

Learning to Teach as Situated Learning: An Examination of Student Teachers as
Legitimate Peripheral Participants in Cooperating Teachers' Classrooms

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DEDICATION

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LIST OF ABBREVIATIONS

CT = Cooperating Teacher

ST = Student Teacher

FRL = Free and Reduced Lunch

Chapter One: Introduction

Rationale

Learning to teach science well is not an easy thing. Even with well-written lesson plans and clear objectives the work in the classroom is a complex and uncertain endeavor; indeed, “no teacher can be sure how a lesson will go or exactly what a student will learn” (Floden & Buchmann, 1993, p. 373). Student teaching provides a time for emerging teachers to learn how to reason in this uncertain landscape. As a capstone experience in most teacher preparation programs, this represents a time when student teachers can bring together all their experiences from the field and the university classroom. For many, this is the first time that they really feel in charge and that their actions have very real and obvious consequences. The student teacher is placed with a capable and experienced classroom teacher who is charged with exposing the emerging educator to the reality, the complexity and the joy of K-12 education. The cooperating teacher is responsible for assisting the student teacher as they take on this new role by providing them access to the resources necessary in this position. Based on their experience in this context, the cooperating teacher mentors, supports and encourages the student teacher in this new role. Through this lived experience, the emerging educator gets a glimpse of their new reality as a teacher.

Statement of the Problem

In spite of the importance of this time in the preparation of science teachers little research exists about the work of the student teacher with the cooperating teacher. Due to the numerous variables such as socioeconomic status of the students, local support and parental involvement as well as classroom supplies like laboratory equipment, this is understandable; however, insight into this critical period in the preparation of science teachers will provide important guidance to science teacher educators, cooperating teachers, and student teachers. In my research I propose a detailed exploration of the interactions between cooperating and student teachers. The study is guided by the following two questions:

1. What is the substance and nature of the conversations between the cooperating teacher and the student teacher during the student teaching placement?
2. During the student teaching placement how does the conversation between cooperating teacher and student teacher change over time?

The personal feelings regarding the value of the student teaching experience has been echoed across the country with many pre-service teachers rating student teaching as the most important part of their teacher education program (Koerner, Rust, &

Baumgartner, 2002; Levine, 2006). There is little doubt that this aspect of teacher preparation has a profound impact (Wilson, Floden, Ferrini-Mundy, 2001).

Given the importance of the cooperating teacher in the student teacher development, it is surprising that the interaction between the cooperating teacher and student teacher represents a gap in the literature (Cochran-Smith & Zeichner, 2005). In fact, little effort has been made in science education “to understand the contributions of cooperating teachers and teacher educators” (p. 322). Research is needed not only into how teacher preparation programs can help pre-service teachers make the transition from student teacher to effective teacher, but also into how the expertise of the cooperating teacher can be a better articulated part of the development of the student teacher. There is a clear need to learn from the wisdom of practice so that this experience, integral to the preparation of effective teachers, might be better understood and better used.

Cooperating teachers recognize their importance and the influence they have on student teachers (Carboni & Riggsbee, 2007; Koskela & Ganser, 1999). Kahn (2001) draws attention to the fact that cooperating teachers have expressed a desire for greater support from and involvement in preparation programs so they can continue to grow in their role. Determining how to address this desire, however, is not a straight forward process which is why the means by which teacher preparation programs can most effectively support and utilize the expertise of the cooperating teacher warrants exploration. Two questions to address, for example, are first, by what methods can teacher preparation programs tap into the expertise and wisdom of the cooperating

teacher in ways that honor both the value of the input of the cooperating teacher while at the same time enhancing the student teaching experience need to be examined. And second, how can the teacher preparation community more effectively support the cooperating teacher, thus leading to even greater success as measured by the ability of the student teacher to take on the identity of the classroom teacher.

Addressing the tacit knowledge of the professional educator so that the pre-service teacher can learn from the practical knowledge of the cooperating teacher, developed over the years in the classroom, holds promise. However, gaining access to this knowledge in order to explicate it can be quite difficult for many cooperating teachers. Thus, this research takes a closer look at the interaction between the cooperating teacher and the student teacher and how this knowledge is shared as the student teacher moves towards full participation in the community of practice.

Overview of the Following Chapters

The following chapters of this dissertation are set up to give the reader a glimpse into the lived reality of the work of the cooperating teacher and student teacher. In chapter two I address the relevant literature regarding the student teaching experience. I also detail the theoretical framework of situated learning (Lave & Wenger, 1996), as well as the lens of practical reasoning, which I use to look at ways in which the cooperating teacher models for the student teacher ways to deliberate in practice. In chapter three I

describe the research design, methodology, data collection, and analytical methods used in this study. In addition, I provide my own background information as both a teacher and researcher.

In chapter four, I present the cases of three cooperating teachers, Jeff, Donn, and Allison. These cases developed from multiple sources of data and draw on the words of the cooperating teachers, as well as the recorded conversations of the cooperating teacher/student teacher pair in action. I present the cases in narrative form with no analysis, allowing the reader to become immersed in the lived reality of the participants of this study.

Chapter five provides an analysis of the cases focusing on the conversations between cooperating teacher and student teacher. I address each case using the theoretical framework of situated learning that looks closely at the movement of the student teacher from the periphery of practice toward full participation in the community and the actions of the cooperating teacher that support or limit that movement.

In chapter six I share conclusions based on the analysis from chapter five that answered the research questions. In this chapter I also point out implications and limitations of this study, as well as suggestions for future research that emerged from this study.

Chapter 2: How student teachers learn and develop into effective practitioners

A truism is that no one learns to teach in a university – one learns to teach in a school...

Sykes, 1998

In this chapter I review the supporting literature and theoretical framework used to address the research questions that guided this study:

- What is the substance and the nature of the conversations between the cooperating teacher and student teacher during the student teaching placement?
- During the student teaching placement how does the conversation between cooperating teacher and student teacher change over time?

This chapter is comprised of two major sections. The first section presents the relevant literature that speaks to this complex period of interaction between student teacher and cooperating teacher. I pay close attention to the vital link between cooperating teacher and student teacher. In the second section, I introduce the theoretical framework of Situated Learning (Lave & Wenger, 1991, Lave, 1996) as well as the work of Korthagen and Lagerwerf (1996) and Korthagen (2010, 2011) through which the framework of situated learning is applied to teacher preparation. In this section I also explicate the lens of practical reasoning, which I use to help explain the work of the

cooperating teachers as they generate and share their theories in and about practice in their work with their student teachers.

It is the goal of the school systems in the United States to provide a high-quality education to every student and we are in need of “an adequate supply of competent individuals who are willing and able to serve as teachers” (Guarino, Santibanez, & Daley, 2006). Bransford and Darling-Hammond (2005) remind us that “...preparing teachers to exercise trustworthy judgment based on a strong base of knowledge is increasingly important in contemporary society” (p. 2). Teaching is a very important task and preparing people to serve as professionals, in this ever changing field, is critical. The primary goal of student teaching is the continued development of effective teachers to meet this charge.

It has been established in the literature that student teaching is a very important and influential time in the preparation of future teachers (Goodnough et al., 2009; Koerner, Rust, & Baumgartner, 2002; Levine, 2006). There is little doubt that this is a powerful, if not the most powerful, aspect of teacher preparation (Cuenca et al., 2011; Wilson, Floden, Ferrini-Mundy, 2001). This time is reported by many to be “the most valuable aspect of my education program” (Levine, 2006, p. 39), due largely to the fact that student teachers feel that this is the real deal, this is the time when they experience what Feiman-Nemser and Buchmann (1985) refer to as “felt significance” (p. 59). As the culmination for most teacher education programs, student teaching has a significant impact on the emerging teacher (Koerner et al., 2002) and can be a make or break time

for their future work in the classroom. “I have learned more here than in all of my previous education classes combined” is a statement that I have heard uttered on several occasions as student teachers reflect on their student teaching experience, a sentiment that has been echoed across the country from many pre-service teachers as they emerge into full participation. This is a time when techniques turn to practice (Lave, 1996). Having spent years as a student, the student teacher is now in front rather than sitting in a desk watching the teacher and, in many cases having spent hundreds of hours in a variety of field experience placements. Despite hours of field experience, student teaching is something that can make even the strongest candidates a bit uncomfortable. Immersed in the profession of teaching, and the community of practice that surrounds the classroom, the student teacher begins to take on a new identity (Lave & Wenger, 1991), that of teacher.

The complex nature of teaching and what it means to be an effective teacher makes teacher preparation itself, and research within teacher preparation, quite difficult (Medley & Coker, 1987). Developing traits of effective teaching, for the most part, defies direct instruction; this is the place where “mechanisms disappear into practice,” it represents doing rather than knowing (Lave, 1996). However, the experience alone does not guarantee learning. It is by working closely with the cooperating teacher that the student teacher is able to reflect and learn, immersed in practice (Feiman-Nemser, 2012).

The Role of the Cooperating Teacher

During this critical time, the student teacher is paired with an experienced cooperating teacher, the teacher of record for the classroom in which the student teacher now finds her/himself. The cooperating teacher is the student teacher's primary resource, playing a significant role in the emerging teacher's development (Glenn, 2006). In fact, the time spent with the cooperating teacher in this student teaching experience is far greater than the time the pre-service teachers spend with any other instructor (Osunde, 1996). The cooperating teacher is there to help and support the student teacher in whatever ways are necessary. They offer access to the community of practice, the teaching community in their context. They also offer access to the artifacts of that community and the physical space in which to put them into action.

The pre-service teacher is supported by coaching and suggestions from the cooperating teacher. Modeling, planning, feedback, practice opportunities, reflection, and a feeling of responsibility (Darling-Hammond, Hammerness, Grossman, Rust, & Shulman, 2005) just begin to name what this time together can include. The cooperating teacher provides what Feiman-Nemser (2001) refers to as "educative mentoring" (p.18), which can help keep the focus on learning in the practice of teaching, not just survival. Some of the more clearly defined roles of the cooperating teacher include being an

instructional model, a source of advice, a sounding board, co-planner, provider of ongoing feedback and critique, practice provider/coach, mentor and motivator, and reflective partner (Darling-Hammond et al., 2005; Fairbanks, Freedman & Kahn, 2000). In addition the cooperating teacher provides helpful routines while at the same time guiding the student teacher to understand the uncertainty that comes with the reality of work in the classroom (Floden & Buchmann, 1993).

Teaching is a complex activity and learning to teach is more than demonstrating a set of discrete behaviors, so it is not surprising that the cooperating teacher becomes vitally important to the development of the teacher. It is the cooperating teacher who has a grasp on what it takes to be effective in their particular classroom. Even with the suggestions found in reports such as *Educating School Teachers* (Levine, 2006), *A Nation Prepared: Teachers for the 21st Century* (Task force on Teaching as a Profession, 1986), and *Studying Teacher Education: The Report of the AERA Panel on Research and Teacher Education* (Cochran-Smith & Zeichner, 2005), as a highly complex practice, student teaching can look very different in different contexts, “involving situated interpretation, design, and performance” (Janssen, Westbroek & Doyle, 2014, p. 195). Given the contextual nature of schooling, the myriad variables involved, and the un-, or less-, known factors such as adolescent brain development and all that can have an impact on it, learning to teach is clearly complicated, thus drawing even greater attention to the importance of the work of cooperating teachers.

The student teachers also bring their personal history and the theories that they have developed regarding teaching into the student teaching experience. Having been students for 15 or more years many pre-service teachers have a difficult time mentally moving away from the way that they have been taught, effective or not. This is what Dan Lortie (2005) in the book *Schoolteacher* describes as the “apprenticeship of observation” (p. 61). Since the student teachers bring prior conceptions into the experience, preparing them for the profession of teaching involves much more than merely exposing them to what research tells us are the best practices. Initially pre-service teachers, given their history, apply all the theory exposed to them in their preparation program to what they have seen and experienced in their over 13,000 hours as students. These conceptions about teaching are not easy to convey or combat (Feiman-Nemser & Buchmann, 1985; Lortie, 2005). The cooperating teacher needs to support and encourage the emergent teacher as they develop the skills and habits of mind necessary to utilize the research based theory, experience, and practice and as they build and alter new theories about practice.

Research Base on the Role of Cooperating Teacher

Given the reality that student teaching is an important component of teacher education programs, as well as the documented impact of the cooperating teacher (Koerner et al., 2002; Osunde, 1996; Wilson et al., 2001) it is surprising that the

interaction between the cooperating teacher and student teacher represents a gap in the literature. There is “insufficient knowledge of teachers’ transformation from student to student teacher to teacher and the forces that enable them to adopt and adapt recommended practice” (Cochran-Smith & Zeichner, 2005, p. 336). As a very important time in the preparation of effective teachers, research is needed regarding how teacher preparation programs can more effectively help pre-service teachers transition from student to effective teacher. In addition, research is needed into ways that the student teacher and the teacher preparation program can better utilize the expertise and experience of the cooperating teacher as an integral piece of this process.

The nature of the relationship and interaction between the cooperating teacher, the student teacher, and the teaching context is also instrumental in the development of the student teacher. In some instances the student teacher takes a very passive role, sitting in the back as an observer or maybe as a classroom aid, correcting papers and helping individual students with assignments. In other cases the student teaching experience is an immersion experience in which the student teacher is thrust to the front of the room with the goal being that they either sink or swim (Darling-Hammond et al., 2005; Hamman et al., 2006). Neither of these extremes is very helpful (Glenn, 2005).

Student teachers need to learn to take on the role of classroom teacher and at the same time need to learn to reflect on what it is that they are learning (Griffin, 1997), engaging in the development of their own theories. They need to have the opportunity to explore their own teaching style balanced by the opportunity to see an accomplished

teacher in action and to ask questions about practice, theory, and decision making as they arise in the classroom. As mentors or role models, rather than models to be duplicated, the cooperating teacher provides the student teacher the opportunity to find his/her own voice in the classroom coupled with the opportunity to learn from the wisdom of practice (Fairbanks et al., 2000; Glenn, 2005; Koerner et al., 2002).

Theoretical Framework

Situated Learning

This research is grounded in the framework of situated learning (Lave & Wenger, 1991). Student teachers are learning, during this time, what it means to teach through their participation in a community of practice. Embedded in the social practice of teaching, what Lave and Wenger refer to as “legitimate peripheral participation” (p. 29), student teachers learn about teaching while immersed in the reality of the teaching world. I use this framework to address the research question, analyzing the changes that take place in the interaction between the student teacher and cooperating teacher over time, as the student teacher moves from novice teacher toward their new role as a participant in the social world of teaching. In addition, I utilize the work of Korthagen and Lagerwerf (1996) in which they divide learning to teach into three levels, with gestalt formation as level one, schematization as level two, and theory building as level three. Korthagen (2010) and Korthagen (2011) expanded this theory by exploring the possibility of

collapsing levels two and three as the student teacher develops. Korthagen (2010, 2011) also describes a step wise projection with the learner moving from observing action to forming theories that guide their action in the future. This will be described in greater detail later in this chapter.

Based on their early work with “craft apprenticeship in West Africa, intelligent tutoring systems, and the cultural transparency of technology” (p. 30), Lave and Wenger (1991) developed their theory of situated learning. Grounded in the ideal of learning through participation, they make it clear that situated learning is much more than “learning in situ or learning by doing” (p. 31). In this theoretical perspective there is concern for the relational nature of knowledge and how people gain this knowledge, about meaning and its negotiation, and the “dilemma-driven” nature of the action of learning. More than merely receiving information or knowledge about the world, the focus is “on activity in and with the world; and on the view that agent, activity, and the world mutually constitute each other” (p. 33). Participation and learning cannot be separated; if they are, meaning is lost. Lave and Wenger (1991) describe situated learning and the connection between learning and doing stating that “legitimate peripheral participation is proposed as a descriptor of engagement in social practice that entails learning as an integral constituent” (p. 35).

Situated learning does not propose to make generalizations based on the model of apprenticeship (Lave & Wenger, 1991). However, the authors admit that this reveals a dilemma as they reject abstraction yet propose a “theoretical conception” (p. 38).

Situated learning, rather, is an “analytical perspective” that attempts to address concrete relations and legitimate peripheral participation derives its theoretical significance “from the richness of its interconnections: in historical terms, through time and across cultures” (p. 39). This could include various school and teacher preparation program cultures.

Situating the learning of the student teacher in what Lave and Wenger (1991) refer to as communities of practice, the student teachers represent the “newcomers” working with “old-timers,” the experienced cooperating teacher. They also note that “the development of identity is central to the careers of newcomers in communities of practice” (p. 115). As student teachers take on more and more responsibility, moving toward a more central role in the classroom, their identity is changing toward becoming that of teacher. In addition, as their identity changes so does their motivation to take on even greater responsibility. They begin to see themselves moving into the role of teacher.

Power and conflict also can become a part of this relationship, certainly not something to which the student teacher/cooperating teacher relationship is immune. As noted regarding the participation of newcomers:

Conflict is experienced and worked out through a shared everyday practice in which differing viewpoints and common stakes are in interplay.

Learners can be overwhelmed, overawed, and overworked. Yet, even when submissive imitation is the result, learning is never simply a matter of the “transmission” of knowledge or the “acquisition” of skill; identity in

relation with practice, and hence knowledge and skill and their significance to the subject and the community, are never unproblematic.

(Lave & Wenger, 1991, p. 116)

In this relationship, the more experienced person also continues to develop; the learning is not just for the “newcomer” but rather, due to this legitimate participation it becomes a “reciprocal relation between persons and practice” (p. 116) as the newcomer (student teacher) moves toward the goal of full participation in this community.

Korthagen (2010) and Korthagen (2011) further divide situated learning and the concept of legitimate peripheral participation into a three level model of development (see figure 2.1). In this model the student teacher first experiences concrete examples in her or his student teaching placement leading to what Korthagen refers to as their gestalt. This initial response to classroom experiences is “grounded in unconsciously and instantaneously triggered images, feelings, notions, values, needs, or behavioural inclinations, and often in combinations of these aspects” (Korthagen, 2011, p. 35). Upon reflection, the teacher “may develop a personal practical theory” or schema, the second level, which ties together their prior knowledge and previous experiences (Korthagen, 2010). This, according to Korthagen (2011) is motivated by the teachers’ “desire to know how to act in particular situations, as opposed to having an abstract understanding of them” (p. 37).

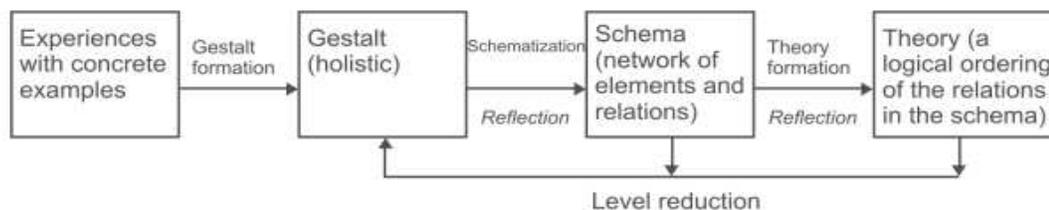


Fig. 2.1. The three-level model and the accompanying learning process (Korthagen, 2010, p. 100).

The third level involves more intentional reflection. “This is the level at which the logical ordering is constructed in the personal practical theory formed before: the relationships within one’s cognitive network are studied or several notions are connected into one coherent theory” (Korthagen, 2011, p. 37). The student teacher moves from merely observing the cooperating teacher, from the periphery of practice, copying their action to greater levels of participation. Over time the student teacher is able to take the action he or she has observed, the theory that was learned and developed in the preparation program, and the reflection they have done on their own and with the cooperating teacher to develop new theories guiding their action as a teaching professional in this context.

The Lens of Practical Reasoning

I utilize the lens of practical reasoning in this study to address the situated work of the student teacher and his/her interactions, over time, with the cooperating teacher.

Looking closely at the conversations between the student teacher and cooperating teacher

I address the Aristotelian distinction between two forms of practical knowledge - *technè* and *phronesis* (Dunn, 1993). According to Dunn (1993) these are “two rational powers which give us two quite distinct modes of practical knowledge” (p. 244), both of which are critical for the development of the student teacher. These two powers draw the distinct line between what Aristotle referred to as the “two kinds of activity: making and acting” (Dunn, p. 244). According to Aristotle (quoted in Dunn, 1993), “the reasoned state of capacity to act [i.e., *phronesis*] is different from the reasoned state of capacity to make [i.e., *technè*].” Again quoting Aristotle, Dunn (1993) explains “*phronesis* cannot be... *technè* ... because action and making are different kinds of things” (p. 244).

Technè refers to that sort of making that might involve a specialized craft, the making of a specific object, or even the state of affairs (Dunn, 1993). Whereas *phronesis*, according to Dunn (1993):

characterizes a person who knows how to live well. It is acquired and deployed not in the making of any product separate from oneself but rather in one's actions with one's fellows. It is personal knowledge in that, in the living of one's life, it characterizes and expresses the kind of person that one is. (p. 244)

I use this lens to make these distinctions between the student teacher and cooperating teacher interactions regarding the smooth running of the classroom (e.g. taking attendance, passing back papers, preparing for labs) as *techne*, and the more philosophical and interactive side of teaching (relationships with students, interaction in classroom management situations, and personal philosophy) as *phronesis* or practical reasoning. *Phronesis* can be roughly translated as practical reasoning, a reasoning through which everyday actions take place with both the ends and means held simultaneously in deliberation.

Both practical reasoning and *technè* imply that action is being taken. In *technè* the end result, much like making a table or laying out an organized lab for students, is known. *Technè* is knowledge that provides a means to an end. In practical reasoning the result is not pre-known or predetermined. In fact in this action the ends and means are wrapped together simultaneously. Informed by “experience, knowledge, beliefs, and character of the person” (Kern, 2010, p. 9) it is, by its very nature, situational.

Looking at the interaction between the student and cooperating teacher through the lens of practical reasoning has the potential to lend some much needed light to this critical component of teacher education. Not something that can be taught, practical reasoning refers to what many call the tacit knowledge of teachers that help and guide them in their daily functioning and interaction with students in the classroom. Practical reasoning has been explained by Sanders and McCutcheon (1986) as “practical information organized in the form of a repertoire of practices, strategies, and ideas that

are effective for those teachers in that particular setting” (p. 50). They define it more explicitly as “conceptual structures and visions that provide teachers with reasons for acting as they do, and for choosing the teaching activities and curriculum materials they choose in order to be effective” (p. 54). They go on to state that these are “the principles or propositions that undergird and guide teachers’ appreciations, decisions, and actions” (p. 55). Brown and McIntyre (1995) define practical reasoning as, “that part of their [teachers] professional knowledge... which guides their day-to-day actions in classrooms, which is for the most part not articulated in words and which is brought to bear spontaneously, routinely and sometimes unconsciously on their teaching” (p. 17). This is not an overt or easily observable activity. It is not something that the student teacher, or in many cases the cooperating teacher, will have ready access to without preparation, discussion, and/or reflection.

The examination of student teachers’ work with their cooperating teachers utilizing this lens is yet another area that could facilitate research into cooperating and student teacher interactions. One needs to be careful however as practical reasoning is not something that can be known (in the learned skill sense of the word) or taught. Rather is a way of thinking about how one goes about work in the classroom. Zanting, Verloop, Vermunt and Driel (1998) have taken an initial look at how student teachers can access this practical reasoning and assert that practical reasoning is difficult for the cooperating teacher to access and therefore accessing it by the student teacher is even more complicated. To begin with, the cooperating teacher needs to recognize the value

of this way of thinking and then to be willing to explore and explain it to the student teacher, explicating the underlying motives that are made obvious in their teaching (Zanting et al., 1998).

Not wanting to be directive, cooperating teachers can shy away from telling the student teachers too much, thus making access to this knowledge even more difficult. However, this sharing of the thinking in and about teaching can be a very helpful component of the student teaching experience. As experienced professionals, cooperating teachers are at a further stage of development in their teaching and how they think about it. Access to this depth of knowledge and experience can be very helpful to the student teacher without hampering their ability to develop their own teaching personality (Zanting et al., 1998).

The other factor involved regards access to cooperating teachers' practical reasoning and the fact that the student teachers need not only to be able to access it but they also need to realize its value and how it can be used (Zanting et al., 2001, 2003; Zanting et al., 1998). This is a multi-faceted, two way interaction; the cooperating teachers working to access and then explicate their own practical reasoning and student teachers learning to value and explore this wealth of information, information that defies easy observation. However, the value of accessing the cooperating teachers' practical reasoning should, in no way, eclipse the other daily survival skills like classroom organization, lesson planning, and management. Rather, it should give the student

teacher the opportunity to add to the specific technique, the thinking that assists the experienced teacher in his/her decision making.

It is this reasoning that informs the split second decisions regarding the techniques and responses used in a particular moment and context. These are the actions that are observed and oftentimes imitated by the student teacher even though they might not know the reasoning behind them. Again, the research in this area is limited at best especially regarding the effect this ability to think through one's teaching will have on the overall preparation of the student teacher as they move toward full participation as a teacher.

There are many aspects of teaching to be internalized by the student teacher and often times these are hidden from easy view. The cooperating teacher can make this transparent and he/she is a critical facilitator of learning for the student teacher as the student teacher moves into full participation in their placement and into new communities of practice across the teaching landscape.

The realization of the goal of emerging as an effective educator and a full participant in the community of practice is critical for the student teacher. To reach this goal it is important for the student teacher to be able to think in and through what they are doing as a teacher. Observing, and taking part in the cooperating teacher's work and accessing their practical reasoning while situated in the classroom will assist the pre-service teacher by giving them an inside look at the thinking, conscious and

subconscious, behind the action. This does not give the student teacher a template for action but rather allows him/her to see the deep seated knowledge accumulated through the years of practice. This is something that will give the student teacher a way to think in and about practice. It will equip her/him with habits of mind that will support his/her development as a teacher.

This study addresses the important impact of the student teaching experience, shedding light on the interaction between the student teacher and cooperating teacher and how that interaction changes over time. It provides a close look into the working relationship within this pair. Using the framework of situated learning, I address the trajectory of the student teacher from legitimate peripheral participant to full participation in the community of practice. In full participation the student teacher is in the role of teacher, his/her identity is that of a teacher, and is motivated by the realization that they are moving toward this new reality. In the following chapter I explain how I went about studying this interaction.

Chapter Three: Research Design and Methods

This study was designed to take a closer look at the interaction between science student teachers and their cooperating teachers, the knowledge that is shared and the knowledge that is gained through this experience. I focus on both the substance of the conversations between the student teacher and cooperating teacher and the evolution of this interaction over the student teaching time period. My intent is not to evaluate the conversations but rather to look at ways that the knowledge and expertise of the cooperating teacher is made available to the student teacher thus providing the student teacher the ability to construct practical knowledge to be used in her or his classroom.

A case study design (Stake, 1995) was chosen as this approach provided me with the opportunity to look in depth at this complex relationship, providing insight from a variety of angles and perspectives. The case is the interaction between the student teachers and cooperating teachers and the development of the community of practice, and in this study, I examined three iterations of this case. I analyzed the data using the theoretical framework of situated learning as I address the changes in the interaction across the three pairs, looking closely at the student teacher's movement toward full participation and the cooperating teachers' actions that impact this movement.

