problem is serious, approval may be withdrawn pending IRB review.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, or the investigators, please communicate your requested changes to the Soc Beh IRB. The new procedure is not to be initiated until the IRB approval has been given.

Please retain a copy of this letter with your approved protocol.

Arizona State University
Office of Research Integrity and Assurance
IRB
P.O. Box 871103
Tempe, AZ 85287-1103
Phone: 480-965-6788
Fax: (480) 965-7772



ASU IRB Approved
Sig. *Sm*
Date: *9/20/10*

Modification Form Institutional Review Board (IRB)

INVESTIGATOR INFORMATION	
PROTOCOL TITLE: Using Collaborative Peer Coaching as a Construct to Guide Teaching Around the Use of Student Assessment Data	HS # 1007005363 <i>A001</i>
PRINCIPAL INVESTIGATOR: Dr. Audrey Beardsley	DEPARTMENT/CENTER: Mary Lou Fulton Teachers College
CAMPUS ADDRESS: Arizona State University College of Teacher Education and Leadership FABS215, MC:3151 PO Box 37100 Phoenix, AZ 85069	PHONE: 602-543-6374 EMAIL: audrey.beardley@asu.edu
CO-INVESTIGATORS: Kerri Wright	
FUNDING STATUS: Non-Funded Project If project is funded or funding is being sought, provide list of all sponsors and grant numbers:	
TYPE OF MODIFICATION (CHECK ALL THAT APPLY) Please attach any revised documents (forms, scripts, etc). Attach a brief summary of the proposed changes as well as a justification.	
<input type="checkbox"/>	New Procedures Attach a description of the new procedures and a revised consent form.
<input type="checkbox"/>	Study Title Change What is the new title?
<input type="checkbox"/>	Change in Study Personnel <input type="checkbox"/> Add (include the name, role, and contact information. Include copies of training certificates: http://researchintegrity.asu.edu/training/humans) <input type="checkbox"/> Delete
<input type="checkbox"/>	Change of Site <input type="checkbox"/> Add (include the name and location. If this changes the enrollment, that should be noted below.) <input type="checkbox"/> Modify <input type="checkbox"/> Delete
<input checked="" type="checkbox"/>	Change in Enrollment Attach a narrative justifying the change. If this will affect the consent, send a revised consent form as well.
<input type="checkbox"/>	Consent Change Attach a copy and describe the change(s).
<input type="checkbox"/>	Advertisement Attach copies of the advertisement or announcement.
<input type="checkbox"/>	Instruments (surveys, questionnaires, interviews, etc) Attach copies of the proposed instruments and describe any changes from the approved protocol. If you are adding or deleting any instruments or items to an instrument, describe what the changes are and submit the revised materials.
<input checked="" type="checkbox"/>	Other Describe the changes. If this affects the consent process, submit a revised consent form. Change in source for online blogging mechanism
SIGNATURE	
PRINCIPAL INVESTIGATOR:	Name (first, middle, last):

Revision 05/09

