Beginning Teachers’ Production of Pedagogical Content Knowledge:

A Cultural Historical Perspective

by

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ABSTRACT

Few would argue that teacher effectiveness is a key lever in education reform and improving the overall quality of public education, especially in poor and working class communities. To that end, the importance of supporting and developing beginning teachers is of utmost importance in education, thus requiring deep understandings of the process of learning to teach. Yet, most conceptions of teacher learning struggle to capture the social, cultural, and historical context of teacher learning, particularly in understanding how learning and the production of knowledge is situated, active, and complex. One example of this limitation comes from the field of research on pedagogical content knowledge (PCK) and its importance in developing effective beginning teachers. This study characterizes beginning teachers' production of PCK within a cultural historical activity theory (CHAT) framework. This study finds that the teachers produce PCK mostly based on their own individual experiences and reflections, receiving little assistance from the structures intended to provide them with support. The self-produced PCK is uneven, underdeveloped, and relies on teachers to use their sense of agency and identity to navigate dissonant and unbalanced activity systems. Over time, PCK production remains uneven and underdeveloped, while the individual teachers find it more and more difficult to bring balance to their activity systems, ultimately resulting in their exit from the activity system of teaching in their district and school.
ACKNOWLEDGMENTS

Any researcher that uses a cultural historical perspective ought to acknowledge that his or her work would not be possible without the influence of many tools and people. I am therefore thankful for the tools in my activity system, most notably the many cups of coffee provided by Lux and Fair Trade Café, the music of Bruce Springsteen, and the prior research conducted by the brilliant scholars cited in this dissertation, yet I am forever grateful for the many people who supported me in completing this dissertation. Many thanks to my amazing committee and the supportive faculty at Arizona State University and San Francisco State University, who have provided me with a punch to the brain and a kick in the ass that I will always appreciate. To my friends, and colleagues, I am thankful for all the patience and support you have shown me over the past few years. To my family, especially my Mom and Dad, thank you for the love you have given, which has sustained me and helped me stay focused on the bigger picture through all this work. Most importantly, to my beautiful wife, Ari, and our baby boy Benny: this accomplishment would mean nothing without having you to share it with.
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Chapter 1

INTRODUCTION

For as long as the United States has had public schools, education has been believed to be the answer to social inequality, for both individuals as well as the nation at large. Countless scholars, theorists, observers, and educators have explored the connection between educational equity and social reformation and transformation. The idea that good schools can bring about a great society and a good education can help a good person reach their true potential is as strong today as it was a century ago. While there are many variables in this relationship, teacher quality has recently captured the educational zeitgeist as the most important factor in the connection between education and social opportunity. From NBC News’ “Education Nation” to the film Waiting For Superman, one of the most dominant messages in education reform is the need for better teachers, particularly ones who work in low-income communities. If better teaching is a key to improving schools, beginning teachers must race to the top of a sharp learning curve as they progress from rookie to effective teacher.

Purpose of the Study

This study seeks to characterize the learning of beginning teachers in Teach For America (TFA), an alternative certified teacher program and a leading voice in education reform in the United States. Specifically, this study will analyze these teachers’ production of pedagogical content knowledge (PCK) within a cultural historical theoretical framework. Using Cultural Historical Activity Theory (CHAT), the study will illustrate the complex context of teacher learning by investigating
activity systems beginning teachers operate within as they learn to teach in a goal-oriented system. Additionally, CHAT will illuminate the contextual social, cultural and historical forces that surround these teachers’ practice and knowledge production.

This study responds to three research questions:

RQ1. How do Teach For America teachers’ activity systems contribute, or not, to the production of pedagogical content knowledge?

RQ2. How does a Teach For America teacher’s sense of agency and identity in practice impact the production of pedagogical content knowledge?

RQ3. How does a Teach For America teacher’s activity system change over time?

Statement of the Problem

In just two decades, Teach For America has grown from an undergraduate thesis to a national force in the debate over education reform and teacher quality (Labaree, 2010). The underlying assumption of this program, and the movement it has led in education reform, is that educational equity and reform can be achieved through the excellent teaching of first and second-year alternative certified teachers who are among the top graduates in the country’s best universities and have demonstrated strong leadership in contexts other than classroom teaching (Kopp, 2001). This requires that these teachers climb a steep learning curve in very little time, as they develop from un-experienced, untrained rookies to effective teachers who make a transformational impact on the trajectories of their students and the
institutions they work within. Additionally, these assumptions are wrapped up in neo-liberal\textsuperscript{1} notions of social change and education reform that rely on narratives of redemption (Haas & Fischman, 2010; Fischman & Díaz, 2012). The teachers in TFA, it can be argued, seek to redeem the shortcomings of public education systems, the academic and personal deficiencies of their students, as well as their own guilt that arises from reflection on their own social positioning (Popkewitz, 1998). The narrative of redemption relies on “super teachers” who can “save” the public education system, the lives of their students, and their own salvation from unjust social relationships. Few organizations and movements illustrate the insistence on “super teachers” as well as TFA does, as the organization rotates around notions of “teaching as leadership” where teacher leaders can overcome any situation through critical thinking and perseverance (Farr, 2009).