The three iterations of the case were comprised of cooperating teacher/student teacher pairs who volunteered to be part of this study. Serving as the university

supervisor for each pair allowed me the opportunity to work closely with the pair during the time when I was collecting data. The data sources included self-recordings of the mentoring conversations between the cooperating teacher and student teacher, as well as interviews and surveys of the cooperating teachers to understand their perspective on their work relationship and role working with the student teacher.

In looking primarily at the interaction between the cooperating teacher and student teacher, I propose to tell the story of the change in this relationship over time. Using the theoretical framework of situated learning (Lave & Wenger, 1991; Lave, 1996) and the lens of practical reasoning (Dunn, 1993; Zanting, Verloop, & Vermunt, 2003), I address the interactions between the cooperating teacher and student teacher in terms of not only the “what” of the conversations but also the “why.” Looking at the nature and substance of these interactions as contextual and driven by action, I address the opportunity for the student teacher to access the deeper knowledge of this “expert” with whom they have been paired and how this interaction changes as the student teacher moves toward full participation in the community.

The research questions being addressed in this study are:

- 1) What is the substance and the nature of the conversations between the cooperating teacher and student teacher during the student teaching placement?
- 2) During the student teaching placement, how does the conversation between the cooperating teacher and the student teacher change over time?

Research Design

The research design used in this study is an instrumental case study approach (Stake, 1995). This approach is appropriate as the focus is on the conversations and interactions between the cooperating teacher and student teacher and how this changes over time rather than the specific pair (Denzin & Lincoln, 2000). This approach will provide me with the opportunity to look in depth at this complex relationship, providing insight from a variety of angles and perspectives. The case is exemplified by three cooperating teacher and student teacher dyads. The dyads in this study were part of a larger cohort of cooperating teacher/student teacher pairs that I worked with as their university supervisor. Each pair volunteered to participate. Prior to volunteering each pair was given permission by their building principal and school district to participate.

Context

Licensure program. The three student teachers involved in this study were all part of the same post baccalaureate licensure program for secondary science education located at a major Midwestern university. All three were enrolled in a high school science methods course concurrently with their student teaching. During the prior semester each of them also participated in a middle school science methods course and, as a part of that class, completed an extensive middle school field experience.

According to the expectations of the licensure program each student teacher was responsible for no less than four of the five classes that their cooperating teacher taught during the 14-week student teaching experience. It was expected that each of them would take on all the lesson preparation, laboratory preparation, set up and tear down, and student assessment. They were observed four times by me, their university supervisor. As a part of these observations I also spoke with the cooperating teacher regarding the student teachers work and progress as well as any issues or concerns. Throughout the semester the student teachers also had assignments as a part of the methods course, which involved their work as a student teacher. For example, they were asked to video-tape their teaching and to create a student teaching portfolio.

Participants. In this study I focus on three cooperating teachers and student teacher pairs. All three were pursuing licensure in 5-8 grade general science with two pursuing high school licensure in Biology and the third high school licensure in both Chemistry and Physics. For the purpose of this study, I focused on this student teacher's experience in the Physics classroom and his interactions with that cooperating teacher. Two of the student teachers were male and one was female. All three student teacher/cooperating teacher pairs volunteered to participate in this research.

This study focused on the lived experience of three cooperating teacher/student teacher dyads. All three cooperating teachers were veteran teachers having taught in their schools from 16-24 years, most of which was in their current position. All were in traditional public schools with six and seven period days and 41-55 minute periods. All

were given the same instructions, via a university cooperating teacher handbook, regarding the university expectations concerning their work with the student teacher. For one of the cooperating teachers this was his first student teacher; the other two had prior experience with student teachers from this and other preparation programs. All of them volunteered to be part of this study. All three teachers were teaching in their area of licensure. One of the cooperating teachers taught 10th grade biology to “regular” students. One taught honors Physics to 11th-12th graders and the third taught IB biology to 11th-12th graders. Two of the student teachers taught for the required 12 weeks; the third came back for a 13th week to complete a unit that she had started. There were two male cooperating teachers and one female. Two of the schools were urban schools located in Minneapolis the other was a suburban Minneapolis school. Two of the cooperating teachers had prior experience in this role with one reporting eight to ten student teachers prior to this study and the other “lots.” The third cooperating teacher was doing this for the first time. See Table 3.1 for demographic information regarding the placements.

Table 3.1

Participant Demographic and Academic Information

Teacher	Student Teacher	Licensure – of CT and ST	School Demographics	Class
Donn	Jim	HS Physics	Urban White 48% ELL 10% FRL 47% SE 12%	Advanced Physics
Jeff	Tessa	HS Biology	Suburban White 93.5% ELL 1.4% FRL 8.1% SE 10.8%	Biology
Allison	Todd	HS Biology	Urban White 62% ELL 8% FRL 32% SE 10%	IB Biology

The cooperating teachers in this study volunteered from a pool of ten cooperating teachers who were planning to work with student teachers from a major Midwestern university in the spring of 2008. Of the initial 10 who were contacted five responded that they would be willing to be part of this study. One of these five withdrew from the study after the initial background survey stating that he did not have time to continue as a participant. Another teacher who had volunteered did not formally withdraw, but never completed any of the surveys or any of the recordings of her interactions with her student teacher and was therefore not able to be used as a data source.

The cooperating teachers all agreed to the conditions of completing an initial survey to establish background for the cases for this study. They also agreed to complete weekly, online, updates regarding their work with their student teacher. They agreed to carry a small digital recorder and were asked to make an attempt to record as many of the conversations that they had with their student teachers as they could, and they agreed to be interviewed at the beginning of this study, shortly after starting work with their student teacher and then again at the end, shortly after the student teacher had left. Details about the data collection procedures are included in the next section.

Data Collection

To address the research questions I needed to gain access to the conversations between the cooperating teacher and student teacher. Access to this interaction is tricky, so I found a need to collect data using a variety of tools. This was especially important in order to make sure that the data collected was a fair representation of the full experience.

I discuss each data collection method in detail below in the order in which I collected them (see table 3.2).

Baseline survey data. The survey data was used to establish the cases for this study and was helpful in establishing the situation into which the student teacher was moving. Knowing that no two cooperating teachers are exactly alike, this survey provided information regarding how the cooperating teachers viewed their roles as well as their beliefs about how their students and their student teachers learn. It helped to shed some light on the interactions between the cooperating teacher and student teacher and made some of their thinking more transparent (Wisehart, 2004). In this survey, prior to the placement of the student teacher, participating cooperating teachers were asked to describe their personal history in the classroom, their expectations, their perception of their role as cooperating teacher, and any initial suggestions they had regarding support from the university that they would find helpful.

Specifically, the questions on the survey (see appendix B), adapted from Kahn (2001) and Grove, Strudler, and Odell (2004), collected background information such as how long they had been teaching, the grades and classes they teach and how many student teachers they have hosted. It also addressed their underlying philosophy of education asking about how they believe that their students learn best and how student teachers learn to teach, as well as what they felt were the “most important things that your student teacher needs to learn about teaching science.” This survey also asked about the cooperating teachers’ perceptions of their own attributes, what skills they bring to the

table as a cooperating teacher, as well as how they perceive their role as cooperating teacher. In addition, the survey asked for information about benefits they receive from serving as a cooperating teacher and if there are any ways that the University could better prepare and support them in their role.

Initial interview. Following the baseline survey each cooperating teacher was scheduled for a semi-structured interview. This was conducted shortly after they had begun work with the student teacher. The goal of this interview was to gather details regarding the nature of their initial work with the student teacher and to elicit examples of how this was accomplished. They were also asked about their expectations for this experience and again about their perception of their role. In addition, prior cooperating teacher experience was asked about and probed to gather more detail. See Appendix A for the complete interview protocol.

Weekly update survey. The *weekly update* survey was an online survey given to the cooperating teachers on Friday of each week following the initial interview. In this five to seven question survey (see appendix C) the teachers were first asked to identify their actions using categories adapted from Odell (1986). This instrument was originally designed to identify categories of action in the induction setting so some of the language was changed to better fit the student teaching experience. Also, the categories of observation of teaching, solo-teaching, and co-teaching were added to assess the involvement of the cooperating teacher.

Other questions included questions about their role and how it might have changed in the past week as well as plans for the upcoming week. Three times throughout the experience the cooperating teacher was also asked to reflect on how their role had changed since the beginning of the semester. They were also asked to reflect on discussions that they had with their student teacher that were examples of things that they (the cooperating teacher) had learned from their experience in the classroom and how these conversation came up (for example, due to an event in the classroom or a question from the student teacher). On the last survey they were asked to reflect on anything that they learned about their own teaching “through the experience of having a student teacher.”

Recorded conversations. In an attempt to gain access to the on-going interaction between the cooperating teacher and student teacher, each cooperating teacher was given a digital recorder and was asked to record as much their conversations with their student teacher as they could. This was the primary data source, providing authentic examples of the nature and substance of the conversations.

The cooperating teachers were also asked to record any reflective comments (verbal journaling) at any point during the experience, so the nature of the recording varied from listening to conversations to a one sided reflection coming from the cooperating teacher. The recorders were collected from the cooperating teachers every other week and the recordings downloaded. The recordings allowed access I would not

have in most cases and limited the paperwork burden on the part of the cooperating teacher.

Post-interview. A post-interview was conducted during the week following the departure of the student teacher. I wanted to give the cooperating teacher time to reflect about the entire experience, but not to be so far from it that it was difficult to recall. The focus of the interview was the cooperating teachers' perceptions of their role and how their role changed and developed throughout this experience. They were also asked, during this interview, to reflect on the change in the nature and substance of their interaction with the student teacher throughout their weeks together. See Appendix B for details.

Observation/Interview. Serving in the dual role of researcher and university student teacher supervisor, I also had the four opportunities to observe the student teacher in action and the interaction between the cooperating teacher and student teacher. During each observation I made sure to have conversations with the cooperating teacher regarding the work of the student teacher as well as the nature of their interaction. I asked questions regarding the nature of their conversations and how they were working together; for example, do they meet regularly, is it based on situation, or is the student teacher mostly on their own.

On most occasions I also had the opportunity to have a post-observation meeting with the pair. The focus of the observations was mainly to support and evaluate the

development of the student teacher, but it also gave me an opportunity to briefly observe the interaction and the changes in the interaction between the cooperating teacher and student teacher throughout the semester. Notes on the comments from the cooperating teacher and reflections on the overall work taking place were jotted down during and shortly after these observations. I used this data to establish the situation in which the student teacher was immersed during the student teaching experience.

Table 3.2

Data Collection Method

Data source (times collected)	Purpose	Collection Method
Baseline survey (1)	To gather information regarding teacher's context and beliefs	Electronically completed by the cooperating teacher using a survey tool
Pre-Interview (1)	Telephone interview with the DT to gather information on their expectations and beliefs about their role	Semi-structured phone interview. Recorded and transcribed (60 minutes)
Weekly Survey (9)	To gather information on the ongoing activities of the pair that were not captured by the recorder	Electronically completed by the cooperating teacher using a survey tool
Recorded Conversations (varied)	To gain access to the conversations between the cooperating teacher and student teacher throughout the semester	Cooperating teacher carried a digital recorder which the pair used to record conversations they had with each other
Observations/Interview (4)	To observe the student teachers' work in the classroom and the interaction between the cooperating teacher and student teacher	Researcher observed the pair in action
Post- interview (1)	Telephone interview with the cooperating teacher to gather information regarding changes in their role and the substance of their work with the student teacher	Semi-structured interview. Recorded and transcribed (60 minutes)

Data Analysis

I employed qualitative techniques for data analysis including reading and rereading the cases and coding for themes. Across the cases I looked for common themes that emerged from the data; this provided me with a description of the substance and nature of the interaction between the cooperating teacher and student teacher and how this interaction changed over time. I analyzed this change using the theoretical framework of situated learning (Lave & Wenger, 1991). In the following sub-sections I describe the analytical approach associated with each data source.

Recorded conversations. These recorded conversations were transcribed by the researcher and were coded and recoded for emergent themes. Themes, gathered by the researcher from the literature, such as subject matter and strategy, principles of teaching, advice and support, socializing to the school environment, and enabling innovation (Wilson, Flooden, & Ferrini-Mundy, 2001) were used for the initial coding of these conversations, but additional themes emerged from the data.

The themes were then analyzed for changes and prevalence over time. Cross case comparisons were also made for redundancy and uniqueness, similarity and dissimilarity. The lens of practical reasoning (Dunn, 1993) was also used to analyze the themes both within and across cases.

Interviews. The pre- and post-interviews provided another important data source from which to consider the changing interactions within the dyad from the beginning of

the student teaching experience to the end. I recorded and transcribed this data and analyzed it for changes in the perceived role of the cooperating teacher as well as any nuance gained by the probes. This data makes up a bulk of the background of the description of the dyads as this is where the cooperating teachers had a chance to talk in detail about their work. Themes emerged such as how the cooperating teacher gave access to the community of practice to encourage their student teacher's centripetal movement, their perception of their role as the "old-timer", and the impact that this experience had on them and their work in the classroom.

Survey data. The survey data included both an initial "baseline" survey and weekly updates. These data were also used to build the background of the dyads detailed in chapter four. They were used to provide a baseline context for the research as well as an on-going source of information to compare to the conversation and interview data. Qualitative analysis of the open ended questions as a part of the cases, provided for more nuanced descriptions of the changes in the perception of the cooperating teachers regarding their role, as well as changes in their expectations and what they reported they were learning from the student teacher.

Supervision/Informal interviews. In this study I served both the researcher and the university supervisor for the three student teachers. I met with the student teachers weekly as part of their Methods of Teaching Science class, assessed their coursework and observed their teaching on four occasions. I also met with student teacher/cooperating teacher pair after each observation to discuss progress and set goals. During the

observations I had informal conversations with the cooperating teacher to discuss any questions or concerns. Data from the observations were used to set the cases in context. It was also used to flesh out the details of the practice as reported by the cooperating teacher in both the weekly updates and digital recordings. In addition, the observations allowed me to check on and clarify the themes from the conversations. In my analysis I utilized this data and make it clear when I do so.

Validity

Threats to validity were addressed by providing a number of different means by which data were collected. Though much of this data involved self-reports by the cooperating teacher, the participant observations by the researcher, as well as the informal conversations and questions directed to the student teacher, were helpful in triangulating what was reported. I also made my dual role, as both researcher and university supervisor transparent to the readers of this study.

Researcher Background

I am a licensed 7th-12th grade life science teacher. I spent six years in the classroom (one year in a traditional high school and the rest at a district alternative program, ALC). I have always been interested in how to engage students, especially those that are not motivated by plans for college and future careers in science. I was intrigued by those who could make science come alive. I think it was my seventh grade

life science teacher who did this for me and put me on the path toward education. During my tenure at the ALC I was elected to represent our region at the state level. I found this opportunity to work beyond the walls of the school building to help schools in their efforts to better reach students challenging and rewarding.

Prior to teaching, however, I worked with young people in a variety of settings. Bouncing between small-town youth work and inner city social work, I was challenged by the way that young people think and how to motivate them for action. I entered into a post baccalaureate teacher licensure program and emerged as a teacher. During my time as a graduate student I had the opportunity to do research with a problem based simulation that connected university and high school students. Seeing students immersed in the learning in ways that gave them a glimpse of the lived significance inspired me.

My interests pushed me beyond the classroom and into a doctoral program. In this program I was given the opportunity to work with students who were seeking their initial license in science. Engaging with them in the methods class and observing them in action brought back my questions regarding how to make teaching engaging, only now I was thinking about future teachers engaging in their learning and in their path toward the classroom. Some people hold that good teachers are born, not made and whereas, there are certain personality traits that might make one more suited for the classroom, I hold that effective teaching is far more than birthright. However, given my own experience as a science teacher and student, I know that just telling someone the answers does not build their knowledge and, as I think most would agree, learning in action is very powerful.

This is one of the reasons that most teacher preparation programs put emphasis on field based experience. My passion for science education and my firm belief in learning in action has pushed me to think more how science is learned and how teachers learn to teach science.

Limitations of this study

There are several limitations to a study of this nature. First of these is my position as both researcher and university supervisor. Also, issues of misinterpretation of data during analysis, limitation of data sources and types, and researcher bias issues are limitations. Another obvious limitation is the sample itself. The cooperating teacher population in this study was not chosen at random but was a subset of a group of invited cooperating teachers who then volunteered to allow the researcher look more closely at their practice. They received nothing in return for their participation, though all three welcomed the opportunity to talk about their work as a cooperating teacher.

In my dual role as both researcher and student teaching supervisor, I was responsible for evaluating these three student teachers at the end of their student teaching and assigned each of them a grade for their work. I was very intentional regarding how I separated what I knew about their work from the information received from their cooperating teacher and what I had observed and read as their university supervisor. I used a rubric for their graded work to make sure that I did not consider this outside

source of information. None of the data collected were reflected in the final grade of the student teacher.

In the next chapter I will present the three dyads on which this study is based. I explain how each cooperating teacher views his/her role as well as how they think about their work in the classroom as teachers. In addition I explain how they reported viewing the role of the university supervisor and how this role factors into the student teaching experience. The data for this chapter was collected from the semi-structured interviews, the weekly surveys, the observation/interviews, and the recorded conversations between the cooperating teacher and student teacher.

Chapter 4: Presentation of Cases

In this chapter I present the three cooperating teachers that are a part of this study, Jeff, Donn, and Allison. I present them in narrative form with no analysis; individual and cross-case comparisons will be detailed in chapter five.

Each narrative follows the same structure and was developed from the same data sources; pre and post interviews, a baseline survey, weekly surveys, and recordings of the conversations between the cooperating and student teacher were used. Each individual situation includes a brief summary of the cooperating teacher's prior experiences both as a teacher his/her work with student teachers, his/her beliefs about teaching and learning regarding both students and student teachers, a brief summary of the school context, and a more detailed narrative regarding their beliefs about his/her role as a cooperating teacher and how he/she feels that his/her role changed throughout the semester.

I believe that it is important for the reader to be "introduced" to the cases prior to making any analysis or cross case comparisons. These cooperating teachers are the ones who work most closely with the student teachers and, though I also served as their university supervisor, I did not have nearly the same amount of daily contact time, nor could I play as significant a role in the development of the student teacher as could the cooperating teacher. For this reason I feel that it is important to know something about the cooperating teachers themselves prior to any analysis or comparisons and before addressing their work with their student teacher.

Jeff

Jeff is a licensed biology teacher. He has been teaching for 16 years, 14 of which have been in the school where he is currently teaching. He teaches grade 10 biology “for the regular students.” Jeff believes that the classroom should be an active, hands on, environment and that students learn best “by seeing, doing, and writing about the activity.” Though he has worked with field experience placements, Tessa was Jeff’s first student teacher.

The school Jeff teaches in uses a traditional seven period day, with most teachers teaching five of the seven and being assigned a supervision (lunch room or study hall) for one of the periods and having one as a planning period. The school reports that 95.5% of its students are identified as Caucasian, 1.4% receive ELL services, 8.1% qualify for free and reduced lunch, and 10.8% of the students receive special education services. The school serves a student body of 942 students.

Perception of role. In the initial survey Jeff explained his role of cooperating teacher as that of a resource. “I work with her in joint planning. I act as a resource for her to access materials and bounce ideas off. I help her with any and all questions to grow in her craft.” He supported this in his second weekly update when he referred to his role as that of “mentor/team teacher.” When asked in his initial survey what student teachers need from their cooperating teachers, he mentioned practical classroom needs such as “resources, skeletal lesson plans, lesson notes, ideas, tests, anything that might help support the person.” He compared the needs of a student teacher to those of any new

teacher saying that they need “the same assistance that a new teacher should be given from a staff of peers when they join a new school.” Jeff also noted that student teachers learn to teach “by having the chance to take on the class without the cooperating teacher breathing down their neck, by making adjustments in the plans on the fly. By discussing what went well and working on improving what could have gone better.”

When asked about his ability to meet the needs of the student teacher and to fulfill this position, Jeff held out his “experience, wealth of possible varied lesson plans and activities, my love of the students.” He stated that his definition of success for a student teacher was “when kids respond to the student teacher with the same level of respect and admiration that they afford me as the regular teacher.” As this was his first student teacher, he was not aware of any areas for growth in his own skill set and when answering a question about this he turned the focus to the student teacher pointing out what she would bring to the department in terms of ideas and new lesson plans. He wrote in his initial survey that “this current student teacher is an old zoology major. Our school has not been pleased with the current unit on animals. We are looking for someone with fresh ideas on how to incorporate hands on learning labs into the animal unit.” One thing that he noted, which he thought would be helpful for cooperating teachers would be “telling them the level of collaboration that you think is appropriate.” He also noted that “my biggest area of fault is my classroom style of management. I am loopy-goopy with the students and Tessa has to deal with my set-up of the kids. If I had been more strict, it would be easier.”

Jeff's initial plan was to co-teach with his student teacher and he reported feeling confident in his ability to do this. In terms of his motivation to work with a student teacher, he mentioned that "this was my first chance to pay-back and help develop a new teacher, other than fellow colleagues that joined our staff." Continuing he noted that having a student teacher would allow him "a chance to rethink why we do things and make everything a little better."

When asked about important things that student teachers need to learn about teaching science, Jeff responded "that it is a process and one of the last places in our current schools to actually do something with your own hands. It is a place for students to problem solve and rise to the challenges of inquiry learning." He added "that it is current and relevant to the world today and that all students need to be scientific thinkers." When asked about the importance of the role of the cooperating teacher in the development of science teachers he responded that "I don't know if it is the cooperating teacher so much as the classroom of real students that makes it a great experience." He went on to explain that the theory learned in education classes was not as valuable as this real life experience "as you begin to learn the actual real life art of teaching." He added that "I think my best role is to provide the opportunity and to encourage the student (teacher) to grow."

Work in the classroom. In his initial interview Jeff referred to his student teacher as "kind of a sponge" explaining that "she is open to ideas and is very amiable stepping in working with me and working out how we would attack this planning." In keeping with his expectation that they would co-teach initially, he reported that "our

approach has been a cooperative effort since day one.” However, he also noted some nervousness. “I was apprehensive because other people that have had student teachers were spouting horror stories of their experiences with different people and Tessa came in with a heads-up attitude.” In explaining further he noted that “I think her maturity and the fact that she is a little older than the normal kids gave her a better sense of what she was up to. Possibly the extra work she had done teaching already at the raptor center had given her an idea already of what she’s supposed to be like as a teacher.” Jeff reported that he sat down with Tessa at the onset of the student teaching experience to assess her desires regarding the classroom. “I think the biggest thing was I would sit with her and asked her when she wanted to step in, to what level she wanted to step in and figured out, you know, we have five class days and that she would take four of those classes and that’s what she plans to do.”

Initially Jeff and Tessa’s conversations centered on practical matters, such as the on-line grading system, classroom technology, how to take attendance, and schedule. In their first recorded conversation they also talked about inquiry and Jeff gave Tessa insight into his reasoning regarding the use of inquiry. He told her, “you need to give them that frustration.” He explained, “you have to give them that chance of that pause for inquiry, but also, you can’t lose them. So, I think you’re riding a fence there, and I think you sensed it right away. That’s our challenge in science.” Jeff also gave Tessa access to all of his files for the units that they would be covering while she was student teaching. In addition, he reported that classroom management was an early and ongoing topic. In their second recorded conversation Jeff explained to Tessa how he tried to get

the class to monitor itself. When talking about a movie that they were going to show for review, he explained to her, “what we want is for them to be telling each other to be quiet, I’m paying attention. What we don’t want is for this to be playtime.” As Tessa took more and more responsibility Jeff reported that “with less communication we still get more done because she sees what she has to do and she’s a self-starter,” adding that “in the early stages I had to walk her through everything.” Over time Jeff reported that he “backed out of having to be in the teaching mode with her as time went on.” By the end of the first week Tessa was teaching three of the classes and at this time Jeff felt that backing out of the picture was important so that the students would see her as the teacher. He stated “as long as I am still in the room the kids are still responding to me and we need to cut that cord.” Though for one of the classes that Tessa was teaching, he did remain in the classroom to help her with a student with special needs “I was only there for that one kid in the last class and that was pretty much after one week.”

In addressing his perception of his role now that he was immersed in the experience, Jeff maintained what he had mentioned earlier about serving as a facilitator “trying to facilitate her success.” Success was a theme that Jeff returned to on several occasions. He reported feeling that part of his role was to provide her with the tools that she would need to be successful and to make sure that she had all of his materials so that she would not get “so buried in prep that she didn’t learn how to be a teacher.” He explained from his own experience that “personally, after knowing what it’s like to start out in any new subject area or coursework you will spend an exorbitant amount of time in prep.” Although guarding her from being overwhelmed, he did state that he planned to

use her content knowledge to re-work the upcoming zoology unit. His suggestion for other cooperating teachers was “don’t make them do all the preps right away. Wean them in.” He made this obvious in a recorded conversation early in their work together when he commented to Tessa while planning for the upcoming week, “then we make a segue into plants and I’m trying to get that organized for us as we speak.” Also, in their fourth conversation he told Tessa, “I’ll give you all the power-points on this, and your challenge is to make it your personality when you deliver this.”

When asked if he felt that his role had changed in the first three weeks, Jeff stated that he thought that it was still the same given his deeper knowledge of the students and his ability to use that knowledge to help Tessa in her work. For example, he reported that he knows “the dynamics that have been in the classroom with all the kids, and all the issues, and you get some kids who aren’t doing the work because they’re taking care of their ill mother at home and have no support in the home and we have to figure out, okay, how do we do this?” He reported being there to help her find a balance between being “unyielding” to students and being “an enabler and be taken advantage of.” An example of this came in conversation number eight when Jeff discussed two students that Tessa had been having trouble with. Jeff explained that Tessa should be sensitive in how she dealt with them because “B’s got very thick skin. J has thin skin. And when you go to J with this, probably you want to talk to him about what he thinks he’s doing in class. He’s a kid that, quite frankly, did not pass on his own merit last semester.”

He approached this role as that of “coaching or facilitating,” and being there for the student teacher when she had questions like “what do you think about this idea” or

“what do we do with this kid?” He was present and able to talk her through any concerns or questions. He found this role of “sounding board” important as he also realized that he would be getting these students back and therefore could not “completely ignore what is going on.” He realized the importance of staying in touch with what is happening in the classroom and noted that he needed “to stay on top of who’s doing what” even though the Tessa was “responding, actually, to the parents” and was doing the progress reports and “she was there for all the conferences and so forth.” In addition to facilitator and coach he also referred to himself as her crutch, explaining “so I’m still the facilitator and when she feels she’s got questions she defers back to me on some of these, so I am still, I am still there, I’m kind of like her crutch” even though she is “taking a lot of the responsibility.” For example, in their fourth conversation, he made this clear to Tessa when he stated, “this plant unit is one of the first ones where I’d like you to pick up about two or three days of planning.”

By the third week of student teaching Jeff was very pleased with Tessa’s progress and her success in the classroom. Jeff referred to her taking on classes as a “very pleasant seamless transition.” He explained that “when I got the opportunity,” to be a cooperating teacher “I was kind of challenged by it. I thought it was a good, exciting thing.” He also admitted to being nervous and that his “expectations were shattered when I talked to different people that had been doing it and that have had very, very negative experiences when the kid, the student teacher comes in and bombs” and he added “it creates a real can of worms for people.” Jeff admitted to being “couched in fear or

apprehension,” but reported that when Tessa “stepped in, none of that happened.” When asked about his expectations being met or not Jeff replied, “not the negative ones.”

Jeff also noted that not only was Tessa learning from him but that he was learning from her. He stated that as she took over, “it was a chance for me to re-think a lot of the things that I do.” He went on, “whenever you teach something you learn it better and so I would lay things on the table and get her opinion on things and work through the different things. That was kind of a fun thing; it has you do a little introspective search.”

Role of the university supervisor. Jeff was also asked about advice for the university, specifically ways to better prepare him for his role. He stated that he “got the initial book, read through what was there and didn’t see much that was a high pressing demand on me.” He attributed this to the fact “that because you are talking about teaching and there’s such an art there, you can’t catch exactly what I should do when and where.” He reported having a couple questions and he noted how he had “bounced them off you (university supervisor) when you came out early, I think that was probably the most beneficial thing.” He explained that this initial visit was very helpful for him in addressing questions, such as if he should “let her use my materials” or if that was a bad idea. He also noted that the University supervisor’s knowledge of the student was important at this time. The supervisor’s ability to “be there with this particular kid in mind, saying this is fine, take that approach, that gave me confidence.” In addition, he added “I think that you being there early and a couple key times during the early stages when the kid is making transitions into the classroom is an important time so that you can

kind of feel what's going on with the cooperating teacher, make sure that they're looking at and working on the kind of things you think this kid needs."

Teaching. Returning to the theme of teaching as an art form, Jeff expanded on his previous statement and explained how this reality makes it hard to fully prepare a potential cooperating teacher for this role. He went on to state that "it's an interesting concept but, when you think teaching is an art and it doesn't really have great standards to evaluate it by so, it's so, so subjective how people, some people who are really, really good teachers, if you put this into a notebook and said this is what they should have been doing you might find that they don't meet any of your criteria." He continued, "the more that you try to put it into a cookbook or recipe form and then lay out a notebook and say this is what you need to do I think you're barking up the wrong tree." Adding, "I think that this is not that kind of profession, so by having you come out and work with me with her in mind and put it into that art form and make you share insights and come to some agreement with me, the cooperating teacher, about how we should best make this succeed."

Returning to the theme of success in this art Jeff stated "in any of these situations, I think you can't hope for failure. You know, they have to succeed through this experience." Though he also went on to explain that he was not suggesting to merely pass the student teacher through or to make it easy on them. "Maybe they learn that they're not going to be a teacher, but they have to succeed out there or else... failure shouldn't be an option." He further explained this philosophy stating "but you know, you're not there to... you're there to give them all kind of support to get them through."

Recalling his own experience as a student teacher Jeff noted that how well the student teacher likes the students is also important. He explained that this was a piece of his own student teaching that he still calls on. He reported that he had talked with Tessa about this “right from the beginning.” “I said, I don’t know what Eric is like but I do remember my university supervisor coming out and the question he threw at me the first time that I was in control in teaching a classroom was, how do you like the kids?” He also noted that in talking with Tessa about how “you can think a lot of things but if you don’t really like the kids you probably should find another line of work.” This was another area where he felt Tessa was experiencing success. He stated “she has just been bubbly and giggling and having a great time with the kids. Even under times of duress.” He also noted that there are some kids that try to take advantage of this but that “she has maintained a really good composure through this and has fun with the kids.”

Finally, when asked about what he was getting out of this responsibility in terms of his own learning, his first response was that “every classroom should have two people in there doing the same job.” He reported that he has been working “really full time in a support role trying to tweak things and make things better. She’s giving me the freedom to step out and there’s still more work to do.” Again, giving a glimpse of his philosophy he noted, “you know, it’s the type of job where as a good teacher you always could be better and it’s an endless amount of time that could be spent upon the job, and so she frees me up to do a lot of that.” He also noted that “I sit back and watch her and it reaffirms a lot of things that I know are good teaching strategies and so it is really kind of fun.” Adding another learning experience for him when he reflected on his years in the

classroom he observed, “we do things differently, there’s no doubt... and watching her, you know, having trouble with things that an old person doesn’t have trouble with because they already come in knowing who I am, having expectations, and she has to develop that. So that reaffirmed, you know if I went to another school district I probably would start over with that.” Adding, “but that was good, just to watch the ebb and flow of things, it was all good.”

Jeff also noted that Tessa’s background was also quite helpful, stating that if she was not this person “I probably would have been on pins and needles when I was relaxed.” He explained, “when she took over I could just go off and do other things and lay in the weeds.” If she had not been so well prepared, he added, “I probably would have felt like I had to be more involved with coaching her all the time.” He also noted that part of the challenge that he had wondered about was “if she can create an atmosphere where they [the students] could learn, but if they started to rule the roost, and she crumbled, I would have had to step in, and it didn’t happen.”

Weekly updates and final interview. During his work with Tessa, Jeff was asked to complete eight weekly update surveys (including the initial baseline survey) to report on their work (see chapter three for details). Jeff completed all of the surveys and much of what he wrote echoed what he had said in his interviews and recorded conversations with Tessa. In addition, at the conclusion of the student teaching experience, Jeff also participated in a final interview, which addressed questions similar to the initial interview.

In his final interview, Jeff talked more about classroom management. He stated that they worked more on her teaching style at first but that changed in the last weeks to talking more “about her classroom management.” Jeff went on to explain a specific situation related to Tessa’s interest in taking over the one class that he was still teaching. It was the second hour class, one that “she thought was just sleepy or that I had them under my thumb and she couldn’t decide which.” He explained to her then how this would give her a chance to teach her lesson and then “make modifications and teach it to the rest of the classes and so she went ahead and did it and the kids were just as off the wall as they are in her other classes. And so all of a sudden she turns to me and says; it’s me.” He reiterated a point made in the first interview about the need to establish a reputation and a style. “And that’s what our discussion was like. I said this doesn’t matter, once you get into your own routine and you have your own kids you will establish your reputation.” He explained that you cannot just copy someone else, stating, “I think it was partly a setup because she was in my classroom with my methods and she couldn’t be me, you know, she couldn’t do what I was able to do to corral them back and that was kind of an eye opener for her.”

Jeff was asked if this was a usual way that they would handle situations in the classroom, if it was typical that they would sit down and talk after an event. He explained that usually it was a little more on the fly, yet very open. He noted that “we’d see each other in fleeting moments here and there and talk about you do what you have to do to get that scheduled for the labs and so forth, but for the most part we had a very open communication.” Referring to the research method being used he also admitted that

“some of the conversations we didn’t get on your tape. You know a lot of our planning we tried to and whenever we’d think about it we would, but when different situations would arise and we would get into it then we would say oh, we should’ve put that on the tape.” For example, in one of their conversations in the middle of their work together Jeff explained, talking to the recorder, that they have “lots of mini-conversations.” When asked if it was typical to take time to discuss after situations arose Jeff came back to his role as guide and Tessa’s need for success, stating “I did my best to help guide her when I thought she was falling and she did a great job of putting forth a great effort to make it succeed.”

Jeff also addressed changes in the classroom after Tessa left noting that he “missed her a lot after she left, so did the kids.” He mentioned needing to pull the class back a bit toward how “I like to do things.” However, he did not indicate that he thought that this showed weakness in her management skill, just the fact that he has many more years in the classroom. “My reputation has been here for a long time and the kids know pretty much how I like to do things.” “It’s a lot different from her” he stated, “you know, she stepped into it and really I don’t like to lay down a lot of rules, I’m not consistent enough to enforce all of them.”

When asked to reflect on how these final conversations compared to the conversations he had with Tessa at the beginning of the experience, Jeff replied that in the beginning it was more of “getting to know how solid she is, what courage she has, what kind of criticism she can take.” He compared the first few weeks to “walking on eggs. You’re trying to figure out the situation, you’re trying to figure out how she’s

going to react.” But he noted how this changed over time stating that “as time went on I saw her strengths, and she has enough strengths to work off of so that we could end up attacking some of the smaller things that she was doing.” An example of his ability to give her stronger feedback came up in one of their later recorded conversations when he let her know that what she had planned “sounds like dullsville.” He also gave her unfiltered feedback in this same conversation when he told her that what she was thinking about “is going to take forever, forever to get through.”

Jeff went on to say that their communication changed over time as well, “and so it became a lot easier for me to communicate, in the beginning I was kind of quiet trying to see what she could do and when I saw that she had it under control, then we worked on the fine details.” When asked about an example of one of these finer details, Jeff noted a situation in which Tessa complained to disruptive students that she “had worked so hard [on an activity]” and he responded that “this doesn’t fly.” He also mentioned this on survey six, writing that one of the things he had discussed with her that he had learned from his own experience was “never saying I have worked so hard to prepare for you and you need to work too!” Jeff went on to explain how at first he had been helping on a lot of preps, “so she was more free to be with the kids” but “when she was finally cut loose and did some of the prepping, she realized the extra hours that you have to invest into it in the evenings and at that point she was mad when they wouldn’t play ball.”

Other finer teaching points and skills Jeff noted working with her on included her work with specific students. He explained, “you know, like when a kid was scamming her and she didn’t see the scamming, and I’d say you know this is a kid that I would hold

his feet to the fire, be careful.” “You know, it might have been a kid that I already knew their mode of operating, you know?” Jeff also noted other examples of this in his weekly updates. For example, on his third survey, he wrote that that they “discussed at great length of change in the status of a student.” On survey seven, he also wrote about discussing specific students; “we discussed a student that was taken to rehab and possibly returning.”

In the post-interview Jeff explained the evolution of their work; “early on I felt like I was just there to give her any and all, answer any and all questions she needed, but as time went on she got comfortable with a lot of the routine and so we left some of the detail work.” When she moved from the daily routines to the classroom equipment, “she was good at the computer, she was good at putting the power points together and everything and I have a SMART board here which she had never seen before so some of it was technical training, getting her through all the passwords, you know the day to day nuts and bolts.” But then he continued, “as time went on, when we were talking we would be talking more philosophy, you know, and talking about specific kids and how to motivate a kid or how to catch up with something that happened with the schedule or a kid that was missing or you know, all those kind of things.” For example, during conversation seven they discussed an English language learner who was struggling in one of the classes that Tessa was in charge of, at which time they both shared their perspective. Again in conversation eleven they discussed a plan that they had devised, during conferences, for a student who is on the autism spectrum. They suggested that he pick a science topic and then “ask questions about the topic, research the topic, and then

make a power-point presentation on the solution.” In conversation fifteen, when they discussed some activities that they could include in a unit, Jeff applied their thinking to a specific student with the example, “Sam, I feel that you have a lot of creative juices that don’t get expressed, now’s your chance.”

When asked about what precipitated or caused these conversations, Jeff stated that “we have specific times during the day when we would sit down, we went to lunch together, before school, and I had first hour prep so we spent that time together. We also had a study hall and that was right before she started teaching her classes so if she wasn’t ready or had any questions we went over them.” On survey six he wrote that the conversations were precipitated by a need for planning, adding, “sometimes we had meetings and fun things like test days and fire drills to work or plan around.” Though he noted not needing to cover much with the content “there wasn’t a whole lot of terminology or things. With science she was always very self-sufficient at seeking out the answers to the questions.” He did push her knowledge by telling her at the onset, “I’m going to do you a favor, I’m not going to make up any keys for you and I let her go through the things because then she would know what the kids would have trouble with, rather than just copying down one of my keys for the worksheet or something.” He went on to explain how this evolved into a give and take situation, “and she was really willing to do that and then she would come back with things that I should tweak. In the end we started to do more of a collaborative effort on the testing and our review sessions and in our review sheets and so forth.” Returning to the original question of what would lead to

these conversation Jeff mentioned “but, I guess it would be precipitated by anytime that we had a moment together.”

Jeff returned to a theme from our original interview when asked about how he viewed his role in his last weeks with Tessa. He noted that he really was not too involved in the classroom “too much until the last couple days...but then I had to kind of hunker in there.” “So I did get involved in her classes so that she could start to back off, but otherwise my role was just the same as usual; to be an outside coach.” He mentioned again that in this role “she had questions and I would give her the best answers that I could.” “She did her own managing of kids and her own delivery of materials and her own study, you know, preparation for that.” Jeff also commented on Tessa needing less assistance at the end of their time together. “Basically I would model teaching the class with the same materials and then she would have an hour off and she could get ready to go do hers... she was self-sufficient, you know, had no problem working with the kids.”

Though Jeff felt that his role of coach was consistent throughout the student teaching experience, he did also note that it changed too, stating that “I guess there was a definite evolution in our relationship.” He explained that “we got to know each other you know; you can start talking shorthand, didn’t have to deal with every little detail. She generally would, you know, the main questions that she would have would get to be better questions whereas early on she didn’t know a lot about anything, you know, of the system of our school so there was questions upon questions upon questions.” He also noted that “later on they were few and far between.” Looking further at their relationship Jeff mentioned, “I guess I was always in a constant flux but it was a progression. At first

I let her go more and more and more and I guess I continued until she was pretty self-sufficient.” As their interaction continued to evolve and he continued to pull back he referred to his position as being “just a matter of standing in the wings and being supportive if she had any questions, and then I’d really try, I really didn’t get involved with any of her discipline situations; everything was all by herself so I guess I just backed more and more out of that aspect of it and continued to support her with preparations and study.”

This evolution in his role was also reported on his weekly updates. On his second update he reported that he viewed his role “as a mentor/team teacher.” Throughout the weeks he reported changes in this role, for example, on his third update he noted, “I am less involved with the student-teacher thing.” And by his fifth update he reported that he was “more and more of a distant resource.” He also noted on update six, having more of the role of “her sounding board.” Finally, when asked about how his role changed from the beginning of the semester he stated that “it has moved from leader to colleague.” He went on to note that as he “backed out of the details” he also felt his role evolving to be one in which he would “offer any and all support to her in the future.”

By the end of her time with him Jeff noted that Tessa “would approach with questions” rather than him bringing suggestions to her. He also noted being able to really share the thinking behind his actions in the classroom. When asked about the “deeper stuff behind the action” he said that he did that all the time. “I would do that kind of thing with her, you know... if I had a reason for whatever it was I would give her the rationale.” For example, he noted his test make-up policy which was aimed at getting his

students to take missed exams as quickly as possible after the test date. Explaining his rationale for policies like this, he said, led her to “slowly buy into it.” “And pretty soon she would understand why this is an important thing.” Another example he offered involved getting the students to write their own study guide for tests thus “tricking them into getting more questions right on the test.” However, he also mentioned that Tessa did not seek this sort of information from him saying that “I can’t think of a time when she would come up and wonder why we were doing this or what the idea was.”

When asked about further professional development for cooperating teachers, Jeff noted how this experience is so different for different teachers and that maybe the best thing is just to talk with cooperating teachers about “how the progression would go and what your role is and how it changes.” He also wondered if it would be possible “to get all the cooperating teachers together to do that kind of thing.” On survey five, when asked about if he could think of any professional development options that the university could provide he simply responded “no.”

At the end of the final interview Jeff was asked if he learned anything from this experience to which he responded, “I learned a lot.” “I mean, I’ve never had a student teacher before so this this was my first time at this and so you are reevaluating as you bring things up and trying to understand why you did what you did, you know, because as you said before, you just kind of have a gut feel but if you pull it up to the next level and it’s more than a gut feel and you share it with the kid, the student teacher, then it helps reaffirm the purpose that you had.” On update six Jeff wrote that he also learned that “being fresh, young, enthusiastic, and able to roll with the kids helps you reach kids.”

Again on update seven he wrote that he learned he “could use more hours of prep and that time goes faster when you’re with the students.” Finally, on his eighth update, he wrote that he “learned that teaching is done best by a person who genuinely loves the kids; I do and so does (Tessa).”

Donn

Donn is a licensed physics teacher who teaches upper level honors physics at an urban school. He has been teaching for 24 years and has hosted “lots” of student teachers from five different preparation programs during his time in the classroom. Donn reported that he feels that students learn best by being involved in small group and hands on activities.

The school Donn teaches in uses a traditional seven period day, with most teachers teaching five of the seven and being assigned a supervision (lunch room, study hall) for one of the periods and having one as a planning period. The school reports that 48% of its students are identified as Caucasian and 28% as African American, 10% receive ELL services, 47% qualify for free and reduced lunch, and 12% of the students receive special education services. The school serves a student body of just over 2000 students.

Perception of role. Donn stated that he sees his role with student teachers as that of a “guide.” He also noted that another aspect of his role is to “allow them the freedom to explore ideas they have about how to engage their students in the subject matter,

though he “will guide them and provide a framework if they choose.” In addition, he noted that student teachers learn to teach by really “doing it over a long period of time.” More specifically about science he responded that student teachers need to learn to “make it relatable to the students.” He mentioned telling student teachers, “if you like what you do, let your students see your excitement, it’s catching. Let them know why you like science.” He went on to explain that they should “teach with stories; you’ll have their attention and it helps to make it real.”

In his initial survey, Donn noted that he felt student teachers need their cooperating teachers to provide “guidance as to how to get started and what to do when things don’t work out the way they planned them to.” He went on to explain that “we give them feedback that is non-judgmental as to how we see things going” and that “they also need a sounding board to bounce ideas off before they try them, just to make sure they are safe in what they are doing in the lab.” Donn noted that success would be evident “when the student teacher honestly learns that they don’t have all the answers and that teaching is much, much more than just putting together a lesson plan and implementing it; when they make a connection with their students and get excited about helping their students learn.” He also admitted to having “not so successful” experiences with student teachers and talked about student teachers who “did not want to listen to any suggestions and continually talked down to the students, were mean, unprepared and just gave the impression that they didn’t really want to be a teacher.” He added they seem to think, “if they didn’t like their other job and wanted to try something different so ‘how hard can it be to teach?’”

In response to a question about his own skills and attributes that he brought to the role of cooperating teacher, Donn mentioned his openness to letting the student teacher, “do as much or as little as they want.” He added, “if they really are here to learn, they will take the lead and do, not just talk about how they are going to teach.” He went on to state, “I try to listen and lead by asking questions to point them in directions that they will find useful. I let them make mistakes and work on getting themselves back on track” adding, “I’ll always be there to catch them if they fall. Now is the chance for them to take chances.” He also noted that he could improve in his role if he could “spend time with the student teacher at the beginning of the year so they can see how a class is set up and have them work from the beginning of the year, all year.” Regarding his role, Donn also added that cooperating teachers need to let the student teacher try new ideas. He explained, “let them try, we sometimes have a hard time giving up a class that we have built a relationship with all year and then have to turn it over to someone that may stumble through the material.”

When asked about how cooperating teachers could be assisted, Donn explained that something that would help him as a cooperating teacher would be to have “built in time to sit with the student teacher on a daily basis, not just during our prep time or after school.” In terms of what he got out of being a cooperating teacher, he responded that he “has had the pleasure of working with some student teachers that have gone on to do wonderful thing with their own classes.” He noted, “if I have had any part in helping them get excited about what they are doing that is great. It’s important that they have a real experience so they can grow into the best they can be at this time in their profession.”

When asked about the importance of the role of cooperating teacher he made it clear that he felt it was a very important role but that there are a variety of styles. He stated that it “depends on how cooperative the cooperating teacher is.” He went on to explain that “some will just get in the way, while others will give years of experience for the asking. It can shorten the learning curve by years if done right.”

Work in the classroom. Initially, Donn reported spending time with his student teacher, Jim, just getting to know him. “In the beginning we just talked back and forth to get to know each other a little bit. You know a little bit of background; you know I tell him a little bit about my background, he tells me about his background just to kind of build a relationship with the person, to find out where they’re coming from.” This setting of the stage was important to Donn to make the most of the experience and to make sure that as the cooperating teacher he was meeting the needs of the student teacher. He stated. “At times when you’re talking with people you can get a sense for where their background is, what their point of view is so to speak.” He then guided the conversation toward educational philosophy, stating “then I talk about what I think education is, my educational philosophy and then I asked him what his educational philosophy is or where he wants to go or what he wants from the experience of student teaching.” An example of this came up in their first recorded conversation about the value of testing, tying it to instruction. He stated “if you evaluate teachers based on these tests, which is the district’s goofy test thing that they’ve been talking about, you know, they want us to do it quarterly.” He explained further “they’re going to evaluate you on what your kids do on

one day on one test. But just to pull them out of class to do testing, you lose how many days of instruction just for that test.” Practical concerns were also covered during the early days of student teaching, he noted. “One thing we tended to talk about a lot is, obviously, the day to day routine of what goes on in the classroom in our particular building and how that is different depending on whether you are teaching the ninth graders or teaching the advanced kids that we happened to have this year.”

Donn was asked to elaborate on the content of these practical conversations. He mentioned “the classroom management stuff, what we do and how we do it differently say than with a ninth grade class, what do you do for an icebreaker at the beginning of the year, how you set things up, it’s a little different with the older kids than it is with the younger kids.” He provided a glimpse into his experience in the classroom, as he explained “the younger kids need a little bit more handholding, you know, where with the older kids we can kind of say, well last year you did this and okay this is how it’s going to be the same, you know, or really just taking it to the next step.” His approach was grade level specific and he reported making this clear to Jim.

Regarding classroom teaching, Donn reported that Jim “actually contacted me pretty early and I asked him to come out to look at us teaching.” He went on, “I said it would be a good idea for him just to come out and watch and see if this is even an environment you want to be placed in. You know, it may be that you get out here and you think, I don’t really want to do that, and we’ve had that happen in the past.” Based on past experience, Donn felt that this was an important thing to do prior to beginning their work together, as he said, “When people get out here and they think, I don’t think I

can really do that, and they have even started but they already have the opinion that they don't need to be there and they need to be somewhere else, where they can be successful." He went on to explain how Jim had visited. "He came out and he watched what we did, he observed the classroom and what we did with the kids and how we interacted. I encouraged him to go out and to talk to the kids, just to get to know them, you know, you don't even have to tell them who you are." He continued, "So yeah, in the beginning Jim just kind of watches what we do, sees how we take attendance, sees how we do the day to day routine, and then there's a lot of questions and answers. Okay, this is how we do this, this is the code to get into this, this is how we do this and this is when we need to do this and why."

Donn reported that because Jim had completed some early observations and become familiar with the daily routines, he could start teaching early in the experience. Donn explained, "so, that's the day to day routine to get started and usually when they start to teach I say, this is what I have planned if you want to follow that that is fine; if you want to add to it or take away from it let me know what you want to do. And what I usually tell them is that you have the freedom to do what you want to do, to experiment, to play, to try new ideas." Again calling on his experience as a cooperating teacher, Donn went on to explain that he did let Jim know that "you might want to follow what we do until you're comfortable with the day-to-day routine before you start changing too many things. Because then what happens is they just get overwhelmed and Jim did too in the beginning."

Donn explained the routines as things like remembering to take attendance as a common issue, “especially in my room because I have a scanner. You know, they think that since kids scan that they don’t actually have to take attendance and turn it in and so all that stuff. So it takes a little getting used to. We talked a little bit about that and that’s what Jim is working on right now.” Other early classroom issues that Donn reported working on with Jim included timely feedback for the students saying that Jim is working on “giving the kids feedback as far as correcting their work and getting it back to them in a timely manner. You know, sometimes you get caught up in these things and he’s got so many things going to that they forget to hand stuff back to them (the students), not that it hasn’t been corrected, it just needs to get back to them so we can talk about it, and the kids can see their grades and how it’s updated and stuff like that.” Donn defined all the early work in the classroom as time management “and that’s just time management stuff that that takes time to figure out.”

When asked about specific conversations that he had with Jim, Donn talked about some classroom discipline concerns and Jim’s need to communicate clearly. He explained, “well, there was some classroom discipline kinds of things. Like at what point, how do they know when you’re ready to start teaching, what do you do, what do you say to them or what do you do? Do you stand in a particular place, do you do a particular thing, you know, to say, okay, now it’s time to get started?” He talked about how he taught this by example, explaining “and then they watch what you do, and then we talk about it afterwards.” He went on to explain that as a new student teacher this is something that Jim struggled with, noting, “Currently, he is very quiet and starts talking

whether they're talking or not, he'll just start talking and that is something he's got to learn that he has to let them know, it's time for you to listen now." Tying it to Jim's philosophy of education Donn elaborated, "he's still of the opinion that they are old enough that they should know better and they should, but they don't. Yeah, so he'll start talking and he's of the attitude that if they're going to listen they're going to listen and if they're not, they're not and that is true to some point, but at some point he has to decide, okay, what are you going to do when they are not quiet?" In the last recorded conversation Donn brought this up again, he stated, "He (Jim) is starting to understand that he's got to settle them down a little bit before he just keeps going."

Donn characterized these management issues as a common problem amongst student teachers. "You know, he doesn't want to, you know, most of the student teachers don't feel, I don't think, that they can like yell at the class, to tell them to knock it off. You know, hey come on, be quiet, I've got to be talking to you here." Donn explained how this is more of an issue with the large class, again stating that this is not just Jim's issue but from his experience as a cooperating teacher, it is common. "He does that very well with small groups but in front of the whole class every student teacher I've ever had has difficulty with that; it's a confidence thing that they have to work on. And even though they think they're confident in front of a classroom they're not always as confident as they think they are."

When asked more specifically about how and when he worked on these issues with Jim, Donn replied that it is something he tried to work on early. "We try, and then we let them go and see what their techniques are doing, and how they are going to build

their rapport and then we keep going back to it.” He noted this again in the last recorded conversation, when talking about Jim’s classroom management style, “that’s some of the stuff he’s got to work on there a little bit, and see if he can figure out what techniques are going to work for him.” Donn also came back to the theme of getting the class connected, “because in the beginning you know, they start talking and everyone is still screwing around, doing everything else and, it depends, but almost with every student teacher at some point with some classes I have stepped in, you know, I try not to do that, I try to let them go until they ask for help or I can see that they’re really looking for it – where they are frustrated to a point.” At this point Donn drew on his knowledge of high school students. “While some of the kids, depending on what they’re doing, I’ll step in and tell them to knock it off. And that usually happens a couple of times, at least in the beginning with every student teacher we have.” Donn went on to explain that determining where the lines are is important for student teachers, “and then they go, okay, so these are the lines, these are the things that are okay and these are the things that are not okay. And one of the other things we talk a lot about is that you have to let the class know where you are drawing the line as a student teacher, what is acceptable behavior and what isn’t? And they’ll test it; they’ll push it right to that line and see how you react.” Calling again on his experience he continued, “you know, what you have to do is you have to be as consistent as you can and that’s going to change from day to day and putting away your mood and how tired you are and how many times that day you’ve had to deal with that. But you try to be as consistent as you can.” When talking with Jim about assessment, in their second conversation Donn also gave an example of how you

need to know your students. He stated “there are circumstances, and that’s why we have to take it on an individual basis.”

Donn described his role as the cooperating teacher and how it had changed over time. “It does change and it changes differently with different people.” He explained that this was mainly due to questions that the student teacher asked. “Part of it is what the student teacher is asking. I mean, when the student teacher asks it is kind of driven by their questions. If they are asking questions and they are curious about things that they want to know, like how I do something in this situation or that situation then that is going to spur more discussion.” On the other hand he added, “but if they are not interested in that, and they may or may not be, we won’t know if the questions don’t get asked, you know, if they don’t ask a lot of questions we’ll let them go for a while before we say, well, then maybe we will offer some things to them.” From his viewpoint, it is up to the student teacher to access the wisdom and experience of the cooperating teacher. “It’s really their learning experience. The cooperating teacher has a lot to offer if they want it, and some of them don’t. They figure that they have got all the right answers and they’re good to go and they want to do it their way, and that’s okay.”

When asked more specifically about how he responds to student teachers who just “want to do it their way,” Donn responded, “we let them ride until there are things that we see that we know they really need to change. You know, if the kids are going to suffer because of what they’re doing then we step in.” In other words, the high school students were the gauge for concern. Donn noted that “he (Jim) has developed pretty good rapport with the students, which is good. They’ll come to him, they’ll seek him out

when I am in the room.” He also noted this in their last conversation: “Jim is working pretty good with the kids.” In addressing how this has changed, he went on, “they’ll always come to me first in the beginning to ask questions or for clarification or anything and pretty soon they find out I’m answering less and less of their questions and deferring everything, you know, to Jim.” He continued, “If he’s real busy working with other kids or doing things, then they will come and seek me out too. Otherwise I try to stay out of it as much as possible.” He also explained his presence in the room and reasoning for it. “I’m there at the beginning of the hour and then there at the end of the hour and sometimes I’m gone for most of the hour; I may be out in the hallway or talking to other teachers from across the hall in the prep room. I’m someplace where he can find me if he needs me or if I’m not, he knows that he can go across the hall to M or across to S; it’s not like we just abandon him you know, he knows, ‘I’m just kind of on my own and I’ve got to figure this out.’”

Donn explained the change in his role as cooperating teacher as allowing the student teacher more and more freedom. “I’m not helping him as much. In the beginning it’s almost as if you team teach; you know, they’re not quite sure how to get started or where to go sometimes, the transition times from one type of activity to the next are sometimes where they get caught up answering lots of different types of questions and the rest of the class is kind of on hold.” Drawing attention to the learning that comes with the experience, he continued, “they have to learn to do multiple things at one time; they can start this group out while still answering questions and handing back papers and doing everything else that you do.” He added, “and as that progresses and he is more

skillful at it, then I back off more and more.” Giving an example, Donn noted, “in the beginning I took attendance for him because he kept forgetting, you know, or I got the papers out, or if he’d leave something on one of the back tables I would pick it up and bring it up with this stuff so it’s almost like, you know, taking care of him for a little bit or helping them out and then pretty soon you let those things go and you might just point it out – did you mean to leave your stuff over there? Oh yeah, I need to go get that.”

Going further with his previous comments about the need for the student teacher to be asking questions, Donn used this as an example of when the student teacher might ask “hey, I had trouble with so and so today, or this didn’t go quite the way I wanted it to. Okay, let’s talk about it.” He went on “there’s always the opportunity to talk. It doesn’t necessarily mean that they want to. That’s their choice.”

Conversation two provided the only example of Jim asking Donn a question about practice. In this instance it was regarding an exam he was grading and the fact that a student had not completed it. Jim asked, “he didn’t do it right. But I mean he did this one right and then, but then there’s these that just aren’t... just didn’t do them. So how do I grade it?”

When asked if this was unique to Jim or if this change in role was fairly standard Donn replied, “it is somewhat standard but there are some unique cases definitely. I mean, there are some where I would not leave them alone with the class. And there are some that we had to throw back, where we’ve had to call, call you basically and say, this is really not working, you need to come out here and take a look at some of the stuff that is going on.” He also noted that the problems do not occur very often and added that in

his experience those have been second career teachers, “the people we’ve had the most trouble with are coming from business, you know, they’ve been in the business world and they’re burned out and they can’t do it any more, you know, they’re an engineer or whatever and they want to jump into the classroom and teach and they’re finding out that it really is a very, very different world than the business world.”

In response to a question regarding the change not only in the substance and nature of their conversations but in their interactions, Donn responded, “yes, yes, it is not so much the day to day routine anymore, it’s more of an – okay, this is what we’re going to be doing in the next week, you know, this is what I’m doing, what do you want to do?” For example, in conversation three Donn asked Jim, “Okay, well, your idea was to do the instrument thing, so, what was your vision of what you wanted that to look like?” He went on to explain that at this point he would tell Jim “you know, you’ve got the next three days, they’re yours; you figure out what you want to do with it next week. And then he usually says, well, what would you normally do? You know, they kind of always want to know what ‘would you do.’” In pushing the student teacher to become more independent, Donn mentioned, “giving them a smorgasbord to choose from, or they can come up with their own ideas.” He continued, “well, you can do this, this, or this; we don’t say one thing anymore, we give multiple options.” Using the current week as an example, he said, “like he is doing this week. I said, I will be gone today, you know I was going to be gone. I said I’m going to be gone on Tuesday and you’ve got to find something for Tuesday, Wednesday, and Thursday, so he was going to try to put together a MacGyver kind of idea and stuff.” Disappointed, Donn then mentioned that “over the

weekend he came back and said I (Jim) really couldn't come up with anything that fit well enough into what we were doing and I said, okay. So then I threw some stuff at him at the end of the day. I said, here's a couple of activities that we've done in the past, they don't fit as well into this particular unit, but they do the MacGyver kind of activity, there are problem solving business there and they don't take very much time because we don't really have a lot."

Pushing the student teacher to take initiative and think professionally regarding his decision making Donn said that Jim "looked at the activities and thought they were pretty good ideas. And then we talked about it and I said what do you want to get out of it? Why would we do this? What's the purpose of this? How would we change this? And then I just kind of leave the ball in his court and then he'll look at it and then he'll say, okay, I think we need to do this."

Donn returned to the theme of time management when he stated, "he (Jim) is starting now to understand time; that takes everybody a while. You don't want to plan for stuff if you have no idea how long it will take you." During their final recorded conversation Donn explained a lab that had gone much quicker than expected and he asked Jim, "Okay, so what happens when you set up a plan and it doesn't take as long as you think, or maybe, sometimes, it takes twice as long?" He explained how the student teacher can get a grasp on this practical notion (of timing) bringing it back to the need for to ask questions, "You know, sometimes they'll ask , and sometimes they won't, and so far (Jim) hasn't really asked those kind of questions (about timing) much." Donn also noted, however, that based on Jim's history this might not be a big issue. "Part of this

might be because his mom is a teacher and he's got a pretty good idea how much time things take and from some of the other stuff he's done, some of the tutoring. He's kind of got an idea of the time." Donn noted how this is different with all student teachers. He added, "some other people, they'll come in and they'll show me all of the things that they've got planned and I'll say, and you are going to do all of that in 25 minutes? No way! You've got three days of stuff here." Continuing with the issue of timing he explained, "Or they'll come and I'll say, okay you've got an hour of time and you've got ten minutes of stuff, now what are you going to do with the rest of the time?" He went on "oh no, no, they say, this will take longer. They talk about how they're going to do a conversation with the class but if the class doesn't talk back, so now what do you do?" The importance of really knowing your students personal experience came up again as he explained, "trying to figure that stuff out, that's hard for everybody, part of it is just experience, you just kind of get to know your kids."

Donn was asked about whether he explains his thinking behind his action to his student teachers, for example, why he chose "to do this with this particular class?" His response came back to the theme of the student teacher's ability to ask questions. "I do when they ask, not if they don't ask. They'll ask, how is this going to be tied into the next thing? Or why are we doing this now instead of later? But I am not sure how much of that they actually think about because usually they are not the ones who are creating all of the lessons; these are things that are already created so I think sometimes that they just think that, well, you've already thought it all through as to why you're doing this and sometimes we haven't." He added, "Sometimes it simply is that this is just when I can

get the equipment to do this so that's what I am going to do. Somebody else had it before when I really wanted to use it." He explained "so, you know, sometimes they look at you funny like – why are we doing this now – well, ask, and I'll tell you." Additionally, he explained that this is not just an issue for student teachers but for experienced teachers as well and used a colleague as an example. "I'll change things at the last minute and I won't tell any of them why and sometimes she will come in and she's got this completely puzzled look on her face and she'll say, 'I'm not sure why we're doing this,' and then I'll say, good question and then I'll explain why we changed it and why we're doing what we're doing. But I try to let them think about it and ask the questions." Even for himself as a veteran teacher he mentioned needing to step back and ask why. "That's one of the problems that I had for myself, I've had to stop and go, why am I doing this and am I doing it just to do it? Or what is the purpose? Is this purpose driven or is it just that – oh I've got a bunch of labs so let's just do them?" He went on to explain that "yeah, it's a fun lab and the kids love this. Does it mean anything? And sometimes that's okay but it's nice to be able to tie some learning to it."

Donn explained his expectations regarding his work with Jim and stated that it is about getting him "to relax and enjoy the journey that they're on so that they can be creative without overly stressing about every little detail that has to be done?" He went on to explain that he finds "that some people, they get so uptight about making sure that everything is right that nothing ever gets done. They're so tied up in knots that they come across to the class as really being stiff. You know what I mean, and that they are not enjoying it and if the kids sense that they'll want to know – why am I learning this?"

If they're not excited about it and they're not having a good time with it why would I want to learn it? So they have to kind of relax and get into it."

Donn also drew attention to the reality that people come into this profession with a variety of life experience. He stated "now sometimes, depending on how old they are and how fresh they are out of their bachelor's degree, and the subject matter that they're into, they want to get going with stuff that is so deep so quick that they lose the kids; they don't know how to bring a high school kid along on their journey." Part of teaching, according to Donn is the ability to give kids clear access to the content, "they're excited about this stuff but it's way out there and these kids don't have the background yet." Referring to Jim he added that he was "a little bit of that, in the beginning you know, he pulled out, he knows that I use humor and stuff and I tell stories and stuff so he searched the web and he found some sites that have some cartoons out there and put them up in the morning and had me take a look at them before he shows them to the class. And I look at them and I laugh but then I would go – and how are you going to explain that to the class and he goes, oh yeah, they don't have any of that background do they?"

Donn used the cartoon example to talk about the need for student teachers to really think through what they have planned and his role as a support person. He explained, "he was trying to break the ice, trying to do a lead in thing which is great but do you want to explain all that to them and he goes, no, that's probably not a good one. So, you know, just to get them to try things like that, I want them to know that it's a safe place. They (the student teacher) can try something and if it doesn't work, it's okay. Okay, let's talk about it, why didn't it work?" He explained how he gets them to process.

“What could we, together, do to change it to make it better? I’m not leaving them out there on their own, you know. How can we, together, do this?”

When asked to further explain what he meant by the “little details” that student teachers can get caught up in Donn responded “a kid will ask you a question, you’re on topic and you’re teaching, okay, and you key in on something and the kid will come up with a great question. They’ll ask you the question and that will bring your attention to that question and you will leave the whole class and you’ll go to that question and that student. And now you are carrying on a conversation that is really just a two way conversation between you and that student and the rest of the class is drifting away. And it’s like, wait a minute, didn’t I have a lesson that I wanted to finish with the class?” He further explained why this is so complex “you’ve got 35 other kids that you’ve got to try to bring back and get them focused and going in the direction that you want so that you can finish the lesson and sometimes that’s okay, depending on what it is and what your lesson is, or is it something that you can just turn to the class. Okay, you’ve got enough information now, here’s your lab, now you can go to the lab but sometimes you can’t do that; you’re in the middle of something and you’ve got a lot to do and now you’ve been totally distracted for 10-15 minutes and the class is just talking and milling around and you really haven’t tuned in to that, to what’s going on.”

When asked to explain if and how his expectations had changed during the first few weeks, Donn commented, “I think so. I think that in the beginning that often the cooperating teachers do, we tolerated a lot more in the beginning because it’s brand new than later on.” He went on to explain that he would tolerate more “with the student

teacher. If they are doing things and they keep making the same kind of mistake or maybe not really a mistake but if they keep doing something in the same way and it's really not working and they haven't figured that out yet, I'm a little quicker to point it out, saying, hey, we need to take a look at this." Again he noted trying to avoid stepping in, but make it clear that he knew full well that sometimes it is necessary. "Sometimes it's something that they're working on and they're trying different things but it's just not working. So we've really got to step in and we try not to, at least I try not to."

Role of the university supervisor. Donn was also asked about the role of the university and the supervisor in providing support to help cooperating teachers in their role. He stated, "I don't feel that it necessarily has to be training per se, but it might be beneficial depending on where people are being placed that there is a conversation between say you (university supervisor) and whoever that teacher happens to be so that there is a clear expectation on the teacher's part of what you expect them to do." In response to the handbook that is traditionally handed out or available electronically, he stated, "I think when it's just written down, things don't get read very well. I think having a ten minute conversation would be much more beneficial." Explaining further he added, "because there are cooperating teachers that I know, they don't let their student teachers do anything, I mean everything is so rigidly locked down so it's like why are they even there? They're not learning anything, they're just seeing exactly what you do and they're not getting an opportunity to really do anything. And then you've got the

flipside of that where they toss you the keys and say – see you later – and good luck trying to find them.”

When asked about timing for this Donn suggested that this should happen “prior to the student teacher placement because then you’ll have a feel for who that person is and you can think, you know, this really isn’t a good fit. And sometimes it’s just personality. You know, you can tell usually within ten minutes of just talking to somebody – I really don’t think we want to put somebody in that classroom.”

In terms of any on-going support Donn also noted that “I think it’s always for me, it’s always been great when we get an opportunity to sit down and talk. You know, when you come and you observe and you guys can do your debrief, but when we get a chance to just chat for a little bit too, I think that is helpful.” Explaining further, he added “because, one, it helps us figure out what your expectations are of the student and also of us. You know, of the whole experience, what you really want them to get out of it and how much freedom do you want us to give them. I know it’s hard because you have so many people that you need to see all the time and time is very limited.” He reiterated this when asked specifically about his personal needs as a cooperating teacher. “You know, I think the main thing is just the opportunity to be able to talk with you. Particularly when we’ve had some, let’s say, not so successful experiences in the past. Sometimes it’s difficult to get a hold of the institution and say, hey, look, we really need to talk, and not to shoot emails back and forth but we really need to sit down and talk. But when things are going well that’s not a big necessity.”

Weekly updates and final interview. During his work with Jim, Donn was asked to complete eight weekly update surveys to report on their work. Questions such as the content they covered during the week, changes in his role, and things learned about teaching were asked (see Appendix B). Donn completed six of the eight surveys and much of what he wrote echoed what he had said in his interviews as well as in what was recorded in his conversations with Jim. In addition, at the conclusion of the student teaching experience Donn participated in a final interview, focused on changes in his role and his conversations and interactions with Jim.

In his final interview Donn noted that the major shift in the nature and substance of his conversations with Jim was toward life after student teaching. “I think probably the thing that we talked the most about was what he wants to do in teaching; where he wants to go, what kinds of kids he wants to deal with, and what subject matter, and stuff like that.” Donn also noted trying to back out as much as possible in terms of the daily classroom work. “I didn’t talk a lot as I tried to back off as much as I could and let him deal with the classroom management part; I kept pointing things out when, you know, you might want to deal with this because if you let it go and ignore it, it will get worse. And his deal was that if they would want to learn then step up and if they don’t want to learn well then too bad for them.” This was a theme from Jim’s philosophy that Donn mentioned in the first interview as well. “His approach is basically, if they’re going to do what I ask them to, the first time then that’s fine but if not, I’m not going to try.” In their final conversation Donn reported that he and Jim had discussed how this approach is detrimental to other students. He explained, “we talked about what that does to those

people that are on the fringes, they get caught up. They're trying to pay attention, and it's really hard for them because they're getting distracted."

Donn also expressed concerns with Jim's classroom management. He explained that Jim "didn't want to have any confrontation you know, with the kids. He did not want to put himself in a position where he had to tell them to be quiet or to settle them down or explain what doesn't go over here and to do this. He would kind of go over there and stand there and if they didn't get the hint, then he would walk away." He also wrote on update number six, that something they had discussed, which he had learned from his own experience in the classroom was "gathering the students around you (bringing them closer to you) when you are giving them information. Asking them more questions and giving the proper amount of wait time before going on. Waiting until they stop talking before you start teaching." In his post-interview Donn explained that his response was to ask Jim questions about his approach. He said that he pointed it out to him even in the last week of student teaching. "Yeah, in the last week. More so I was just saying these are some things that could happen and, why did you do what you did, and asking questions more than anything." He also wrote, in update number seven that something they discussed was "classroom management, like how to get students to settle down and listen when you need to give instructions." Related to this on his eighth weekly update he wrote that they discussed "how to identify a possible problem and stop it before it gets started."

When asked about how these conversations came up, Donn responded that it was mostly due to his own observations of Jim. "Usually, I would just pop in every so often

and see what was going on. And I would ask him about things like, hey, what's going on over there? Oh (Jim would say), it's, you know, so and so has hid headphones on or was talking on the phone or is doing this or doing that. You know, they're busy, you know, playing a game on the computer doing something they weren't supposed to be doing." Donn continued, "So, I was like, okay, so are they going to be doing the lab or not? And he'd go, I don't think so. And I'd say, is that okay? And he goes, well, if they don't want to do it they won't do it. Well, yeah... to a point that's true but at some point you have to stand in and take over and say, okay guys, you better put this away, this is what we are doing now." Echoing this, on weekly update number six Donn wrote, in response to the questions about an event that led to a conversation that "students were having a hard time settling down and focusing on the lesson that was being given. The atmosphere needed to be changed to make the students think that something different was happening and that they didn't want to miss something."

Donn stated that he not only explained this to Jim, "yes, yes, and I demonstrated it to him a couple of times, too. You know, I think he understood, he just didn't want to do it." Explaining this behavior from Jim's perspective Donn noted that "it's hard to do because he's not that much older than they are and they don't look at him the same way they look at me because they know he's really not going to give them a grade, I am, and he doesn't have that relationship with them the same way I do."

Relationship and rapport were both themes that continued to come up across the semester. Donn explained that he had had many of the same students first semester and that he had gotten to know them "and they know that I've gotten to know their parents a

little bit at conferences two or three times throughout the year. So, it's a different relationship that I have. And they always want to test every student teacher that you get, too. You know, it's just like having a substitute."

When Donn was asked about how his interactions with Jim, during the last couple of weeks, compared to the interactions that he had with him at the beginning of the semester he responded, "I think the biggest change is the enthusiasm." He explained, "in the beginning, you know, everything is brand-new; you know, you're enthusiastic, you're listening to everything. You don't have any battle wounds yet. You get in there and get banged around a little bit and it's kind of like, okay, now I've got my battles here." He continued that this then moved toward the question of "what am I willing to let kids get away with and what do I need to stand up for and say, no you can't do this?" He noted that "we've had these conversations kind of throughout and it evolves as they evolve and they figure out some of the stuff that they thought was important to kind of control, if you want to put it that way, in the beginning, really weren't important and some of the things that they thought weren't that important got out of control and they have a hard time bringing it back." When asked for examples of this happening Donn mentioned, "it's like if the kids are talking when you're talking and if you kind of let it go, then, pretty soon more kids are talking, and then they're all talking louder and pretty soon there's this whole disrespect that is out there. And it grows and grows and pretty soon you're only talking and teaching to six or eight kids out of 30 or 35." He also noted this on weekly update seven, when asked about something they discussed that Donn had learned from experience. "Classroom management ideas with specific students and how to identify a

possible problem and stop it before it gets started.” He clarified this in his final interview when he explained that sometimes this talking can be good but you have to address it as a teacher. He noted that what he would say to the students is, “if that’s more important, we can stop what we are doing if that is something that you want to share with the rest of the class, you know, if you think it’s important. Because sometime it is, they get off on a tangent but it’s not really a tangent, it’s about what you’re talking about and it provides a good example and they’re excited about it so they’re talking about it and then they do want to share it.” Though he also knows that this is not always the case, “and sometimes they’re just talking about prom and who’s going on what date and who’s doing this and then you’ve got to shut that down and say – now we need to refocus and come back and do this.”

Donn returned to this idea of enthusiasm in the final interview, stating that “because when you’re looking forward to it you’ve got lots of ideas and stuff and when you start actually working with the kids I think what you figure out is that this is a lot of work.” He also noted hearing from Jim almost those exact words. “One of the things he commented on towards the end was – this is a lot harder than I thought it was going to be.” In that comment he said that Jim was not referring just to the teaching part of it but rather “to the whole thing, trying to keep track of everything, trying to do the grading, doing the attendance, dealing with the kids, trying to keep your train of thought when you’re being interrupted all the time, it’s just the whole thing. And he said – you know, my mom was a teacher and I said, yeah, you’ve told me that, and they always make it seem so easy. And I said, it is hard; it’s something that takes practice.” Donn explained

how he talked with Jim about this. “You know, it’s not that you can just walk right into it and expect the kids to do what you want them to do in the way that you want them to do it. It takes a skill that you have to develop.” Going further with how this impacted Jim, he added, “and I think he got it, at the end I think he understood it but he was also getting kind of tired because I know that he backed off a little bit. In the beginning he had all these ideas of labs that he wanted to rewrite and how he wanted to redo thing and change stuff around and then pretty soon I was giving him the stuff that I did, that he was going to change, which for me is always a good thing, you know, a fresh set of eyes looking at what I’m doing. What you guys do at school and what he gets from his colleagues and stuff, you know, they usually tweak it and it’s usually much better than what I had written, because I get tired too.” Donn went on to explain how he observed this happening with Jim. “But what happened was, you know, he would have like a week to start preparing things and he would come back and he goes – oh no, what you have is fine. And it’s like, okay, well that’s fine, if that’s what you want to do, that’s just fine and it’s like, I know there are things that he could change because he was talking about it, they’re just things that I never got around to changing. I don’t know if he got lazy or distracted or sidetracked or what.” He mentioned talking with a colleague, who was also working with Jim, about this and she noted that Jim was “not creating anything new, he’s just taking my stuff.” Relating this to Jim’s change in excitement, Donn explained that “the excitement to do it was there, it’s just when the reality came up to having to do it he found out it was too much work needed to put that much effort into it.” For example, in their third conversation Donn and Jim were planning for a lesson using musical

instruments, Jim was excited to talk about it when he stated, “and there’s a bunch of little play around things you can do that’s kind of like seeing it as more of a class demonstration, I guess, when kids come up and you talk about it.” However, this never developed into a plan. At the end of the conversation, Donn took over “so, while you’re working with these guys, I’m going to go back and see if I can get one of the machines and tune it...I’ll take out the equipment and stuff and get it all ready.”

When asked about the relationship between Donn’s observation of Jim’s waning excitement and his earlier comment about teaching being harder than expected Donn replied that “it was about the same time... those (comments) were within a day or two of each other.” As a suggestion, Donn added “so I think that’s part of what I was talking to you before about. I think student teaching should be an all year thing that they actually get paid to do. They’re there at the beginning of the year and they really see what it’s like from the very beginning all the way through.” Though, he also explained that a year-long residency program that he had been part of that, ultimately, turned out to not work so well. “I don’t think it was right for the students that were coming to be teachers, they were being taken advantage of.”

Donn also noted another change in the substance of his work with Jim was how Donn began to bring things up as questions rather than comments. These questions were based “a little bit more on the things that I had seen. I would just ask a question or I would make a comment that would be really more of a question than a comment actually.” As an example he said “like, how did that work? You know, did you get the results you were looking for? You know, you said you were going to set this stuff up

this way but I noticed that you did it this way, what was the reason for you to make that change? Those kinds of things.” He went on to explain that “it wasn’t very often that Jim would come to me and ask for things.”

When he followed up on Jim’s lack of questions and creativity, Donn noted that this was consistent throughout the semester, stating that he even offered himself as a resource, encouraging questions. “I said, you know, you can have as much freedom as you want to have to develop the things that you want to do, I’m here as a resource so ask questions. And you can use the stuff that I have or you can create your own, or whatever you feel comfortable doing but this is the time for you to stretch, grow, make mistakes, because we are here to help. You know, if you get into trouble, we can bail you out. And he was like, ‘oh yeah, great, that’s wonderful’ and it kind of never really got going.” Comparing Jim to other student teachers at the same school Donn added, “and with other student teachers that were in our building at the same time, they were creating all kinds of stuff.” Donn added that in this situation, Jim was doing both physics and chemistry though he noted that he had plenty of time between preps. “He had to switch gears partway through even though he had a couple hour break in the middle between the two.” Donn went on to explain what hours Jim was responsible for in both physics and chemistry stating that “he had plenty of time to debrief, decompress, and to get geared up for the next one before he went.” The dual preps were not an issue in Donn’s mind.

When asked again about how they used this debriefing time during the day, Donn described a shift in their conversations. “We talked a lot during that time. Probably seventy five percent of it was about different teaching or the different things that were

going on with students or the curriculum or where to find equipment or how we were going to change this or what my point of view was on things. And then toward the end it got to be more and more, you know, what he is looking for, where does he want to work, what grade level is he looking for, what subject matter is he looking for, and stuff like that.” Donn stated that the content of their conversations shifted “a little bit” over the course of their work together.

When asked about any perceived changes in his role as Jim’s cooperating teacher, Donn stated, “I would say I was more just somebody to listen to questions that he would have about things that he wants to do either during the last couple of weeks or into the future. You know, where does he want to go and what things can I tell him about my experience? Things to maybe look out for and things to maybe look forward to.”

Though as Donn reported, most of their interactions did not turn out that way “and you know, most of it wasn’t that way. He was just like, okay, well I think this is what I want to do and this is how I want to do it. He was pretty excited about going abroad, too, and so he had a lot on his mind.”

Donn went on to explain that his role had changed since the first weeks with Jim. “Because in the beginning, you’re there helping them with every little thing. I mean, because everything is new, how they learn how to take attendance, how do they learn how to deal with certain students, you know, which students have I been working with for months just trying to get them to do this or for this to happen with them, you know, building a relationship. For him to try to step into that role wouldn’t work.” In weekly update two, Donn also noted that his role was, “keeping him in touch with what is going

on from the school and how it will impact his day.” It also included, “giving him feedback on things that I see that work well and things that need some improvement.” He went on to explain, in the interview, how in the beginning he was ready to step in if necessary. “There are things that are like, if this happens just let me know and I’ll take care of it; you know, I don’t want you to deal with that because you don’t have the background, you know, to deal with it.” He explained that he took this guarded approach at the beginning “because I know this kid would destroy just whatever it was he (Jim) was trying to do. We had a couple of kids who are too volatile and had some nasty backgrounds that I really didn’t want him to deal with if he didn’t have to, and I think he understood.”

In his fifth weekly update, Donn wrote that he was giving more freedom to Jim “to make choices as to what and how he will teach.” Again on update number six, Donn wrote that his role was “answering questions that he has and giving him the space/freedom to do/try his ideas and lessons.” Donn also explained in his final interview how this was different at the end of Jim’s student teaching. He stated, “but as time goes on, obviously in the last couple of weeks he was pretty much on his own. You know, I just lay out, this is what I would do with my classes and you can do this or do whatever you like to do. So, I was trying to get him to be more completely on his own from the very beginning of the hour to the end of the hour.” He went on to explain Jim’s continued reluctance even at the end of the semester to really take the lead. “I would be there in the morning before school started and we would kind of set it up, he’s pretty reluctant to try to set up his own labs, it was almost like, because I got in so early and I

stay so late compared to what he does that it was really easy for me to have everything set up and ready to go and then he doesn't have to do anything but step in and start teaching, which is pretty unrealistic." An example of this was provided in the third conversation when Donn asked Jim as they approached the end of their time together "what do you want to do, if you're not going to be here anymore?"

Donn explained in his post-interview that, due to circumstances, Jim was forced to take control. "But the last couple of weeks my role is more of, while part of it was not even conscious on my part but I had some meetings in the mornings so I wasn't there to set things up, so he was scrambling in the mornings. Coming in it was like – well, where is all the stuff? Well, you have got to figure that out, you know, and it's ten minutes before class starts and kids are coming in... so there was a little bit of panic in there towards the end." The panic happened, Donn explained, "when he had to start doing it on his own. Things that could've been set up the night before didn't get set up so in the morning it's a rush, it's a rush to find everything and especially when things don't work and you have to try to fix them real quick before the kids get there, especially with electricity." He echoed this in his seventh weekly update when he wrote, "I let Jim be more on his own in all ways. He had to find equipment, set up labs, do more original planning and I stayed out of the classroom when he was teaching." He also talked about this when he explained further how he felt his role now was to let Jim try things more independently. "I spend less time making sure that he gets done what needs to be done and let him figure it out on his own. Like when he didn't set the lab up the night before he had to scramble to get things set up and make sure everything would work."

Going further with questions about his role as cooperating teacher, Donn explained how he talked with Jim not only about what he would do, or would suggest that Jim would do, but also about his thinking or reasoning behind his action. “Yes, we did some of that. There were certain situations with a kid that would come up and I would explain to him why I would step in. A couple of times when he was teaching things would happen and I would happen to be in the room and I would just take the class over and deal with what needed to be dealt with.”

Donn explained why he would step in on occasion. He explained, “because I had the background that he didn’t. I could see what he was walking into that he couldn’t see and there would be no way for him to see that. You know, he would’ve had to go through what I went through at the beginning of the year with this guy.” In addition, on weekly update number seven he wrote, when asked about something he shared with Jim that he had learned from experience, “classroom management ideas with specific students. How to identify a possible problem and stop it before it gets started.” In his interview he reported following this up with a more detailed conversation about the thinking behind the action. “So then afterwards I would say, okay, this is why I did what I did and this is why I let you do what you did... I wouldn’t cut them off, you don’t want to make them, or embarrass them or belittle them in any way shape or form. You want to build them up all the time.” He explained further, “sometimes you can say things in a way that they save face and the other people understand that what they were about to do wasn’t going to happen, or I wasn’t going to let it happen.” When asked about how receptive Jim was to these conversation Donn replied that “yes, he was, especially when

we got done and were able to sit down and talk about it and I could say, okay, this is why I did what I did. There's only a few situations where I'll step in and that's when someone is going to get hurt or to hurt somebody else." On his final weekly update, Donn referred to his change in role over the semester as now being "facilitator as opposed to coach."

When asked in his final interview about any ideas he has for professional development or other ways to support cooperating teachers he replied, "What I think would probably help cooperating teachers would be to get together and talk about their experiences and what they do or what they don't do. When do they let their student teachers do this or this, and give some feedback to each other because we're pretty isolated." He also noted having informal experience with this, noting a colleague at his school who was also working with Jim. "Because for us, it was kind of convenient and neat for us this year because we share Jim so we could talk, not very often because most of the time Jim was there. I mean we can still talk about things you know, like how's it going, how's this going or that going or how's he doing with this in your classroom? When are you going to let him do this? You know, that kind of stuff." He explained: "So I think for us as cooperating teachers we don't know what other cooperating teachers do. You know, is there kind of a set, not really a pattern but kind of, that would be beneficial for all of us to realize and be aware of? You know, at this point they should be able to do this and be on their own a little bit more, just kind of as a checkpoint as we go through the whole thing."

When asked if this could be across disciplines or would be better just for cooperating teachers in science, Donn responded that "science is kind of unique and it

kind of depends on how many teachers you have. I don't know, I've done things with just science people and I've done things across other curriculums and they're very different." Noting some of these differences Donn added "part of it is, we're in the lab where there are safety issues and mobility issues, grouping issues that are a little bit different for us than for everybody else, too." He concluded, saying, "I would say to start with it would be easier and less threatening for everybody to just stay with the science people. They don't have to all be physics or all biology or chemistry but just science in general."

Finally, Donn was asked about anything that he learned through this experience of serving as a cooperating teacher and he responded, "yeah, I think every time I have a student teacher I look forward to it because I do learn something about myself and how I teach and how well prepared or unprepared I am. Based on my thinking about, okay, this is what I would do and I watch what they do and then reflect back on it, now would what I have done matter? Would I do something different or would I change that? So it gives me a chance to reflect back on my own practice in a way and then when talking with your student teacher you, simply by talking about it, verbalizing and bringing it up to the forefront of your head, you have to go through things in a little different way than you sometimes do doing it on automatic pilot."

For example Donn explained, "sometimes you get into situations where you've done this sequence of labs from this chapter so many times that you really don't have to prepare for it and therefore you go on automatic pilot and there are key things that you just leave out because you've said it so many times that you forget which class you said

what to.” Explaining the impact of the student teacher he continued, “so the student teacher kind of re-grounds you and you can’t just let that go, you have to be conscious about what you’re doing all of the time. So, for me, I always enjoy having student teachers. Sometimes it’s frustrating but all the time I learn something.” On weekly update number six, Donn wrote that he had learned that “sometimes you have to slow down to go faster.” Again on update number seven, he returned to the theme of planning when he wrote, “the need to be organized is very important. Plan ahead always.” In addition, Donn noted that some teachers don’t like to have student teachers because of the risk involved, “Yeah, there are people who won’t take student teachers; they won’t do it, they just don’t want to hassle with it. And it’s like, well, it’s not really a hassle, you know, it’s a learning experience for everybody.”

Donn was asked to give an example of something he reflected on and learned as a result of his work with Jim in particular:

The thing that pops into my mind, he had a second hour class and there were a few kids in there that are really sharp kids but you wouldn’t know that because, I mean, they’re off task as often as they can be. They’re very creative, they love to creatively disrupt the classroom and they’re very good at it. They will ask really good questions and have good conversations but then the next time you call on them they’re off in never-never-land bringing the whole class with them. And they are laughing while they’re doing it. They know what they’re doing.

In addressing this as a learning experience for him as a cooperating teacher, Donn continued:

So, with seeing that and looking at that and then asking, okay, well how did I deal with that and when did I? At the beginning of the year, how was that different for me and what's going on here? And when I'm in the room, it's kind of fun because then I can shut that down before Jim even realizes what's going on and it's like, okay, now let's see what they do and what he does? And, it's an interesting dynamic sometimes just to watch how the class behaves then when I leave because usually, a lot of times, I'll just leave right then and then I'll come back to see what happens. So it reinforces in some sense whatever kind of classroom management control that I have even when I'm not there.

In closing Donn went on to explain that he “thinks that Jim will be a good teacher, I think his heart is in the right spot, he'll do well.” In the last conversation he stated this as well. “He did a good job, I think he'll be a fine teacher, you know, he's young, he's got a lot of stuff to learn.” Though he also noted in his interview, “he's going to go through some trials. I think that if he gets out there and gets into a suburban setting or gets to a setting that's not so inner-city that he'll do very well.” He added, “You know, he's got a lot of things that he wants to do with extra clubs, afterschool kind of stuff and I think once he's got his own classroom and he gets settled into that I think he'll do very well.” Donn also reported having talked with Jim about this move to classroom teacher. “We did talk about what kind of clubs we have, whether it's chess club or debate, he

really likes debate and wants to get into that... and he also knows that that's a great way to have a different kind of relationship with the students and therefore when you get them back in the classroom they behave very differently. It's all because, hey, that's coach that's not just your teacher, that's somebody else that's helping you with something that you are passionate about as well." Donn also brought up "jobs" on weekly update number five. "We talked about what he was looking for in a school and what his ideal job would be. We discussed how things get done from the top on down and what impact that has on our teaching." He echoed this on update seven when he wrote that they had spent "one hour talking about the advantages or disadvantages of looking for a job in our district."

Allison

Allison is a licensed Biology teacher teaching upper level, AP/IB biology courses for 11th and 12 graders. At the time of this study she had been teaching for 20 years, 18 of which were at her current school. She reported hosting eight to ten student teachers over the years from at least four institutions and was confident in her ability to work with student teachers. In terms of her teaching, Allison believes that students learn best through "peer interactions" and "active learning."

The school Allison teaches in uses a traditional seven period day, with most teachers teaching five of the seven and being assigned a supervision (lunch room, study hall) for one of the periods and having one as a planning period. The school reports that 62% of its students are identified as Caucasian and 22% as African American, 8% receive

ELL services, 32% qualify for free and reduced lunch, and 10% of the students receive special education services. The school serves a student body of 1746 students.

Perception of role. Allison's main focus as a cooperating teacher was that of providing "mentoring and support." She put a strong emphasis on planning stating, "a good plan will make a good day, half the battle is knowing a good plan and recognizing success." According to Allison the reward for her for having a student teacher was that it "keeps everything fresh."

Similar to how she felt her students learned, she reported that student teachers learn to teach by "practice" and "doing sure-fire plans." Allison defined success in terms of her work as a cooperating teacher to be when the students show a "love of learning... when students are engaged and using vocabulary, helping others learn." Although most of her experience with student teachers had been successful she did report having one student teacher who was "hired and eventually fired." She explained, "he had no discipline in life or in the classroom."

Beyond her prior experiences she reported her most salient attribute in her role as a cooperating teacher as "emotional support." When asked about things that she felt would help teachers such as herself become more effective cooperating teachers, she wrote, "more activity and activity ideas." She reported that the role of cooperating teacher was "critical" in the overall development of science teachers and that "teaching and implementing activities for a variety of learning styles is all that matters." When asked about some of the most important things that student teachers need to learn about

teaching science she returned to the theme of planning saying that “record keeping...and good plans” were some of the most important.

Work in the classroom. Initially Allison had her student teacher, Todd, observe in her classroom as well as in the classrooms of five other teachers. Her rationale was “to have him get an idea of what normal might look like, beyond personality.” She also asked him to observe different levels of students “just to get a feel for the climate of the school and different abilities of kids.” In her classroom she asked him to observe and pick a class “that he wanted to maybe start with.” She noted that one of the first things she needed to do with a student teacher was to “figure out comfort level. You know, how fast you want to jump in.” She noted that this can vary significantly between student teachers but that Todd was ready to jump in right away. She stated, “I think he was quite bored. I think he was certainly ready whereas others observe a lot more than he might have done. I think he started teaching that second hour probably a full week before anyone else I have had start.”

When asked about the role of the cooperating teacher Allison mentioned that, based on her experience, you have to play it by ear to some extent. Todd she said, “was definitely ready and he learns really fast and I think that also helps, you know, if you know the material really well and...., he figured out my system right away and that really helps too.” She explained why she felt learning her system was important, “because if it is done in a consistent manner I think it’s just a lot easier.” “So, in the beginning he observed a lot. I think he got bored really fast, and then he started teaching second hour.”

Coming back to the theme of her system she noted that there are “things that are non-negotiable” explaining that these are the “systematic things.” She added, “I think as long as we’re, you know, putting that in drive. I have just a real specific system so in like a month from now I can probably tell you what will happen into about the third week of next month, we just kind of plow along in a methodic fashion.” She explained that when Todd first took over that she told him specific things like, “don’t put too many notes on one slide, have it said in a couple different ways, use pictures maybe and then, while they are taking notes every day, you take attendance.” She went on, “so I guess mainly just the systemic things, the methodical plodding along through the curriculum, I guess, and trying to make it interesting but yet, you know, still in depth enough” adding, “he covered that well.”

When Allison was asked more about Todd’s ability to catch on to her system quickly she continued her explanation that he “definitely” did so. She elaborated “we have a very prescribed syllabus, everything is spelled out in very fine detail.” She explained that this was because “I had to spend a lot of time marrying the AP curriculum to the IB curriculum so I had to take a pretty careful look at all the topics that were needed by both and try to figure out a plan.” She explained, “so if you get off the plan we’ve just got to know where we got off the plan and where to get back on the plan. You know, not that getting off the plan is bad, but just know where you need to cut later. So I guess showing him the roadmap is half the battle.”

Three weeks into the experience, she stated that “right now he’s really doing all the lectures and he has done the labs, you know, because you’ve got to do that mixture of

class activities and notes and lecture, and homework, and he is planning that all.” For example, in their first recorded conversation they discussed the plant lab that he was designing. Todd explained that it was going to be “a six to eight station multi-day lab.” Allison explained that this ability to take on additional responsibility was not always the case with all student teachers and that “he was far above what my last year’s student teacher was because she was never there, which doesn’t mean she was bad, but I never would have had that person make a lab.” She explained further, “just because she would get so angry if things weren’t just right... he’s clearly doing well.”

When asked about how her role as cooperating teacher has changed since the start of the current semester she mentioned “much more co-teaching.” She went on to explain that Todd was assisting her with technology issues while she helped him with his teaching. For example, in the first conversation she suggested to Todd “the demo of planting the corn upside down.” Regarding technology, she noted in her initial interview that, “we’re just trying to figure out a student response system...we’ve got it for a month.” She went on to explain further that “when they sell you this package they promote it in such sexy ways but the instructions for that are very cumbersome. So we are just plowing through that and Todd really is intuitive on that stuff.” She explained further, “so I guess a lot more co-teaching because I reached a roadblock and he took over and now he’s kind of at a roadblock but I think we figured it out so it’s manageable.” “Plus we are kind of more of a team, too. The district is coming to film kids using the clicker system so we’re trying to figure out ways to make it look interesting.” Adding, about their shifting roles, “in the beginning,” she explained “every

kid would come up to me and ask me questions and now they go to either one of us and every now and then they try to play one of us off the other one but, you know, that's the nature of it."

Allison described how her experience with Todd matched her expectations coming into this particular arrangement. Once again she noted the student teacher's need to adopt her system stating that "in the beginning, with every student teacher it's pretty much, I'm sorry if you wanted to do it your way but we have to do things my way." She went on to state that:

You know that's the way it is in the beginning with every student teacher and then I always, you know, have them take as much control as they want or ask for. I guess on certain things but you know, with the AP and IB curriculum there is just so much detail in it that whatever you decide to do has to have the same detail that I've always done. You know, so I'm not so averse to changing the plan and I can't think of anyone who does more labs than me or more activities than me. I've been in this business a long time, so if I have stuff I can steal, I'll sure steal, it but in most cases the student teacher coming has to drive my car.

During the second conversation, Allison drew attention to Todd needing to fit within her structure when talking about the plant lab, "and every piece of this plant topic, for AP, he's covering in stations."

Allison explained how this varied from year to year but by and large she is "more heavy handed than my colleagues that say 'I want to teach about the cell and you can do

it however you want' whereas, I am more apt to say 'in all the years past we've done cell games and here's the words you need to incorporate in their cell game,' you know, and if we can tweak that or change it, as long as the content is still right then I'm open to it..." She added how in the past that has not always worked as some student teachers "would never go into the detail and then would back up and have to redo some things." She also mentioned that she has softened a bit in regards to the student teachers coming up with their own ideas but still needs to hang tough on the content, "that's kind of what I did to change a little bit, or I came a little more open to letting people try stuff but in my head I decided I needed to maintain the content detail that is required."

Role of the university supervisor. Allison noted that a lot of what she does with the student teacher is dictated by their preparation program. Speaking to me as Todd's university supervisor, she mentioned that she had no specific expectations regarding how they would work together or transition but that "you mainly said what he needed and then I let that go. A lot of it is dictated by what the U requires but in all I think it's real good. Whenever he is ready for it to pass on, or whatever he was ready to pass on, we did." In this case the transition was eased by an organized student teacher, which she also explained as a reason for her need to adhere to a strict plan. "Todd is a lot more organized than I am. I have a plan in place because I know I divert, I'm the wandering ADD girl." She added, "so if I don't have a syllabus in place I am easily diverted so, and I think Todd is just more prescribed than I was, and cleaner (laughing)..."

Regarding her expectations of Todd she stated that “my expectations have been exceeded.” She went on to compare him to the previous student teacher and the need for knowledge/awareness of students in this particular setting, saying “ I think last year I was just so worried about this woman losing her cool on kids you know, so what I had were very low expectations and with the one before that she was just so nice and so kind but these kids we teach are pretty much unlike anybody else in that they know where they’re going to be in 10 years and fully expect a Masters before age 30.” She went on, “you know, all those high-powered expectations and they run fast. So, if you didn’t keep up with their need for knowledge they would let you know.” In their first recorded conversation she added, regarding the plant lab and the students, “it looks really good, I hope they like it. You’ve put a lot of effort into this and they don’t have to like it, but that’s a nice thing.” Later in her interview she added, “I appreciate Todd and his ability to apply whatever we’re learning to the real world and to a new situation, you know, what’s going on in the world right now.” She continued, “for example, if we’re talking about immunity, to bring in the flu or bring bird flu in or SARS or things like that so my expectations were exceeded, I had very low expectations and he has jumped higher.”

Allison was asked about ideas for professional development and if there was anything that could be valuable for cooperating teachers. She responded, “that they would be required to go to?” I clarified, “maybe just an offering that people could take advantage of if they wanted?” Pausing, she responded “you know, if it’s enough...” and followed with “I think for me to go anywhere would totally smell.” However, she did go on to talk about the value of the student teacher handbook provided by many preparation

programs as something she preferred. “The first time I ever had a student teacher, the book had very spelled out expectations... that was very helpful.”

Regarding the value of clearly spelled out expectations, Allison also noted that in one of her earlier experiences as a cooperating teacher that she had very little specific direction “there was very little that [the preparation program] provided and at the very end of the student teaching, the person that was meeting with me said, okay you have to fail (your student teacher).” Allison reported that it was clear that this student teacher was “profoundly bad,” but she did not feel that these “expectations had been spelled out and I said that I can’t on the very last day of student teaching say, oh by the way you failed.” She went on to say that “I didn’t know that I was keeper of the failure.” She continued, addressing improvements in communication with preparation programs regarding expectations, “they have improved the protocols a lot so that it was clear.” She added, “I think early on there was no instruction and it was make it or break and I think some student teachers probably fail along the way unfairly... I don’t know, that’s just my outsider’s opinion on the whole process but that first episode was just really traumatic and he was really bad.” She also observed a change in her role; “yeah... my input on the whole process has decreased a lot and I don’t know who knows what that is from – my roles and responsibilities released in the permanent record of the student teacher are decreased pretty profoundly.”

When asked about suggestions for ongoing support that the university could offer for cooperating teachers Allison mentioned the need for updating on the latest trends in science education. “I don’t know, if you’re looking for them to do like the five Es or

something like that that might be useful, or if you want the student teacher to like focus on inquiry, you know, that kind of stuff.” She added, “it’s different school to school although inquiry seems to be the buzz these days, or the five Es piece, I don’t know, I don’t think a lot of teachers that have been teaching a long time know the new buzzwords.” When asked a clarifying question about her suggestion she explained, “these are the trends that we are looking for, you know, just a quick and dirty thing. Most of this... I can say, oh, it’s similar to Madeline Hunter in this way.”

Finally, Allison talked about how she used experience and knowledge in her work with Todd and how she communicated this to him. She also addressed the attrition rate in teaching when she said, “you know, in five years more than 50% of the people get out of teaching. And the retention is a little higher if there’s a mentor but the hard reality is that some people have unrealistic expectations. Some people surround themselves with negative people.” She explained how she has addressed this concern, “I don’t eat lunch with other teachers because I don’t want to bitch about students for my whole lunch. So if I give him any advice it’s you have to do some things to keep your mental health, your sanity, and a lot of it is boundary related.” She added, “a lot of it is conscious choice, like not to eat with negative people. Write back to every parent who emails you, you know, you don’t have to agree with the problem or fix it but at least respond.” From her experience she explained that “the hard reality is I think people get into it thinking, ‘well I was a good student, everyone is like me, I did what the teacher asked.’” She shared a recent experience of eating with a teacher friend “who quit mid-year.” She went on to explain that “she taught here for seven years in the room next to me but in January she

said ‘I can’t do this even one more day.’” She explained how she shared this with Todd as well “and you know, I talk to him a little bit about this too, her idealism and her reality were just too far apart and some of the things that she would just not accept, like late work, and she was just fighting that battle endlessly. I mean, you can say ‘well, I’ll never accept late work but then there are always 50 people coming to you with 50 different arguments and, you know, it just gets old and I think her realistic and her idealistic views were never going to match. And she got out.” Allison added, “but I miss her and she was very good. She was just an excellent teacher. And that is kind of what I told Todd, ‘never say never, never say always, you know, sometimes you have to go with the flow or you’re going to die.’” When asked in a final question if her ability to share things like with Todd things has changed since they first started working together she replied “sure, because I am awfully opinionated, I wouldn’t care, I just lay it out there...” For example, in their fourth conversation, in response to the lab experience he had organized and completed, she suggested, that maybe he could make the stations “more stand-alone” also suggesting that he have them read a chapter from a book to prepare.

Weekly updates and final interview. At the end of her time with Todd, Allison reported feeling that things had gone well, due to both the clear expectations from the preparation program and due to Todd’s preparedness. When asked about her feelings regarding the semester, she responded, “I think pretty well, I would say that at least with (this preparation program) there is a real set routine in all, by two weeks he should be

teaching one class. There are just a lot of milestones already set up, so you don't have to invent a road or the path..." Regarding Todd's work she noted:

In the beginning I think he watched, which is really boring but, I don't know, I think starting off he got a feel for the class and then he chose one hour to teach and then, I think he was really good at reading what was expected and I didn't realize that as much until after he was gone and talking to other people with other types of different issues with other student teachers.

She clarified, "I didn't realize that he had read the system pretty well, and my system is so rigid, you know, with what we have to get covered so maybe he didn't have a choice but he did come prepared well, which is nice." When asked for an example of Todd "reading what was expected" Allison explained that even though Todd was not a Biology major his content preparation was key:

The nice thing with him is that he knew the material that was on the lecture and would give the lecture several times, we lecture just a little bit each day you know, 10 or 15 minutes worth, it's better than lecturing, you know, for the whole hour and so then we would do an activity.

She explained:

Other student teachers would use the teacher's power point or, you know, the other teacher's idea for lesson plan or something but they wouldn't emphasize it or, in flat out a couple of cases just didn't know the material

and so they go up there and then go ‘oh so this isn’t very important’ and it is like sex linked genes you know, you just can’t gloss over that.

Regarding Todd she stated, “he knew they (the students) were going to grill him because in every hour of every class I get people who don’t understand first off so you need to tweak it midway through and I don’t think he likes to look, or he didn’t like to look, like he didn’t know a topic.” For example, in conversation three Todd made it obvious how he wanted to make sure his instruction was clear to the students when he reflected on how he would set up a lab differently. He stated, “I think I would put a few more notes just saying a little bit, maybe since it is a station lab, they’re required to know something prior.”

Allison explained how Todd worked hard to keep up with the content and that it was something he did not take for granted. “I mean the first day I met him he goes ‘I was never a biology major, I was a German major’ and he goes ‘ I’m not really up on my biology as much as I’d like to be.’ He was always really worried about that so I think maybe he did extra prep.” She explained that in the past, “the other people (student teachers) who were biology majors in other biology teacher’s classrooms thought they knew all this and that they don’t need to review this but I think he did (review), so even though my lecture was there, he really knew the lecture, which was useful.” When asked if this content preparation was something that she had to put extra effort or time into she responded, “I don’t know, the syllabus is really spelled out and at least two weeks out we would spell out exactly what we were doing each day.” She added, “as far as knowing the power point stuff, maybe. Maybe that was his own thing, not any part of mine.” On

each of the weekly updates Allison indicated that she had worked with Todd on resources, materials, and instruction but when asked about other content she mentioned more outside and planning issues like guest speakers and technology.

Going further with Todd's knowledge of the content Allison returned to the lab that Todd had designed totally on his own. "You know, he did this great weeklong lab with plants where I just gave him the chapter of an AP review book and I said you need to teach this all experientially, I don't care how you do it but you know, I'm kind of tired of, you know, lecturing new material to these guys so, let's do it a different way." She explained that it "was totally his own and so I think maybe I maybe made the demand but I don't think I taught him anything." She also brought up a series of labs in weekly update number three, explaining how this represented a change in her role as well with Todd taking on more independence.

At the end of Todd's time with Allison she reported a shift in their conversation. When asked about his final weeks and conversations that they had about teaching she responded, "oh, I think at the end I was trying to really instill, don't burn out!" Looking more at the big picture of teaching she noted "because, at the end it was , you know, this job is hard, it's invaluable, important, worthwhile job that changes people's lives but don't burn out and don't get all tied up in the small stuff, the stuff you have no control over." She reported talking with him about "budgets and hiring and firing people but a lot of time you don't have a single say in that even if you're the best teacher on the whole block."

Allison explained her thinking behind these conversations stating, “I think for him I was trying, you know, to tell him not to buy into all the drama you really have no control over.” She went on, “If you can’t just operate within the things you can control, you know, make your day good, you know. If a kid in your future drives you nuts, do certain things that focus on the behavior not the kid, you’re not going to be so emotionally drained maybe.” On weekly update number three, she also noted talking with him about how “you can’t make every kid like you” and “you can’t make a quantitative assessment that is truly fair AND measures the amount of work/effort put forth by a student” and that “there are always exceptions (policy etc.).”

In her final interview she also explained, “And I think another thing that I talked to him about was educational fads, how they come and go but you know what will work for you, you know, stay with the standard and not try to get too caught up in the minutia and the day-to-day dramas because I think that really burns people out.” On update number four she wrote that they also “talked a lot of district politics.” Other things Allison mentioned talking with Todd about included things like “finding a job and to throw together the hoop-jumping portfolio stuff and I hate that stuff too. I just think it’s so crazy, you know, we’ve had good teachers who would never do that and really horrible teachers that could probably put together a fine portfolio.” Allison echoed this on update number six and seven, when talking about her role as that of, “getting him a job” and “we talked more about him leaving and finding a job.” Going further she mentioned “I hope, I told him, at the very end what administrators are looking for is if you can control your classroom and if there’s a parent on your interview committee they

want to know if you're going to teach their kids rigorous material and will they learn so they can go to college and do whatever." In what she said was fairly typical "for the last couple of weeks," she said, "so I coached a little bit on you know, if you answer questions with those ideas in mind, I said, honestly, an administrator just doesn't want to hear from you so don't say in an interview 'oh, I'm best friends with the principal' or whatever. They just don't want you to be a problem and they don't want you to be a drain on the system, I guess." In addition, when asked on update number seven about the change in her role at the end of the semester Allison wrote that it was "much more focused on exit and future."

Allison also mentioned talking to Todd about other practical matters like what to put on a resume and things to make sure to bring up in an interview, "making sure you talk about how you have had lots of parent involvement, you know, it's kind of working the system." She also coached him regarding his first years of teaching. "I also told him to save everything he does the first year. It could be totally crap but they can always change it and make it better. So, I think, yeah everything was geared toward the future at the end there."

When asked about how these conversations came up, she stated that throughout the year Todd rarely initiated the conversations with his own questions but that it was "me being very directive." She noted that it helped that "he was such a cleaner he just couldn't have a messy room and that's not me but he had fun cleaning and I would then start cleaning and that's when I would bring those up." She went on "I feel super guilty

when somebody else is cleaning, so I'd step in and clean with him but I also hate cleaning so then I'd start talking."

Allison also mentioned that during the mid-section of his student teaching that they spent a lot of time talking about particular students and their issues. "We'd usually spend that whole middle part of the teaching talking about kids that way. You know, the history of the kids, like, oh I had that kid's mom come in and talk about this because, you know, there is some high drama always with kids. So, you know, whoever is feeling more whatever, we had to do a lot of that kind of talking." She also noted that this was something that Todd would bring up. "Yeah, if he was exasperated with somebody he'd usually bring those up you know; I would have a history on the kid, more." Though she mentioned again that at the end of their time together this changed and that this was happening mid-way through the semester, "for the whole middle part for sure, at the very end we didn't talk about kids at all really." However, on weekly update number seven she wrote that something they discussed that week involved how Allison "had to refer a student for what appeared to be an attempted suicide. She ended up in children's hospital about two hours later."

She also mentioned that mid-semester they got into conversations about teaching styles. "You know, in the middle of student teaching we would talk about other teaching styles and issues, you know, pluses and minuses of the way people teach." She gave an example of a teacher at her school saying, "I'll bet she'll still be here at school at 6:30 tonight. You know, I said she grades every answer of every paper for every kid you know, and we talked about that, that for sure she's probably got the way you're supposed

to do down but really, but that's going to kill you." She went on, "and I showed him the CYA book, you know the cover your ass documentation that you really should do." In summary she explained, "so I would say, in the middle was spent talking about the history of kids and what happened that day or what went well and what didn't go well but we also talked about other people's teaching styles a little bit and where they shine and where their weaknesses are. Because you can't do this job perfectly, but there are certain things that make your life a lot easier and certain things that can really make your life miserable."

When asked further about how her relationship with her student teacher changed, Allison talked about how she keeps her personal distance. "I never get too close or personal with student teachers, I guess. I don't really tell them too much about myself or my family or whatever. She talked about this in terms of keeping the relationship professional noting this on two different occasions, "I would say that everything was really pretty professional that way" and later that "I'd say the conversations were very much always professional." She went on to tell how she explained to Todd how she kept her own sanity and would choose to be quiet at certain times to regroup and reenergize "so I think I said early on you know during lunch I just need to be kind of quiet for a little bit (laughing), and we did talk about that a little bit right way in the beginning, and I said I always get a newspaper and I like to read the newspaper. I don't know, the nice thing is that that was all kind of spelled out I think based on my severe need to just like collect my thoughts I guess."

When asked about her role during the last couple of weeks of Todd's student teaching, she first mentioned "to be a positive reference." The subject of the job search and "him getting a job" was something she also wrote about on update six and seven. She explained that she felt her role as teacher "never changes, you know. Hopefully it's always my class and he's teaching it for a little while. I think that's how I've always looked at it and all I'm doing is giving him skills you know, and then I kind of look at it as more of a treadmill, he'd kind of done getting the skills he can get from me and now he's got to go get his job." When asked further about her role staying "the same throughout the semester," Allison again mentioned "I really allowed my class to be his training ground, I guess. But I don't feel I ever gave up the class or ever, you know, I never, or if a kid ever came up and said can you help me with this problem I would always say yes." She also mentioned that she talked with Todd about this reality and how some of their time would be spent in more of a co-teaching model. "I said, you know, sorry about this but I'm going to answer a question. I'm not going to defer them." She also reported co-teaching as something they worked on or discussed in update number two, update number three and update number seven. For one hour in particular she mentioned intentionally staying in the classroom for management reasons "so I would be in there more to kind of diffuse some super needy kids I guess." This was the only time she mentioned talking with Todd about classroom management and went on to say that she told him "you know, you can't take it personally" and sharing her knowledge of her context "because these kids are completely unique." She mentioned discussing classroom management with Todd on weekly updates number two, number three and

number six. In addition, on weekly update number four she responded to the question regarding how her role had changed since the beginning of the semester that, “he has become increasingly more independent.”

Allison went further, talking about her own philosophy of education and a conversation she had recently. “You know, I ended up sitting next to a stay-at-home mom at the Dome, not that I have anything against stay-at-home moms but boy, this woman had opinions about teaching and it was like wow, your world is so small. That’s what I kept thinking, you probably have all the answers in your stay-at-home mom land but you know you just can’t... and I realized that you can’t ever think that and if you do, that’s the sure sign that the wheels are going to fall off and you’ll die.” She explained how she had discussed this with Todd, saying again, “and that’s the other thing, you can’t take it all personally and that’s what I kept telling him is that most of the time you’ve got to give it your best shot and you’re kind of setting the table, they can eat if they want to.”

Allison returned to several things she had talked with Todd about earlier in the semester regarding teaching. “You know, make sure your expectations are very clear and written down and you know, I told him the best thing that I do is I get a weekly grade update. The parents can look at it any time, you know, the best thing you can do as an educator is to keep the grades current because generally I think the kids earn the grade they want to.” She also mentioned this on update number six, when asked about things she discussed with him that she had learned from her own experience “so many examples of CYA, mostly about giving documented feedback of student progress in the class.” She also noted how, in assessing student work, Todd “was a much harsher grader than I was,

and the kids said it was not that it was harder to learn the materials from him but they didn't know what he wanted." Continuing she said, "so he had some issues, a little bit like that, you know, where he would take points off but to them it seemed like a fine answer, you know, but he was looking for some kind of nuance that they didn't really realize. So he had some issues with clarity but that will certainly come." Allison reported talking with him further about this, though his initial response was "well I just grade harder than you do." She said that "that's fine... but what did you want the kids to get out of this assignment?" And "what did you want your kids to know more?" She went on to explain how she suggested to him that he make a 10 point make-up assignment, "if you want them to know this topic better then make a 10 point assignment and if they do it, then give it to them. And we worked that out pretty well." She also reported stressing to him that often times students just want to get the work done regardless of how thoughtful or careful you'd like them to be. "They just want to get it done, you know. It's nice to learn for the sake of learning but, you know, that's going to be a tenth of your students that do that."

When asked about time when she really explained her thinking behind her action in the classroom Allison brought up allowing test re-takes. "I think I'm like one of a hundred teachers that do test retakes, but I have it so easy; I can re-scramble questions, I can make a new set of questions, so I don't feel like it's any more work for me to make another test, but that bugged him, that really cranked his chain." She also mentioned her experience as a student teacher and the advice of her cooperating teacher who said, "if you can't think of a good really good reason to say no, try to say yes as much as you can."

Not that you're going to be a doormat teacher or a pushover but if you have things spelled out and you have the expectations there because, you know, this content area is really quite rigorous and hard." Conversation number five provided another example when Allison explained that on that day Todd had "learned about how to punt and change plans in the middle of the thing." She also noted how she told Todd that she "probably dropped the ball by not emailing him."

Going further about explaining her expectations she mentioned, "so you've got to always put your expectations in neon lights, and I would always tell (Todd) this, that you have to spell out what you want them to learn and then have them learn it." She explained, "so the rationale for everything we do is, you know, so that they can choose not to do it or choose to do it on their own, but at least they know the rationale or rather they know the impact of every decision that they make." "So I don't know, I guess I always kind of told him the background but it always comes down to, make everything you're doing transparent to kids so that they are not thinking that you are tricking them and also so that they can walk away from your class with a piece saying, yes, I got a B and I know why."

Allison also explained, when asked, whether Todd sought out this information or if she just offered it saying "Oh, I bring it up... he didn't ask too much but he did a lot of paying attention." This ability to really pay attention is something that she agreed was a "good feature of a student teacher."

When asked about her own learning about teaching through this experience of serving as a cooperating teacher she responded that "sadly, it just makes my rut that much

deeper. You know, I think I'm always interested in the activities that they come up with but I always do a lot of activities anyway." She also returned to earlier comments about her system:

I mean, at least the system really works for me. The system I have works for me. So I guess I'm not touting my system because I know if the whole school was filled with me it would be a bad place in all, but at least for me I have to do things a certain way and I guess for every student teacher I've had I tell them you have to find your way.

She went on to explain this in terms of why she had Todd visit various classrooms when he first arrived. "There are real distinct teaching styles all through our building and I try to get them [student teachers] to see at least seven or eight of those people. Like our art teacher is more of a Zen guy coach; I can't explain it but I could never pull it off." "So I sent him around to those different styles, I think, when he's done and the day is over that he is going to maybe be the kind of teacher that is real textbook based, volunteers maybe as the yearbook coordinator or something, you know, more that artistic side." In addition, on weekly update seven, she also noted that she learned that "I like the way I don't get too worked up about the little things."

In her final interview, Allison was also asked about suggestions that she would have for professional development for cooperating teachers. She was clear and consistent in stating that if it was something that she would have to go to that she would be opposed. "If it's anything that we would have to go to I would say no. I think it's just so, and I told this to (Todd) too, when you're in it for a little while you've got lots of people wanting

your attention.” Going further, she added “but I think that people that have the courage enough to be a cooperating teacher, I don’t know that they even have the time or energy to do staff development activities.” She did mention that some on-line support could possibly be helpful, “yeah, I would say, boy, you know and this would be really, you know, the nice thing about moodle type things is that you can stockpile like resources on evolution or you can stockpile lesson plans on whatever came up.” However, she added, “even though I had some of those little sites open to me I never used them but somebody who was new in the gig might.” She went on to re-think this answer stating “maybe something like that for the student teachers more would be useful.” Another practical suggestion she had involved teaching teachers how to build a good website. “If you wanted to offer how to design a website or something similar to that that might be useful for others but not so much for me.” “Otherwise I would say that I’m good, and if I had an offer of staff development I would just cringe and go oh....”

Finally Allison mentioned that she felt good support from this particular preparation program and that the student teachers she had received were more mature “we’ve kind of stayed with (this program) because the students tend to be older... they’re more graduate students and they wear the air of I’m a graduate student you know, and that’s good, you know, more the air of competence.” Though she said she does not agree with limiting teacher preparation to the graduate level. She stated, “that doesn’t mean that I agree with the philosophy of only having graduate students. I think that’s a fatal error in the system.” She based this on her own experience, “because I could not have afforded graduate school and then of course, when my first job came, you know, you

don't get paid a whole lot of money.” The down side of younger student teachers, she explained, happened with a colleague of hers. “The teacher next door had a guy who was 22 and he was insufferable. He was just unbelievably young and naïve and horribly arrogant.” She came back to the fact that “as long as (this program) is only putting out graduate students I will keep taking them but you know, I don't think it's the right way to do it. It's good for me but I don't think it's good.”

Chapter 5: The Conversations and Transitions in Student Teachers Over Time

In this chapter I address the research question regarding the substance and nature of the cooperating teacher/student teacher relationship and how this changes over time. Using the framework of situated learning (Lave & Wenger, 1991) and its central defining characteristic of legitimate peripheral participation I address the recorded conversations between the cooperating teacher (CT) and student teacher (ST) and the cases from chapter four. I look at how the student teachers begin on the edge but, taking on more responsibility, move toward full participation as they become increasingly engaged in the process of teaching and the learning that comes with being situated in this action. They are moving from new comer to ‘old-timer.’ This is a time when they are engaged in “the transformative possibilities of being and becoming complex, full cultural-historical participants” (Lave & Wenger, 1991, p. 32). In full participation, the student teacher’s identity has changed to that of teacher. Still working alongside their cooperating teacher they are a full participant in all aspects of the life of this community of practice and they develop their own theories in this context. I also utilized Korthagen’s (2010, 2011) three level model of development to help bring meaning to this important time of interaction.

In the following subsection I revisit the theoretical framework of situation learning (chapter 2) to frame the analysis under the concept of legitimate peripheral participation. I then analyze the data found in the cases in chapter four and in the transcripts of the recorded conversations using three major emergent themes. First, I

draw attention to the centripetal movement of the ST toward full participation in the community of practice. I focus on the student teacher's access to legitimate peripheral participation and their movement toward full participation. Second, I highlight the practices within this community, drawing attention to what the ST learns, (based on the recorded conversations, the interviews with the CT, and my personal observations) as the newcomer. The focus of this theme was on the ST and the practices that they take up as learner. Finally, I analyze the role the CT plays as the old-timer, especially in how they guide the development of practice and the movement of the ST toward full participation in the community. Also within this theme, I analyze how the CT is changed through this interaction.

Situating student teacher learning practice

Student teaching by its very nature is situated in the community of practice of teaching. As student teachers work alongside experts in the field they learn from their experiences. In this decentered view of learning, the "apprentice" does not learn from the "master" but rather from the community of practice, the community that surrounds the learner, of which the master is part; in this view, the focus is on *learning*, not *teaching*. Far from simply learning in situ, Lave and Wenger (1991) hold that learning is fundamentally a social activity that takes place among groups of people not in the individual minds of the learner as many prior theories about learning presuppose. Situated learning locates the learning in a community of practice where it is evidenced by changing participation within that community. As Lave (1996) notes, "wherever people

engage for substantial periods of time, day by day, in doing things in which their ongoing activities are interdependent, learning is part of their changing participation in changing practices” (p. 150). In her research on apprenticeships she came to see this informal education differently. Lave (1996) draws attention to the fact that it is not merely for the reproduction an existing practice, but that “the apprentices were learning many complex lessons at once. (p. 151). The same can be said regarding student teaching. The student teacher is not just learning how to plan or deliver effective lessons, but also a variety of other components of what it means to be a teacher. The student teacher learns how to manage a complex and changing schedule, how to maintain balance between life and grading papers, how to respond to outside pressures, and how to deal with multiple demands and concerns simultaneously.

Using the terms of “newcomer” to represent the apprentice, or student teacher (ST) and “old-timer” to represent the experienced master, or cooperating teacher (CT), the newcomer engages in legitimate peripheral participation. The masters, according to Lave (1996) are not only a teacher, but are, “most importantly embodied exemplars of what apprentices were becoming” (p. 153). The CTs then are full participants in the community of practice a position toward which the ST moves as he or she participates legitimately.

After engaging in legitimate peripheral participation the ST can move centripetally toward full participation. This leads to reproduction of the community. In order to ensure reproduction the newcomer needs to be granted “legitimate peripherality,” which necessitates access “to a wide range of ongoing activity, old-timers, and other

members of the community; and to information, resources, and opportunities for participation” (Lave & Wenger, 1991, p. 101). The organization and control of this access can have an impact, either preventing or promoting legitimate participation (Lave & Wenger, 1991). Student teachers in science need access to experienced teachers, to lesson plans and resources, to laboratory materials and an understanding of safety practices, to students to work with, and much more. However, the ST also needs to engage in a “community of practice” so as not to confine learning to the mere acquisition of knowledge. In this case, the community, the school, is the teaching environment. The ST engages in activity in what Lave and Wenger (1991) refer to as an experienced world, one that is both socially and culturally constructed with objective systems and forms and the subjective understandings of them.

To realize legitimate participation the ST needs to learn, and to enter into, the discourse of the community. “Learning to become a legitimate participant in a community involves learning how to talk (and be silent) in the manner of full participants” (Lave & Wenger, 1991, p. 105). Through engagement with the CT and the larger community, the ST can learn to talk *within* practice (necessary classroom information and language specific to the context), and *about* practice (larger stories about the school and the community). “For the newcomer then, the purpose is not to learn *from* talk as a substitute for legitimate peripheral participation; it is to learn *to* talk as a key to legitimate peripheral participation” (Lave & Wenger, 1991, p. 109, emphasis in original).

Through the experience of legitimate peripheral participation the ST not only participates in the teaching community, the community of practice, but also participates

in activity that is productive, teaching students. They interact with and begin to be thought of as a colleague by their teaching peers. When they first enter into participation the contribution of the ST is important but still he or she has less responsibility, which is positioned “at the ends of branches of work processes, rather than in the middle of linked work segments” (Lave & Wenger, 1991, p. 110). However, by moving centripetally, closer to full participation, the ST takes on more responsibility. This provides an avenue by which the ST can evaluate his or her own work as a legitimate participant. The identity of the ST, as defined by their evolving role, changes as they become part of the community and move closer to full participation. The ST envisions his or her self as the teacher and it is this centripetal movement, toward full participation, that motivates learning. In some cases, however, the CT does not push the ST toward co-participation but rather acts on the ST as the person-to-be-changed and can work to explicitly manipulate the identity of the ST.

A final piece of legitimate peripheral participation is the concept of reproduction of the community of practice and the contradiction this leads to between continuity and displacement. Schools are communities “situated in social practices that are in the process of reproduction, transformation, and change” (Lave & Wenger, 1991, p. 123). This is where student teaching is located. As the ST moves toward full participation with the assistance of the CT, he/she become part of the community of practice, becoming a teacher. This is reproduction in the community. However, Lave and Wenger (1991) also remind us that “this is far more than just a process of learning on the part of newcomers. This is a reciprocal relation between persons and practice” (p.116). As the ST moves

toward full participation in the community, the community does not remain unchanged. The ST needs to learn and participate in the existing practice, but they also have a stake in its direction as he or she moves toward this new identity. As newcomers become old-timers their knowledge, questions and perspectives are now part of the community of practice. This leads to the contradiction of continuity and displacement and possibly conflict. The community needs to continue to reproduce itself but this is distinct from replication. In this way “everyone can to some degree, be considered a “newcomer” to the future of the changing community” (Lave & Wenger, 1991, p. 117).

Analysis of the Data: Jeff and Tessa

Centripetal movement: Toward full participation in a community of practice.

From the beginning of their work together Jeff organized access for Tessa to promote legitimate peripheral participation. She was offered a multitude of resources as Jeff worked to provide her with content and to connect her to people and to his experience. In his initial interview (chapter four) he stated that he would provide “the same assistance that a new teacher should be given from a staff of peers when they join a new school.” From the beginning their work together Jeff reported that he viewed his role as that of a resource and as a mentor and team-teacher. He also stated in his interview that he would provide “resources and practical classroom needs.” In their first conversation he prompted her with questions to guide her thinking. For example, Jeff asked, “anything that you thought was poorly set up in the lab or could have been clearer?” This also

provided her with initial access to the discourse of this community of practice and how they would talk about teaching. In his interview data Jeff was transparent as he talked about the importance of her taking on the classroom, “without the cooperating teacher breathing down (her) neck, by making adjustments in the plans on the fly.” Jeff was clear that full participation was the goal, not mere imitation of his work.

During her time with Jeff, Tessa continued to move centripetally, closer to full participation in this community. Her identity as teacher changed over time and was made evident when Jeff asked for her feedback on his materials and for her ideas for the planning and delivery of content. These were questions that she was confident responding to. Near the end of their time together Tessa gave Jeff feedback on materials that he shared with her. She stated, “some of this is a little too in-depth but some of it’s great, like distinguishing characteristics of spiders.” As she moved toward full participation in this community Tessa’s questions, found in the recorded conversations, regarding classroom routines as well as the reflection on immediate action, decreased. During this time, Jeff also gave her access to the larger picture of what it means to be a teacher. In addition to talking *within* practice they began also to talk *about* practice and the larger picture surrounding and supporting their work. Concerns that went beyond daily classroom routines are evidence of them beginning to talk *about* practice. For example, they discussed parent/teacher conferences in conversations ten and eleven in which Tessa noted that they “were well prepared,” and Jeff explained how “the most daunting [conference] was where one autistic kid’s parents came in, and the kid had just

been booted out of all mainstream classes because of his outlandish behavior and the mother was like a deer in the headlights asking us where will her kid end up?"

They also made plans for struggling students. For example, they discussed Tessa's concern for an English language learner in conversation seven and Tessa showed her ability to access other members of the community. "I'm thinking I should go talk to Ms. P. and let her know that some of the work that would help her is prepping for the test and working with me." In addition, they discussed how to deal with standardized testing days and assemblies when in conversation twelve Jeff explained to Tessa, "we do have the MCA test, so we'll have to find out what days we lose our kids." These concerns eventually eclipsed the need for novice questions such as utilizing the SMART board, how to enter electronic grades, and deliberation on teaching strategies.

Tessa was clearly situated in the practice of teaching and was receptive to the access and guidance that Jeff offered as he encouraged her to move from the periphery to full participation. Tessa's own motivation to continue this centripetal movement was also made evident as she moved closer to full participation. In conversation four after Jeff asked her to take on more responsibility she stated, "I'm totally psyched about getting in and figuring out what to do for the days." Again, in their fourteenth conversation Tessa described her plan and added, "this is exciting, this will be great." She was motivated for full participation. Having learned the dialog of the community of practice, she and Jeff moved closer together as teachers, eventually making it difficult to tell CT from ST in their recorded conversations. By the end of their time together, Tessa and Jeff became true colleagues with Jeff seeming to momentarily disappear as he pushed

the focus on Tessa, reappearing in their conversations as her co-worker near the end of her time with him.

Jeff was also changed through the experience. He used this work as an opportunity to reflect on his own teaching practice. He reflected in his interview data on his own practice through the lens of the “newcomer becoming an old-timer” (Lave & Wenger, 1991, p. 122). He noted how this experience had given him the opportunity to “sit back and reflect.” The social process of “reproduction, transformation, and change” (p. 123) were made clear through the conversations between Jeff and Tessa and Tessa’s centripetal movement toward full participation, took place over time.

Without conflict by the end of their recorded conversations, it appeared that reproduction within the community of practice had taken place, a new full participant, a new teacher emerged. Tessa and Jeff talked as colleagues and Jeff observed in his second interview, “I guess there was a definite evolution in our relationship.” He explained;

We got to know each other you know. You can start talking shorthand, didn’t have to deal with every little detail she generally would, you know, the main questions that she would have would get to be better questions whereas early on she didn’t know a lot about anything, you know, of the system of our school so there was questions upon questions upon questions.

Tessa was not a replication of Jeff, nor was he the same as he was when they began this process. Rather, both emerge as new members of this community of practice and Tessa as a full participant.

Practices within this community: What does the student teacher learn as the newcomer? As Tessa moved toward full participation, she took up new practices and responsibilities in the context of her work with Jeff. As a newcomer she had many novice questions, often prompted by questions from Jeff, regarding instructional techniques, the use of inquiry, and ways to keep students engaged. For example, Jeff asked questions like “any ideas on how the day went?” which caused her to reflect on action from that day. In their initial recorded conversations these suggestions and questions, offered by Jeff, gave her access to the dialog of the practice and prompted Tessa to reflect on her recent actions. As Tessa began to move centripetally, the concerns and questions she had also began to evolve. Questions beyond how to teach, such as schedule conflicts and planning for conferences, moved the dialog beyond the classroom walls. Through these discussions Tessa began to learn and utilize the dialog of the community; she began to talk like a teacher. For example, she talked with Jeff about a student who needed to come in for extra help: “Some of the work that would help her is prepping for the test and working with me and she still doesn’t come up and work with me during flex.”

A major portion of the initial conversations also had to do with the practical nature of planning. For example, in their first few conversations Jeff offered advice

regarding laboratory set-up and point values on assignments. During their fourth recorded conversation, however, Jeff noted that this is the time when he would like to see Tessa “pick up more of the planning.” Always transparent in his efforts to move her toward full participation, during the fifth conversation Jeff began to refer to their planning for instruction using the pronoun “we” rather than “you and I.” In this same conversation Tessa and Jeff began to co-plan and Tessa summarized their work; “so we’re ready for next week, we’re good through this week, I think we’re in good shape.” They also moved the conversation beyond the immediate classroom needs as they began in conversation ten, to plan for upcoming parent/teacher conferences. Issues of classroom management and discipline also arose midway through their time together. For example, in conversation eight Jeff asked Tessa, “what did you do today for classroom discipline?” This prompted Tessa to reflect on her action regarding classroom management and was another example of her taking more and more responsibility.

As Tessa’s identity began to change, she had a defining moment, made evident in their seventh conversation when she talked with Jeff about developing her own theories (Korthagen 2010) on how to work with an ESL student. Clearly motivated by her role as teacher she was now thinking and talking like a teacher. Now she was thinking deeply about not only her classroom strategies, but also the way her work impacted her students. Tessa first explained how she had worked to support this student. She stated, “I worked with her to make notecards and sort of narrow down the study guide so that she, I gave her more direction.” Though she also added “I kind of dropped the ball. I didn’t work

with her before the test.” This conversation prompted Jeff to reflect on the need to provide a bi-lingual test. Tessa was developing a new identity as a member of the community of practice and showed this in how she spoke with Jeff regarding her role as teacher and how she spoke with me as her university supervisor. In this particular situation this changing identity motivated her to look for new and better ways to work with her students.

Although conversations about planning and other classroom practices continued throughout their time together, there was a shift in the way that Jeff and Tessa talked about them. During conversation eleven Jeff asked Tessa “what are we doing today?” Showing her involvement, very close to full participation, she was now a co-leader in this negotiated community. In conversation thirteen he even referred to her as the “lead teacher.” They continued to discuss issues of grading (as illustrated in conversation thirteen) and planning though now Tessa made suggestions based on her experience using the discourse of the community. For example, in their fifteenth recorded conversation she noted “last time we did a jigsaw it didn’t work well.” Tessa had picked up not only the practices of the classroom, but ways to think about these practices in this context, which allowed her to make reasoned decisions based on her experience.

By the end of their time together, when reading the transcript of their conversations it was difficult to tell the newcomer from the old-timer. They spoke as colleagues immersed in this community of practice and they discussed and learned from each other. They shared a language, talking about mutually understood things such as

jeopardy review, student projects, and which students are driving behaviors. They also shared the lead in their conversations. As a legitimate participant, Tessa shared her plans for instruction openly and checked with Jeff on several occasions regarding what he had planned. She learned the discourse of the practice and had a new identity in which to use it. They co-planned for an exam in conversation sixteen and shared ideas regarding a lesson on frogs and amphibians during conversation eighteen. Also, during conversation eighteen, Jeff talked about himself and Tessa as a team when he observed, “we feel firm that we always want to bring in activities.” At this point it was clear that Tessa was fully immersed in this social world and was active in the reproduction of this community; she was becoming a teacher. Jeff encouraged and allowed this to happen through the transparency of his work and his desire, stated many times in his interview data, for Tessa to be successful.

Guiding the development of practice: What role does the cooperating teacher play as the “old-timer?” Throughout their time together Jeff, as the experienced old-timer, offered several of his own theories and suggestions for action based on what he had experienced in the classroom. For example, in their first conversation Jeff explained why he thought it was important to use inquiry in science teaching. He told Tessa, “they really do enjoy inquiry. They feel like they get something out of it.” The wisdom that Jeff offered came from his own lived practice. He added, “you need to give them that frustration... You have to give them that chance or that pause for inquiry, but also, you can’t lose them.” Jeff treated the concept of scientific inquiry, not as a theoretical

concept, but rather as it applied to these particular students. He explained to Tessa that “we have different levels in science. We have accelerated kids and we have these kids, they’re regular kids.” He went on to explain that the inquiry activity they had planned fit well with “this level of kids.” Practical reasoning for Jeff was seated in his lived experience with his students and he used it to guide Tessa.

In guiding Tessa’s practice Jeff initially made suggestions based on his observations of her actions. On several occasions in his interview data he reported that he would provide for any supplies or other needs that she might have had as she moved toward full participation. He made her access to the community of practice transparent by making it clear that he fully supportive of her work. Over time Tessa began to request his input. For example, during their second recorded conversation she talked about a group of boys “that were working together but they were saying the same thing and it was just off base.” Jeff modeled thinking for her when he stated that his philosophy was “the fact that they came in and engaged and did the lab, I would want to give them probably seven out of ten, just because they did the lab write-up.” He continued, guiding her, “so then you start to wrestle over their quality just for the top points.” He offered guidance and an example of thinking about the balance between credit for participation and the quality of responses.

During the first several conversations, Jeff led the planning, nudging Tessa toward greater participation and responsibility. For example, he asked her what she planned to do and again offered whatever support he could to help her be successful. He

began to push her to personalize her instruction but still offered to provide her with all the power-points for an upcoming unit. In their fourth conversation Jeff told Tessa, “I’ll give you all the power-points on this and your challenge is to make it your personality when you deliver this.” In addition, he guided her in conversation five when he stated “we’ve got an extra packet for all the kids that are taking the extra three-day vacation.” He explained, “So, we’ve created this packet that will get them to fill in for the time they lost, and keep them abreast of the chapter work because they’ll miss the power-point and other things that we will be doing in class.” Jeff also guided Tessa’s thinking when he talked with her about his test retake policy. He explained that he instituted this “because I didn’t like catching up all kinds of test cases...you know, the day of the test, and they’re all gone.” So he started adding extra credit questions. He added, “If they take it before or at test time they qualify for extra credit.” He was letting her see the reasoning that supported his decisions.

Tessa was situated in practice and Jeff initially used prompts for reflection as a way to teach Tessa about daily practice in the classroom. As noted earlier, he asked her in their initial conversations to reflect on how the lesson, or lab, went, guiding her to think back over her recent action and to use this for future planning. He also guided her work in classroom management in the same manner. For example, in conversation eight he asked her “What did you do today for classroom discipline?” He encouraged her to share the details of her interactions with students and he offered suggestions adding his experience and knowledge of the students she was dealing with. Jeff explained that

“what you don’t want to do is sour the kid and have him go from being heavily involved and talkative, to putting his head down and going to sleep.” Additionally, in conversation eleven, Jeff asked Tessa to reflect on the conferences from the prior evening. He was encouraging her to share not only in the daily classroom routines, but the concerns that fall outside the discipline of science. Jeff continually encouraged her to speak as a participant in this community using the discourse of practice, and to take more and more responsibility. Reflection questions can be used to guide someone toward a particular action and can be helpful when the novice, immersed in the practice, is not even sure what questions to ask to guide their own development (Lave & Wenger, 1991).

Over time Jeff’s facilitation of Tessa’s reflection changed as Tessa began to think more deeply about the practice in which she was situated. By the middle of their time together Tessa began to reflect without prompts on larger questions of fairness, access to education, and student work. For example, in conversation eleven she reflects on how to motivate students to “really try to learn from an activity.” She was concerned that some students’ behavior was “very complacent, sort of, like, you know, I just need to get it done so I can socialize.” Tessa also began to reflect not only on what worked and did not work but also on the larger question of why something worked when she talked about the value of using a bingo review game she developed and the level of student engagement. Tessa noted in conversation seventeen that “students were quite engaged (in the review game) and wanted to keep going even at the end of the period.” She also reflected on the fact that this was done on a state mandated test day and that “if they were brain dead from

testing they can zone out and not participate, but I think really, for a handful of students, this will have benefitted them greatly, and they'll do much better on the test because of it." Jeff guided Tessa to move toward full participation, and in the process the nature and substance of her reflection also moved toward greater meaning, beyond making it through a day in the classroom and even beyond the need for Jeff to prompt her.

The guiding conversations moved to broader topics later in their time together as Tessa deepened her engagement in this social practice. For example, during conversation thirteen Jeff explained to Tessa the department policy on what constitutes a failing grade, providing the reasoning of the department's teachers in setting a policy that would support student success. He explained that "the way we run science here is we go down to 50% as a pass, because we have all kids in biology at this stage of the game." He continued, "So we lower the bar at the bottom and keep it straight up at the top grades. It's still 80% or 90% for As and Bs and so forth." He also used his knowledge of the students when talking about how to assess an assignment. He explained, that "this is trying to get points in their grade to offset poor testing ability, and so, some kids, just because they did it, they should get some solid points in the book." In this way he was giving Tessa access to reasoning based on helping students be successful within the constraints of the broader school expectations, which was important for her as she moved closer to full participation.

In addition, Jeff pushed Tessa to reflect on her teaching style as he still offered her suggestions for action, but now he stressed that the action needed to fit her teaching

style. Jeff suggested talking about the Henderson frogs in conversation eighteen, or singing the worm song during conversation fifteen, as a part of the animal unit. These were more than curricular aids but rather caused her to take a deeper look at her teacher self and how to engage the students with this content. During this conversation, Jeff encouraged Tessa to be “goofy” and explained the worm song as “kind of a fun opener with the kids when you start worms, because it gets their attention and they think you’re a dork, I like that.” In doing this he pushed her to find her teacher self though he also noted that he “didn’t want to force it on Tessa.” Jeff now framed his advice as a menu that he offered for her to take or leave. After making a suggestion during conversation fifteen, Jeff also clarified, “if you don’t want to, I mean, I just, this is just one way to do it.” In this way he made it evident that he was not “the master” trying to replicate himself but rather, as Lave (1996) notes, is the “exemplar” of what she was becoming. Jeff continued pushing her to think as a teacher, making sure that she planned for active and engaging lessons even though the content of them was now up to her. Jeff also explained to her the difficulty she would have with students, again based on his experience, during state mandated testing. Jeff opened up the space and encouraged Tessa to join him as a full participant in the community of practice as they taught and learned together reciprocally.

Jeff still guided Tessa in their later conversations but now he talked with her as a member of the community of practice, providing her with feedback, both positive and negative. As they moved toward greater collegiality Jeff explained in conversation

eighteen that he thought what she was planning was “boring,” and later referred to it as “dullsville.” He was giving her direct feedback to push her toward more active learning. He reminded her in this same conversation that, “we feel firm that we always want to bring in activities and this unit has been tough.” He provided her with ideas but left the planning up to her, complimenting her when he felt it was deserved. For example, later in conversation eighteen Jeff observed, “I was a bit worried or apprehensive if you have just a non-stop program. But you did it. Bringing in the snake wins the day. If nothing else, they’ll remember your orange snake.” At this time they were speaking as colleagues.

Impact on the cooperating teacher. As Jeff guided Tessa, encouraging her centripetal movement toward greater participation, he used reflection as a coaching tool, prompting her to reflect on her developing identity. However, this did not stop with Tessa. Through the lens of the newcomer becoming old-timer in the classroom, Jeff reflected on his own practice and learned. Throughout his interview data Jeff talked about using his time to not only look at classroom practices but also ask why questions. He saw this as a road to self-improvement when he stated in his final interview, “You know, it’s the type of job where as a good teacher you always could be better... and so she frees me up to do a lot of that.” He also added, “I sit back and watch her and it reaffirms a lot of things that I know are good teaching strategies and so it is really kind of fun.” Jeff was learning along with Tessa and reported that he enjoyed the journey.

Jeff also noted how this reflection on his own practice became a teaching tool for him as he accessed his own wisdom, reflected on it, and then shared it with Tessa. He stated, “So you are reevaluating as you bring things up and trying to understand why you did what you did, you know... you just kind of have a gut feel but if you pull it up to the next level and it’s more than a gut feel and you share it with the kid, the student teacher, then it helps reaffirm the purpose that you had.” In reflecting on and sharing his practical reasoning, Jeff reported that he was learning about his own practice through the legitimate peripheral participation of the student teacher. This is the dilemma-driven nature of situated learning which leaves an impact not only on the student teacher but also on the larger community of practice. In this process the context is not static and Jeff, as a member of this community, was changed.

Analysis of the Data: Donn and Jim

Centripetal movement: Toward full participation in a community of practice.

Across the recorded conversations between Donn and Jim and from the case data presented in chapter 4 a picture emerges that is quite different from the one painted by Jeff and Tessa. Transparent in his intentions, Donn provided access to Jim to participate in the community of practice. Jim began to participate on the periphery but as he moved toward greater participation in the community of practice taking on more responsibility he became less enthusiastic about the work and never was able to participate fully.

Before starting officially as a student teacher, Donn invited Jim to the school to get a feel for the context. Knowing that he teaches in a school that some consider difficult, Donn, based on his experience, encouraged Jim to come out to see if the school was a good fit. Donn reported in his initial interview that Jim “came out and watched what we did with the kids and how we interacted and I encouraged him to go out and talk to the kids, just to get to know them.” Through this invitation, Donn opened up access to this community of practice even before Jim was officially in the role of student teacher.

Donn also provided Jim access to materials and other members of the community. During their first recorded conversation they spoke as colleagues with another teacher regarding the overarching philosophy of using standardized tests to measure teacher effectiveness. Participating in the conversation Jim stated, “they think assessments are the greatest thing since sliced bread because now they can get all those teachers out who don’t give a crap.” Entering into the discourse of the community at the onset of the student teaching experience gave Jim legitimacy as a peripheral participant. Donn seemed to expect that Jim would move toward full participation, but was clear that, in his view, much of the movement and learning that was to take place was up to the student teacher. In his interviews Donn explained that he expected Jim to ask the questions and “make the choice” to take full advantage of this situation. In his baseline survey Donn also explained that “if they are really here to learn, they will take the lead and do, not just talk about how they are going to teach.” However, this is a place that Jim never got to. Donn reported in his interviews that he would approach Jim with questions and

suggestions, but Jim never approached Donn with questions. Donn wanted Jim to take the initiative to move toward full participation and one way to do this, according to Donn, was by asking questions to learn about this community of practice.

Though he was granted access to legitimate peripheral participation in Donn's classroom and the teaching community at this high school, Jim seemed to be held up by his concerns over other commitments, including coursework. He referred to this in conversation three when he expressed concern about "all the extra stuff I have to do." Initially, over time, Jim engaged in more aspects of teaching and other responsibilities; he began teaching lessons, reflecting on concerns such as assessment, and planning, and Jim's identity began to change. According to Donn, however, as Jim moved even closer to full participation and was given the opportunity to take on more and more responsibility, unlike Tessa and Todd, he was not motivated.

Jim reached a point in his student teaching when what he thought and believed, his theories, about the work of a teacher were challenged. In his interview data (chapter four) Donn recalled Jim verbalizing "this is more work than I thought it would be." Jim was now engaged in developing new theories regarding his lived experience. In his interview, Donn recalled a conversation he had with Jim when Jim explained that he had grown up with a parent who was a classroom teacher. Jim brought with him images of teaching and theories about it that did not match his experience as he moved toward more central participation. In conversation four, Donn recalled the conversation he had with Jim about this, "He (Jim) said, 'I didn't understand how much really has to be done and

how much you're juggling, and how much thinking that you have to do to try to coordinate everything that goes on, especially when you're trying to put labs and stuff together.'" When his prior expectations did not align with his lived reality, his centripetal movement was slowed and he did not take on additional responsibility.

As the teacher, Donn participated fully in this community of practice and invited Jim in by providing him with access to materials, other members of the community and whatever support Jim needed. Near the end of the experience however, Donn changed his approach, either out of desperation or by coincidence. He began attempting to push Jim into greater responsibility. Donn did this by not "bailing him out." Donn reported on a few instances near the end of the Jim's time with him, when he needed to be out of the classroom, thus leaving Jim in charge. The greater impact came, however, when Donn had a string of morning meetings and Jim was faced with testing and setting up all of the lab equipment. He left the responsibilities of the classroom to Jim on his own without a colleague to help him prepare. With Donn not arriving to set up the lab, not testing the equipment or providing last minute back up, Jim was forced into a more central role, even if reluctantly. However, Jim never did move to full participation nor was his identity ever fully shifted to that of actually *being* a teacher. In this case there was not reproduction in the community regardless of Donn's efforts.

After the experience, Donn recorded a private conversation (talking to the recorder) in which he made the prediction that one day Jim would do fine in a community of practice. He noted that he thought that Jim would eventually rise to the occasion when

“he doesn’t have anybody to bail him out and help do it for him you know, pushing through that.” Jim will need to be pushed into the identity of teacher, which, according to Donn, will motivate him for action. Jim had engaged as a legitimate peripheral participant but by his own choosing his motivation decreased and his full participation in this particular community of practice was never realized during his student teaching placement. Jim ended up taking on more responsibility when Donn no longer was covering for him, but he never took full responsibility in this community.

Practices within this community: What does the student teacher learn as the newcomer? During their initial conversations and from the case data, Donn assisted Jim in developing classroom practices. Reported in his interview and survey data (chapter four), Donn initially modeled classroom practices such as how to take attendance, how to set up labs and how to deal with incomplete exams and grading, thereby granting access to the community. Jim engaged on the periphery of the core practices of the classroom. Donn provided him with lesson plan ideas and modeled teaching strategies. Initially he suggested that Jim begin by watching what he did so as not to be overwhelmed. Donn was giving Jim the opportunity to gradually move into a position of greater and greater responsibility but, as noted previously and in his survey data, Jim would need to initiate this move.

According to Donn’s interview data, Jim was excited about the work that he could do, the materials that he planned to develop, and the labs he planned to update as he anticipated a move toward full participation. However, in his follow through Jim stopped

short. For example, in their third conversation, Donn and Jim were planning for a lesson utilizing musical instruments and Jim talked at length about an experience he had had at an acoustics summer camp. He explained that he “took and acoustics class at this summer camp in Madison. It was the most amazing experience ever.” He went on to share ideas for the lab, “so if these guys go through and do these labs today, they’ll have an understanding somewhat of open and closed, where they can actually hear the nodes or can’t hear the antinodes.” Later he added how “you could do this really well on the violin.” Jim had lots of ideas but never was able to lay out a plan; he was more comfortable participating from the comfort of the rim and did not allow himself to move very far past the edge of participation. Jim had learned to plan lessons in his methods class and knew how to construct units, but in this situation he could not put that into action. It was not clear if this was a fear of failure, intimidating content and students or if he knew that Donn would do it for him.

Donn tried to bring Jim into his community of practice and based on his prior experiences with student teachers, reported that he was open and knew how to make this community of practice available for full participation. In his interview data, though, he puts much of the onus on the student teacher to access his knowledge and to ask the questions to guide his or her practice. By the end of the student teaching experience, Donn was frustrated and pushed Jim toward greater participation. For example, in conversation four, Donn noted that he had been “working on getting him to actually do some planning.” He explained that Jim was “pretty resistant to try to do his own

planning. He has no problem making plans of what he wants to do and kind of get going, but then when it comes down to it, he has hard time following through.” Jim was still learning from his work in the classroom but due to his reluctance to fully participate the day-to-day practices of teaching, his learning was hampered. Jim did learn some about this community such as classroom management and a few good activities as well as how much work it was to be a full participant.

Guiding the development of practice: What role does the cooperating teacher play as the “old-timer”? In his initial interview Donn spoke of his prior experiences with student teachers and was transparent about his desire to give them “freedom to explore” as well as “guidance as to how to get started and what to do when things don’t work out the way they planned.” He referred to himself as a sounding board that emerging teachers could use as a support as they worked in this community of practice. He thought of himself as one who was very open and encouraging of full participation; however, Donn also made it clear that participation needed to be based on choices made by the student teacher.

Initially, Donn offered Jim guidance on how to get started in the classroom. In his initial interview Donn reported that he offered Jim ideas, telling him “this is what I have planned, if you want to follow it that is fine.” Offering modeling, Donn explained that he advised Jim to start slowly until he was “comfortable with the day-to-day

routine.” He also offered guidance for classroom management and assessment. For example, in their second conversation Donn gave Jim advice on grading. He explained “he’s got the right idea. He’s breaking it down, but he just didn’t do it quite right.” He also provided him with the opportunity to build rapport with the students by encouraging them to come in to talk about their grade. Again, in their second conversation, Donn suggested, “so grade it, give it to him and then let them come in and they’ll complain or not complain, and they’ll give us a reason why.”

Donn saw his work with Jim, as a progressive set of activities. At first he was “taking care of him for a little bit or helping him out and then pretty soon you let those things go and you might just point it out.” Donn also added that this is the time when the student teacher should start to ask questions and should begin to take responsibility for his or her own development as he or she takes on additional responsibility and starts becoming a member of the community.

Donn noted that Jim did not ask questions. He also acknowledged that oftentimes student teachers do not even know what to ask but that this is something that needs to develop over time. So Donn began his work with Jim in more of an instruction and modeling mode. As Jim was pushed to take on more responsibility, he realized how difficult this work was and commented on it. Donn attempted to guide Jim to realize that teaching is hard and is something that takes practice. He reported telling Jim “it’s a skill that you have to develop.” Jim wanted to step in with the image that he held about what an accomplished teacher looked like and was not able to do so.

Donn offered the experience of the community to Jim by way of activities and plans that had been tested over time. He also offered his personal experience from this context and explained how, as a teacher, he interacted most effectively with students. In his final interview Donn reported that he had explained to Jim how you do not put students on the defensive, but still let them know who is in charge and what is and is not acceptable. In conversation four Donn also explained how he had to settle his students down “before he [Jim] just keeps going, and that he can’t just let those guys that want to talk just go ahead and talk and he’ll just keep going, and that he can’t just talk to the one’s that want to listen.” Donn also offered up his experience to help Jim wrestle with decisions about grading incomplete exams. For example, in conversation two, he explained to Jim that “there are circumstances and that’s why we have to take it on an individual basis.”

Eventually, due largely to a lack of questions from Jim, Donn pushed him with his own questions about Jim’s actions. For example, in the fourth conversation, Donn reported asking Jim about timing when a lab that he thought would take two days ended up taking less than one. He asked Jim, “so, what are you going to do?” And he wasn’t quite sure what he wanted to do or how he wanted to do it.” Donn also encouraged Jim to think more deeply about his practice of teaching and shared with him his own experience with these students. Donn made it clear that he would leave his student teachers alone, allowing them to develop into their own style of teaching, but given his deeper knowledge of the classroom and the specific dynamics within this context he

would step in when he sensed that a situation “could become dangerous.” He was clearly frustrated by Jim’s lack of interest in his (Donn’s) deeper thinking and by Jim’s lack of full participation in some of the most basic practices of teaching such as planning ahead for lessons, setting up labs, and grading the student papers in a timely manner. Donn predicted that Jim would be okay when he gets into his own classroom “and doesn’t have anybody to bail him out.” However, from the data it is not clear that he ever explained this to Jim.

By the end of their time together, Donn was guiding Jim to think about his future plans as Jim was focused more on finishing student teaching rather than taking on the additional responsibilities necessary for work in the classroom. For example, in conversation three, he asked Jim “you don’t know where you’re going to interview, or what you’re going to do, or whether you just want to kick back and not do anything?” Jim replied, “yeah, just the more I get along in things the more I’m like, I have a lot of stuff to do after I get done student teaching officially.” Unlike the other student teachers in this study, Jim was reluctant to move into full participation even though Donn opened the door. Donn offered him “a smorgasbord” of ideas to choose from, but Jim never showed to the ability to create his own plans or to develop his own ideas. Donn reported that the biggest change in Jim was a “change in the enthusiasm.” As Jim’s enthusiasm decreased so did his motivation to develop the identity of teacher. Jim stopped his movement toward full participation in the community. So Donn settled for focusing on the next page, getting Jim to think about what the reality after student teaching might

look like. It is unclear if this was a last minute attempt to “scare” Jim into realizing all that he had yet to learn or if Donn was trying to focus Jim on the next community of practice that he could be a part of as he takes on the position of physics teacher.

Outside of standard physics terms and classroom terms like “lab-report,” Jim never developed the discourse of this community of practice. Near the end of their time together, Donn reported resorting to asking Jim questions about his work in the classroom, possibly attempting to get him to enter into discourse both within and about practice. He asked things like “how did that go?” and, “did you get the results you were looking for?” In an even more open ended way, he asked, “you said you were going to set this stuff up this way but I noticed that you did it this way, what was the reason for the change?” He reported that Jim was receptive but that the reflection never really got going. This is a part of the experience where Jim missed a great opportunity to move toward greater participation in the community.

Impact on cooperating teacher. Despite this, Donn did report, in his final interview, that he learned through the process of reflecting on his own teaching through the lens of the student teacher. He reported watching what the student teacher would do and then he would reflect back on it and what he would have done, all the time asking himself if that would matter. He noted “it gives me a chance to reflect back on my own practice.” He added that “it’s a learning experience for everybody” even though he did

admit that “sometimes it’s frustrating but all the time I learn.” This was undoubtedly one of those times. There was not reproduction in this particular community of practice. However, according to Donn, the community was still changed due to his own learning and reflection.

Analysis of the Data: Allison and Todd

Centripetal movement: Toward full participation in a community of practice.

Across the conversations between Allison and Todd and from the case data (presented in chapter four) a picture emerges that is yet again different from both previous pairs. Todd is clearly eager to move toward full participation, yet Allison is reluctant to join him as a co-participant. She felt that it was her responsibility to show her student teacher the right way to teach in this context. She knows that teaching is different in different contexts and she is confident that she has hers figured out. She provides limited access for full participation, though Todd figured out ways to still move centripetally.

In her initial interview Allison made it very clear that she has a set way of doing things. She explained that “she has a very prescribed syllabus” and that you will know where she is going to be in the content a couple of months ahead of time. She explained that she needs this as she is teaching both AP and IB and has important content that has to be covered. She noted that student teachers need to figure out her system and that overall she has had good success with student teachers in the past. She based a lot of her

comments on these prior experiences with student teachers. She noted that she rarely gets new ideas from student teachers though she was open to that; for the most part, however, “they have to drive my car.” Todd “figured out my system right away.” She could tell that he was bored observing and wanted to get involved with the real work of the classroom. He wanted to move into practice more fully and had proven that he was ready to do so.

From the very onset of his work with Allison, Todd was encouraged to have access to the community of practice, the community of teachers at this school. During his first days, Allison suggested that Todd observe her classes as well as other teachers in a variety of content areas to get an idea of the many styles there are that are out there. She reported that this was “to have him get an idea of what normal might look like, beyond personality.” She also asked him to observe different levels of students “just to get a feel for the climate of the school and different abilities of kids.” He entered into legitimate peripheral participation on day one, looking from the outside in but still getting a feel for the community in this particular context.

Todd started teaching in Allison’s classroom sooner than most of her past student teachers because he was ready and because of his ability to adapt to her system. She did not overtly report wanting him to be a replica of her, but she did state that she felt it was better if things were done in a consistent manner. She also noted that “I think he was really good at reading what was expected.” Todd was exposed to and learned the discourse of this community very quickly and began moving toward full participation.

For example, in their first recorded conversation Allison shared some of her philosophy of teaching after Todd explained that he had brought many of the supplies for a plant lab from home. She noted that, “it’s really the way everything works. What do you have and how can you make it work.” In this way she gave him a glimpse of how to think and talk within the practice of the science classroom, “just make it work.” Though they were following the plan that she had laid out, Allison reported that by the third week she and Todd were doing a lot of co-teaching and that he was taking on most of the teaching, planning, and the lab work. She also helped him think about planning when in the first conversation she also suggested the demonstration “where you plant the corn seed upside down.”

During their second and third recorded conversations, they mostly discussed a plant lab that Todd had set up and implemented. He was clearly in charge of the class at this time and was moving toward the full responsibility of classroom teaching. Allison reported being impressed and supportive of his work in conversation two when she stated, “I think he’s putting in a lot of amazing effort and trying to take on a whole topic learned by experience.” She explained how this still fit with her system “and every piece of this plant topic for AP he’s covering in a station lab that students are going to go through and finish.” She reported in her interview data that she “gave him the chapter of an AP review book and said that he could teach that all experientially, and he did.” In this way Todd moved into full participation, but in this case it was participation as defined by Allison. She kept close control. Todd was learning in this situation and there

was an indication of reciprocal learning when in conversation Allison observed that “I think the true learning has been far more than if we would have done a lecture kind of thing beforehand, so maybe a few more notes but honestly, I think it went really well.” However, this lab was still Allison’s idea and needed to fit her prescribed curriculum. She made this even more clear in her interview when she commented, “I really allowed my class to be his training ground, I guess. But I don’t feel I ever gave up the class.” She gave Todd access to full participation but it was only under her system. Allison could not give up control and made this clear in conversation five when commenting on a guest speaker who did not show up. “So, lesson learned, reconfirm, and don’t do it with someone else if you don’t really want to [involve someone else] anyway. It makes for hard planning.”

Practices within this community: What does the student teacher learn as the newcomer? In their first conversation, Allison and Todd discussed the plant lab that he had designed and was in the midst of implementing. They talked about ways to make it better next time and things to think about in terms of organization and other enrichment ideas. In the interview data, Allison also talked about them working together on a personal response system that they were demonstrating. She reported that this was a reciprocal learning experience with each of them helping the other. Throughout the data it is made clear that, as the newcomer, Todd was able to read Allison’s system well enough to win her trust and take additional responsibility. He learned the discourse of

this classroom and learned to fit into the mold that she had set out for him. Todd learned to speak in the way that Allison needed him to; his plant lab was an example of this and in this way he learned to be the teacher that she wanted him to be in order to teach in her context.

Near the end of their time together they recorded a conversation (conversation number seven) where Todd commented on the substitutes from the building that came in to oversee the class when Allison was gone. He noted that “almost all of them realized that I knew what I was doing, and that I could take attendance online, so they didn’t even have to do that. So they just sat over here and did work.” He was confident in his movement toward full participation and was confident in his ability to be fully in charge of the classroom. His identity was clearly that of a teacher and his motivation toward full participation was evident from the beginning of his time in this classroom. Allison also commented, in their last recorded conversation that a student had told her that Todd was “just a regular teacher” indicating that his self-perception was shared by the students in the classroom in which he was serving as the teacher.

Guiding the development of practice: What role does the cooperating teacher play as the “old-timer”? Allison clearly saw herself as a model for Todd as well as for the student teachers that she has had in the past. She made the claim that the student

teachers needed to fit into her system and that they would learn from her. She is the master who will remain unchanged by the apprentice and, in this context, will be copied.

During Todd's work with her, she guided him to reflect on his action in the classroom. In their third conversation Allison asked him about the plant lab that he had designed and "tell his observation of what he would do next year instead of what we did this year." In his reflection Todd was self-critical. He stated, "There are a lot of parts of this station that require them to know some things that I didn't spell out or didn't give maybe as much direction to help guide their inquiry. I think I would put a few more notes... a little bit more direction." Allison suggested in conversation four, based on what she had done in the past that he could "photocopy a chapter (from a book) and assign it as homework reading." She used her past practice to guide her suggestions but did not explain her thinking or experience, just that that is what she had done in the past.

During her last weeks with Todd, she reported providing guidance for his future plans and for ways that he could avoid burning out. Feeling comfortable in her system, she explained in her final interview that she talked to him about why she did things her way, why she needed to "eat lunch alone," why you should "never say never" and other pieces from her experience that helped her stay in teaching for the long haul. She was concerned about his ability to stay in the field of science education and was trying to provide him with the tools to do so. In her interviews she also talked about a meeting she had with a teacher who had recently resigned because she was burned out. On her surveys during his last week with her, she also reported talking quite a bit about how to

stay in the game. She talked with him about where he might go next and in what sort of community of practice he might find himself. She even reported, in one of her later surveys, that her role had changed to “getting him a job.” In her classroom he needed to be a replica of her but she appeared to know that in his next community he would find his teacher self. She seemed to see the fulfillment of the participation in full practice happening post-student teaching as a part of the first job, as that was the time when he would really find his teaching self.

Impact on the cooperating teacher. Allison offered guidance for Todd’s plant lab, providing him with resources and the opportunity to reflect on it. She was also transparent about being willing to provide Todd with the resources of the community and access to other community members, though she was not willing to provide full access to the teaching responsibilities. He still needed to fit within the confines of her mold. In reflecting on what she had learned from having student teachers, she answered that “sadly, it just makes my rut that much deeper.” She was not changed by this experience but rather had her prior beliefs confirmed. In her final interview Allison also added, regarding her system, “I mean, at least the system really works for me. The system I have works for me. So I guess I’m not touting my system because I know if the whole school was filled with me it would be a bad place in all, but at least for me I have to do things a certain way and I guess for every student teacher I’ve had I tell them you have to

find your way.” She was aware of the fact that the community needs to grow and change, however, she was not willing to change her own style.

Situated in this learning environment Todd learned in spite of Allison. She provided him with a place to teach and a community of practice to support his development and movement toward a new identity. He was motivated by his action to take on increasing responsibility and most likely would have taken on much more if given the opportunity. He knew how to fit into an existing system and to learn in a strictly guided situation. Allison, on the other hand, remained unchanged.

Chapter 6: Conclusions, Implications, Limitations, and Further Research

In this study I explored the interactions between student teachers and their cooperating teachers as this is a critical phase in science teacher development. This is the time when the student teacher is situated in the social context of a science classroom. Working closely with a cooperating teacher, the student teachers move toward full participation in the community of practice, hopefully emerging as a full participant, a teacher. Specifically, I addressed the following research questions: What is the substance and nature of the conversations between the cooperating teacher and the student teacher during the student teaching placement and how does this conversation change over time? In order to do this, I analyzed three instantiations of one overarching case. Each instantiation consisted of a student teacher (ST) cooperating teacher (CT) pair. Data from each case included an initial survey completed by the CT prior to student teaching, an interview that took place during the first three weeks of the student teaching placement, weekly on-line surveys asking about what aspects of teaching they worked on that week, a final interview that looked back at the change in the cooperating teacher's role over time, and recorded conversations between the student teacher and cooperating teacher as they worked together.

The conversations between the CT and ST provided a glimpse into this important time. In the recorded conversations, the practices of the community were revealed

through the changes in the conversations over time. Through these conversations, supported by the interview and survey data from chapter four, I make four claims regarding the movement of the ST toward full participation in the community of practice.

- The CT can control or limit access to full participation in the community of practice and thus manipulate the movement of the ST.
- The ST can also control their own movement toward full participation based on their motivation and their willingness to take on responsibility.
- The CT learns about their own practice as they help a novice learn in this situation.
- The role of the university supervisor has potential in helping to encourage and support the CT and the ST as they work together.

The theoretical framework of situated learning (Lave & Wenger, 1991), based in research on apprenticeship, holds that “learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community” (p. 29). Student teachers, the newcomers, need to be situated in the practice of teaching and need to be allowed the opportunity to learn through their work in the community of teachers in their placement. The ST works alongside old-timers, the CT, in this setting while they learn not only the skills and practices but the ways of thinking and the ways of talking within and about this community. They do not learn *from* but rather *in* the social context. The ST-CT conversations were helpful in generating theories regarding the interaction

between the CT and ST and the development of this community of practice. Theories developed regarding access to the community of practice and regarding the ST's willingness to take on additional responsibility as well as the CT's willingness to learn along with the ST as they encourage them toward full participation. Across the conversations the substance and nature of their dialog changed, shedding light on the participation of the ST and the identity that he/she was developing. By having access to their dialog the changes over time are made transparent and the movement of the ST toward full participation was clarified.

Situated learning is based in the idea that communities of practice reproduce themselves through the process the newcomer becoming old-timer. As the apprentice learns, situated in practice, and moves toward the full participation within the community, the master also learns and in this way, the community is changed. This is about learning rather than teaching, learning *in* situation, not *from* a situation. In student teaching the student teacher is situated in a context, a classroom in a school. In an ideal situation, they start on the periphery of practice and over time move toward greater participation. In moving centripetally, the student teacher takes on more and more responsibility which leads to a change in their identity and an increase in their motivation. They begin to see themselves in a new light. By the end of student teaching they are, ideally, full co-participants with their cooperating teacher and their identity is that of a teacher.

Conclusions

All three STs were transparently granted access to the community of practice in their particular context. They all started by observing not only their CT, but were encouraged to observe other teachers in their building. This provided access to both people and place within their new context. In all three cases the ST was also encouraged to make use of artifacts of the community, information readily available from the CT and others. This included practical resources such as lesson plans, laboratory equipment, and technology. All of the STs were granted access to the students in the classrooms and “opportunities for participation.” For the student teacher to be able to participate it is imperative that they have access to the community of practice “and all that membership entails” (Lave & Wenger, 1991, p. 100)

By its very nature “apprenticeship is often assumed to merely reproduce existing practices” (Lave, 1996, p. 151). Indeed, the provision of community resources such as lesson plans could be seen as an effort to reproduce CT practices within the ST. However, situated learning casts this in a different light by utilizing the concept of legitimate peripheral participation. In order to establish legitimate peripheral participation, the ST needs to be granted access to all aspects of the community of practice. Over time they take on more responsibility, moving closer to full responsibility and participation in the community, emerging as a fully participating member.

The concept of legitimate peripheral participation is useful in describing an ideal scenario where a newcomer is granted access to a community of practice and moves centripetally toward full participation. The case of Jeff and Tessa exemplified the movement of the ST over time toward greater participation. Tessa was welcomed into the community of practice and given access to all aspects of the community. Over time she moved from peripheral participation toward full participation. Jeff's role in this development was critical, as was Tessa's taking advantage of the situation in which she found herself. Initially, Jeff offered support for her teaching, answering her novice questions, helping her to settle into her role without overwhelming her. He soon encouraged her to take on more responsibility, which she accepted, while at the same time offering her support and guidance from his wisdom of practice, based on his many years in the classroom.

The case of Donn and Jim provides a counter case where the ST was unable or unwilling to move from legitimate peripheral participation to full participation in the community. Donn also offered access to his ST, inviting Jim to come to the school months in advance to assess the context of this community. Additionally, when Jim started student teaching, Donn gave him access to the content and the tools of the classroom, such as laboratory supplies and lesson plans. Jim, like Tessa began his participation in this community of practice on the periphery. He had access to whatever he needed and was beginning to participate. Over time, Donn observed that Jim was reluctant to take on additional responsibility but rather was content on the periphery.

Donn pushed him by “not being there to bail him out” and by not setting up the laboratory exercises ahead of time; he tried to move Jim toward greater participation. However, there is only so much that a CT can do when offering support and expertise and at some point it becomes incumbent upon the ST to utilize these resources if he is to move into greater and greater responsibility in the classroom. Midway through his time in the classroom, Jim realized that what he thought and believed he knew about teaching was not accurate and he began to develop new theories about what work in the classroom was like. He now thought of teaching as “a lot of work” and that it was “a lot harder than he thought.” Jim stopped moving toward full participation even though, throughout his time with Donn, Jim talked excitedly about ideas regarding teaching and plans he would make for new labs. These plans never came to fruition. Jim was comfortable on the periphery, on the edges of participation; he never reached full responsibility as a teacher in this classroom.

The case of Allison and Todd provides an example of a CT who granted access to the community of practice, but would only allow the ST access to full participation under her terms. Allison saw her role as a CT as making sure that Todd followed her system of practice rather than helping him to fully develop his own identity as a teacher. Allison, like Jeff and Donn, offered access to the community to Todd and encouraged him, early on, to engage with other teachers in the community. She also provided access to her classroom materials. To Allison, Todd was ready to take on additional responsibility because he had learned the dialog of HER classroom. He knew what to do according to

HER system. Todd did take on more and more responsibility and his identity moved toward that of teacher and as part of this community of practice, but it was always under her carefully laid out system. Todd was extremely motivated to become a full participant in the teaching community and by the end of his student teaching experience he almost reached full participation but remained under Allison's plan. Allison was not willing to fully let go of what she believed full participation needed to look like in this context; she needed Todd to fit into her space and what she thought was necessary for her students.

It is evident from the three cases that the role of the CT is critical role in the process of the newcomer becoming old-timer. They can grant or limit access to resources, people, their own expertise, or full participation itself, as in the case of Allison. Todd wanted to participate fully and in a way he did, yet it was under Allison's rules and her system. He was given access and engaged in legitimate peripheral participation and began to move centripetally into full participation. As he moved his identity began to change and he saw himself as the teacher. However, Todd learned how to participate fully under Allison's rules, not through learning from his situation. He arrived where she needed him to be, more like a replica of her rather than as a new teacher.

Similarly, the ST has responsibility regarding how, and if, they move toward greater participation. If the ST is not enthusiastically engaged and if the change in identity is not a motivating factor, as in the case of Jim, the ST might feel more comfortable participating from the safety of the edge, the rim of practice. Jim began his time with Donn talking excitedly about the work he was going to do regarding plans for

new laboratory experiences and other activities. However as his identity began to change and he was pushed to take on additional responsibility his motivation did not increase and he stopped moving centripetally. Tessa provides a different example. She embraced the additional responsibility and was motivated by it. She found herself grading papers “on her birthday” and working during spring break. This is not a sustainable path, however, it does indicate that she was energized and motivated by her changing identity. Jim retreated when the work became too hard and never took on full participation even though Donn eventually created a vacuum by no longer preparing things for Jim, in an attempt to pull him into greater responsibility. He left Jim to take care of himself. Todd quickly learned to respond to Allison’s system and was able to work within her guidelines.

Implications

In this section I discuss the implications for the student teacher, the cooperating teacher, and the teacher preparation community.

Student teachers. Many student teachers talk about the student teaching experience as one of, if not the, most important time in their preparation (Cuenca et al., 2011, Goodnough et al. 2009, Willson, Floden, & Ferrini-Mundy, 2001). This is the time when, even if they have been connecting theory to practice in field experiences, their experience feels much closer to their impression of real teaching. As student teachers,

they start on the periphery of practice and over their time with the support of and guidance by their CT they move into full participation. Ideally, over time, they take on more and more responsibility and emerge with the identity of teacher, having become a member of the community of practice.

The student teacher has a lot of control over what happens during the student teaching time. There are things that can enhance or hamper the ST's movement toward the full participation. Their own enthusiasm and motivation for becoming a part of the community of practice impacts how they react to the additional responsibilities that come with their centripetal movement. If they back away from the extra responsibilities their identity will not change to that of teacher and they will not be able to arrive at full participation in the community of practice.

Student teachers also have access to not only their CT but also to other members of the community. The wisdom that these "old-timers" have to offer could, I think, be of benefit to the student teacher if they could find more effective ways to probe it. In this study the CTs offered wisdom of practice on several occasions, but it was rarely sought out or probed by the ST. This could be for many reasons. Up until this point the ST, for the most part, has lived in the world of generalized knowledge. They have been faced with students in field experience, but never have they been in the position of consequence that they are in as they draw closer to full participation in the classroom.

Cooperating teachers. The CT plays an extremely important role at this point in the development of the ST. They grant them access to people, things, and context. They support and encourage, challenge and critique the ST as they move from the periphery toward full participation. They need to be equipped and prepared to grant access to these things as all three CTs did in this study. They need to understand and be willing to participate in the development of the ST as they move toward full participation, to work alongside the CT as co-participants in the reproduction of the community of practice. The CT also needs to know that this is a reciprocal learning relationship and that they need to be prepared to learn, alongside the ST, as they reflect and move in relation to the newcomer becoming an old-timer.

Lave and Wenger (1991) remind us that “knowledge within a community of practice and ways of perceiving and manipulating objects characteristic of community practices are encoded in artifacts in ways that can be more or less revealing” (p. 102). The CT also needs to make the decision of whether to make the “design and use” of these artifacts more transparent or opaque for the ST. This gives the CT the power to hold onto or control what it means to be in full participation. They can deter or limit the ST’s movement toward full participation.

Teacher preparation programs. How can we, the teacher preparation community, help STs make this shift to the land of the particular, the land where the ST can generate theories in context? This is an important question. There are implications in this study for the student teacher’s ability to generate theories in context and it is a skill

we can begin to develop in preparation programs. For example, using Korthagen's (2010) three level model, student teachers can see how their lived experience in the classroom can be brought together with their prior theories and can then be utilized in the development of new theories. These are particular theories that are applicable in the community of practice in which they are situated as a ST. Tessa was confronted by the difficulties an ELL student was having in her class and discussed with Jeff new theories that she was developing regarding how to work with this population more effectively. Jim, on the other hand, was struck by how his prior theories were not accurate in this new context and did not show the ability to make the move toward the development of new theories.

The university supervisor is also uniquely positioned to help form a bridge between the university based more generalized knowledge and the "practical knowledge of teaching that emerges during student teaching" (Cuenca et al., 2011, p. 1068). They work with the ST, connecting his or her work in the university classroom to their work with secondary science students, thus helping the ST address this new context and what it means regarding prior theories and the generation of new ones.

Additionally, there are implications for how we prepare, equip, and support the CT for this important role as the "old-timer." There are ways that the teacher preparation community can help CTs reflect on what they know works for them in this context, using this to aid the ST in their own theorizing in practice. The wisdom of the CT can be used in the development of the ST without it being prescriptive. Both Jeff and Donn

mentioned in their interviews the importance of sitting down with the university supervisor to talk specifically about their particular ST and their unique needs and progress. Allison wanted Todd to fit into her pre-prescribed plan; the focus was on her *teaching* rather than Todd's *learning*.

Student teaching is an important part of all teacher preparation programs as a capstone experience, a time when the student makes the shift toward full participation, moving from student to teacher. In this study all three student teachers were in the same post-baccalaureate teacher preparation program. All three had been immersed in prior field experience during their fall semester in which they spent 12-15 hours per week in pairs in a middle school, assisting the teacher and occasionally teaching lessons. They had taken the methods of teaching science class during their time at the middle school. During their student teaching they were also participating in a high school science methods class. These classes helped them make the bridge between theory and practice. However, the ability to really generate theories in context and ways to access their CT's knowledge was not explicitly addressed. Allowing the ST spend time developing skills that will better equip them for their role as a learner, situated in practice, can be helpful in making the most of this important time. Looking for ways in the preparation program to help all of the students develop skills to help them think more deeply about their context and what it means for teaching, will be a helpful part of their development as teachers.

Across the teacher preparation community I think that there are also implications for the ways that cooperating teachers are selected, the way student teachers are placed

and the way that the university supervisor works with the pairs. Most programs harbor a latent idea regarding the importance of learning in practice, apprenticeship models have a very long history, but few specifically name the theory on which they are built. This is an important first step. A handbook that clearly spells out the CT role and the expectations of the preparation program and early visits from the university supervisor are things that all three of the cooperating teachers in this study mentioned, during their interviews, as something they found helpful.

It is also important to prepare and equip the university supervisors to address this in a consistent and supportive manner as they work with both the ST and CT. The university supervisors need to not only be aware of the requirements of the program; for example, six visits, reflective journals, ST takes on four of the five teaching periods as their own, etc. They also need to be aware of the theory on which the program stands. In addition, they should also understand the importance of the theoretical underpinnings but need to construct their interaction to work within the theory on which student teaching is based. This is an easy place to start and adds continuity across the preparation program and can be worked into the existing systems.

The selection of CTs and the placement of STs present a more complicated scenario. It is not always easy, especially for large programs or programs outside of metro areas to find an adequate supply of cooperating teachers. Yet, making placements in an intentional manner is important as the CT has the potential to counter the effect of the preparation program if they have dramatically different theories regarding teaching

and learning. Having potential CTs write a brief description of their teaching philosophy would be helpful in making a match, or possibly just having them complete a simple questionnaire could give information to the teacher preparation program regarding their relative fit. A brief pre-placement visit from a university supervisor either in person or on the phone could also shed some light on how a potential CT might fit with the overall philosophy of the teacher preparation program. This could also give some information for making an appropriate placement of the ST. The repeated use of CTs, common in many programs, also makes this component easier as the CT comes with prior knowledge of the program and its expectations. Teachers who went through a particular preparation program and are at a stage in their teaching when they are ready to take on an ST also make good potential CTs as they are aware of and have experience with the theory on which the program is built.

Using the theoretical framework of situated learning, it is important that the CT is made aware that it is the goal of the program that the ST move toward full participation in the community and that they are given access to people and artifacts as they move toward their teacher self. It is also important that the CT is knowledgeable about what full participation looks like and how they can work with the ST to get to this point. The ST is not placed with a CT to become a clone of them, but by being immersed in the community of practice in this particular school the ST will develop a new identity as they take on more and more responsibility. This would work well in a co-teaching model where the ST and CT become colleagues over time with the CT initially serving as

exemplar, modeling practice in the beginning. Then, as the “newcomer” becomes “old-timer,” they begin to share the responsibility, each learns from the other. Intentional reflection on practice is also an important component of this experience as the ST learns from the wisdom of the CT and develops her or his own ways of thinking and reflecting in and on action, developing theories in context.

Limitations

A major limitation of this research was one aspect of the data collection technique, the hand held digital recorders. The survey and interview data provided rich descriptions for the context of the cases, but depending on the CT to remember to have the recorder out and running when they had conversations with the ST was asking a lot given the unpredictable nature of these communities of practice. There were many recorded comments, directed at me as the university supervisor, from the CTs explaining how they did not always remember to have the recorder out at the right time or would forget to use it. It is interesting that they used the recorder to report how they did not use the recorder.

Given the nature of learning, situated in context, it is difficult to predict when a concern or conversation might take place and having the recorder at the ready at all times is not realistic. Without recording every move of both the CT and ST it is hard to know the substance and nuance of what was missed and how it might have changed the overall analysis. Student teaching and the interaction between CT and ST is an important thing

to understand and it is largely hidden from the purview of the preparation program. The difficulty of how to get at this data without living in the classroom is perplexing.

Another limitation is the lack of access to the impact of the interactions and conversations between the CT and ST on the act of teaching that the ST engages in. It is hard to know if the interactions and the conversations between the ST and CT really made a difference in daily classroom practices. The possibility of video recording the ST in action and comparing this to the conversations prior to action could shed some light on this question.

Future Research

The findings of this research have led me to some interesting questions. In this section I will explicate some of these questions and ways that one could approach them. Student teaching is an extremely valuable time and it is also very complex. Getting at all aspects and nuances of it is difficult, so taking it piece by piece is important and making sure to address the context in which this work is situated is critical.

In each of these cases the CT was instructed to use the digital recorder to record their conversation with the ST and in each case they did, some to a greater degree than others. However, in each case the CT also spoke directly to me, the university supervisor, regarding their reflection on the student teachers work. This makes me curious about the value of using digital recorders as a way for the university supervisor and ST to get more timely feedback regarding the work of the ST in the classroom. I

would like to look into the effectiveness of giving the CT the opportunity to provide on the fly audio feedback and reflection on the work of the ST throughout the day rather than waiting until there is a moment to sit down and debrief. This will allow the CT the chance to provide feedback that is both timely and meaningful. This could be feedback that could be accessed by both the ST and the university supervisor, as a way to support the ST as they move toward full participation in the community. For the ST it could also provide them access to the discourse of the community of practice in this context as the CT addresses concerns and models the generation of theories unique to this setting.

There is also a gap in the literature regarding the impact of the role of serving as a CT on the CT, his or herself. Although there has been some work on the concept of teaching as learning in the college classrooms, this research makes claims about the impact on those serving as a TAs, peer-mentors, or learning assistants on their own work as students (Amaral & Vala, 2009; Mahlab, 2010; Okia & Schwartz, in press; Otero, Pollock, & Finkelstein, 2010). There could be great value in taking a closer look at how serving as a CT impacts not only the ST but the CT as well. As was reported by both Donn and Jeff, they learned a lot about their own teaching by explicating it to their ST and by observing them in action.

In each of the cases analyzed in this study, during their final interview the CTs reported learning about their practice as a result of working with the ST. For Allison it was that it “made my rut just that much deeper,” emphasizing how she needed to define what full participation meant and felt justified in doing so. For Donn it was thinking

about what he would have done in a particular situation and wondering if that would have mattered. For Jeff, he found himself reevaluating as he brought things up, trying to understand why he did what he did. In each case the CT was reflecting on the learning that was taking place in their own practice as they learned alongside the newcomer.

Because of this, I wonder about the impact of the CTs work on themselves. In each of these cases the CT mentioned learning something but it was more of a helpful byproduct. Situated learning as Lave (1996) reminds us, holds that as people engage in practice together “learning is part of their changing participation in changing practices” (p. 150). I wonder if the work of the CT with the ST has an impact on the practice of the CT? In what ways does the CT change as a result of working alongside a newcomer in the community? And how is this learning made evident in their practice after the ST is gone? According to situated learning, changes are experienced by both the newcomer and the old-timer. I wonder what the impact of these changes are?

Finally I would like to look into the impact of prior field experience on the ability of the ST to generate theories regarding practice in the context of the classroom in which they are working. Is there a way for the preparation program to better equip the ST to move from more generalized forms of knowledge to the more contextual knowledge that they are given access to as they work with their CT? This is a question that I asked when looking at the implications of this study.

As noted above, each of the STs in this study were part of the same teacher preparation program and I wonder about the impact of various forms of integrated field experience emphasized in various teacher preparation programs on the ability of the ST to develop theories in context. Is there an impact on how the student teachers are able to develop their own theories and are they better able to access and utilize the practical knowledge that their CT is willing to share with them based on the model of field experience that they experienced? I think this could be useful information in helping programs decide how to use field experience most effectively in their context.

Student teaching is an important yet complex time. There are many variables that factor into the impact this time has on the ST and on their future work in the teaching community. I hope to have shed some light on how it is that this time works using the theoretical framework of situated learning. As a novice moves from the periphery of practice to full participation, from the outside to inside the community of practice, they, and those they work with, cannot remain unchanged in some way. Situated learning provides a great way to think about student teaching and is a valuable way to approach this critical time.

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Appendix A

Initial interview protocol

1. Tell me about your first weeks this semester with your student teacher.

Can you tell me specifically about a conversation or interaction you had during your first week together.

Probe: what other topics did you cover?

2. How does your interaction during your first week compare to your interaction now?

Probe: When, how, why did this change?

3. How did you view your role as a cooperating teacher when your student teacher first arrived? What do you feel your role is now?

Probe: examples

4. What were your specific expectations regarding your work as a cooperating teacher as you came into this? Were they met/are they being met?

Probe: Have you altered your expectations?

5. Do you think that there is anything different that the university could do to assist and support you as a cooperating teacher?

Probe: In general?

6. What are you learning from this experience (as cooperating teacher)?

Appendix B

Baseline Survey

Adapted from Kahn (2001) and Grove, Strudler, and Odell (2004). Can be completed as an on-line survey or as a phone or in-person interview.

- a. How long have you been teaching?
- b. How long have you been teaching at this school?
- c. What grades and classes do you teach?
- d. How do you think your students learn?
- e. How many times have you had a student teacher?
- f. How did you come to participate as a cooperating teacher?
- g. From how many different teacher preparation programs have you had a student teacher?
- h. What do you believe is your role in working with student teachers?
- i. How do you think student teachers learn to teach?
- j. What do you believe student teachers need from cooperating teachers?
- k. In terms of being a cooperating teacher, how would you define the word “success”?
- l. Give an example of a successful experience in your role as cooperating teacher; please explain what stands out in your mind as making it successful.
- m. Have you ever had a not so successful experience as a cooperating teacher? If so, please explain what made it not successful.
- n. What would you say are your strongest attributes to be used in your role as cooperating teacher?
- o. Do you feel that there are any areas in which you would like to improve (regarding your work as a cooperating teacher)?
- p. What kinds of things do you think would help people to become better cooperating teachers?
- q. In an ideal world, what, if anything, would help you become the best cooperating teacher possible?
- r. Do you find any personal or professional rewards or advantages in working with student teachers? If so, what?
- s. What are some of the most important things your student teacher needs to learn about teaching science?

Appendix C

Cooperating Teacher Weekly Update

1. Please check those activities that you worked on or discussed with your student teacher this week.

Please check all that apply.

- a. System information – Giving information related to procedures, guidelines, or expectations of the school district
- b. Resources/Materials – Collecting, disseminating, or locating materials of other resources for use by the new [student] teacher.
- c. Instructional – Giving information about teaching strategies or the instructional process
- d. Emotional – Offering new [student] teacher support through empathetic listening and by sharing experiences.
- e. Classroom Management – Giving guidance and ideas related to discipline or to scheduling, planning, and organizing the school day.
- f. Environment – Helping teachers by arranging, organizing, or analyzing the physical setting of the classroom.
- g. Demonstration Teaching – Teaching while new [student] teacher observes (preceded by conference to identify focus of observation and followed by analysis conference).
- h. Co-teaching – the CT and ST work in tandem, sharing the role of teaching class(es), responding to student questions and monitoring lab activities.
- i. Observation of Teaching – the CT observes the ST in action and meets with them following the teaching to analyze, comment on, and give suggestions.
- j. Solo-Teaching – the CT leaves the room while ST is teaching. May or may not meet with the ST afterwards to discuss how things happened.

2. Looking at the list above, for those activities that you checked please note for how long (rough estimate) and how it was covered.

For example, a. 45 mins - quickly covered between classes, d. 3 hours - conversations over lunch and after school, g 2.5 hours - sit down meeting, etc.

3. If there are other things you worked on/discussed this week but are not listed in the checkbox list above, please note them below (with an estimate of the time you spent on them).
4. Please give an example, if you have one, of something that you discussed with your student teacher this week that you have learned through experience in the classroom. Something that you just cannot get from a text or instructor.
5. Are you learning anything about teaching and your own practice through your work with this student teacher?
6. Has your role, as cooperating teacher, changed in this past week?
If so, how?
7. How do you think your role as a cooperating teacher has changed since the beginning of the semester?