Yet, as will be discussed at length in Chapter Two, beginning teacher learning is a complex knot of social, cultural, historical and personal processes geared towards the production of knowledge, increased participation in communities, and goal-oriented activities. In a time where more effective teachers, particularly beginning teachers in alternative certified reform-oriented programs, are seen as the panacea to all that ails public education, more light must be shed on the “black box” of teacher learning and teacher practice within these programs. Most studies of beginning teacher learning and teacher practice within these programs. Most studies of beginning

\textsuperscript{1} Neo-liberalism refers to economic and social policies that have swept the United States and many parts of the rest the world over the past three decades. Neo-liberalism combines neo-conservatism with liberal economic policies, seeking to create social and economic markets that are free of government influence. Examples of neo-liberal ideologies include seeking private solutions to public problems, privileging accumulation of wealth via free enterprise over privileging the redistribution of social goods via Keynesian economic and social principles, and policies that reflect an ideology of individualism. For more discussion, see Ball (2008), Chomsky (2008), Harvey (2005) and Fischman (2009).
teacher learning fail to analyze the social, cultural and historical contexts of beginning teacher learning, but the study of alternative certified, reform-minded teachers in TFA requires such analysis. As members of TFA, these teachers, their practice, and their learning are all situated within a complex web of personal, historical, social, cultural, and institutional contexts. Each of these contexts certainly has an impact on the learning, growth, and development of these teachers, and that impact must be understood in order to fully grasp the learning of beginning teachers in TFA and other reform-oriented alternative-certified programs. Additionally, the practices of these teachers begs the question of whether these teachers are indeed effective with their students, and even if they are, one must wonder if their practices actually a true “alternative” to current education practices. Rare are the studies that have both zoomed in on the day-to-day teaching practices of individual TFA corps members and capture the broader social, cultural, and historical context of the program, yet this very analysis is needed in order to untangle the knots of teacher learning, and reform-oriented practices in education.

Furthermore, while there is a growing body of research on PCK and its importance in teacher learning and effective teacher practice (see Gess-Newsome, 1999), most of the literature conceptualizes PCK as a product rather than a production. This research overwhelmingly uses pragmatic and post-positivist frames that under-analyze the role of context on the production of PCK (Cochran, DeRuiter, & King, 1993). For those studies that do consider the role of context in PCK, context is usually limited to just the local contexts of the teacher’s classroom, school, or district, rather than broader social, cultural and historical contexts.
(Grossman, 1990). This study seeks to complement the existing literature on PCK by broadening its conception to include sociocultural theoretical frameworks within poststructural paradigms that are more useful in considering the role of context in the development of knowledge and the process of learning (Smagorinsky, 2012).

On the other hand, while sociocultural analyses are gaining more traction and prominence in teacher research (see Ellis, Edwards, & Smagorinsky, 2010), few studies have been done that analyze an element of learning as specific as the production of PCK. Many studies look broadly at teacher learning as participation in a community of practice, or the enactment of a trajectory of identity-in-practice, yet this study seeks to add to this growing field by focusing on the specific development of PCK as the objective in an activity system. Other studies have taken this more specific approach to sociocultural analysis, yet most investigate concepts other than PCK and the production of this valuable knowledge base.

**Limitations**

The most significant limitation of this study lies in the potential lack of generalizability of the study, given the small sample size of teachers who participated in the study. Limiting the generalizability of the study was a conscious choice made in favor of research paradigms and methodologies that focus on the particular and the local rather than the general. Still, studies of teachers in other contexts may generate different results than this study.

Another limitation of this study lies in its use of case study design. Although case study methods are strong in their ability to create in-depth, real-life analyses (Yin, 2006), other methods could provide more depth and thicker description.
Several studies that use sociocultural perspectives use ethnographic or participant observation research in order to better imbed the researcher in the culture surrounding teacher learning and provide deeper analysis. However, conducting ethnographic or participant observation research could result in even lower levels of generalizability due to smaller sample sizes of participants.

**Significance of the Study**

The hybrid nature of this study offers several significant contributions to research in teacher education, particularly research focused on professional learning in the induction phase of a teacher’s development. By combining research on the sociocultural context surrounding teacher learning and practice with research on PCK production, several contradictions and tensions that are illuminated that beg for future consideration are fertile grounds for future research. Additionally, the research updates previous work by Popkewitz (1998) on understanding the construction of teacher identities in TFA, compliments the growing field of research on teacher learning that utilizes sociocultural perspectives (see Ellis, Edwards, and Smagorinsky, 2010), and pushes the field of research on PCK to think more broadly about the situated nature of professional learning and knowledge production.

Theoretically, this study investigates the assumptions behind education reforms that reflect neo-liberal narratives of redemption that limit true alternatives to current educational situations. The narrative of redemption, in reality, only further fortifies current social and cultural arrangements, in particular those that are part of neo-liberal paradigms on social change and education reform. By analyzing teachers in TFA, this study offers an investigation of the neo-liberal roots in the program, and
the actualization of narratives of redemption in the practices of TFA teachers. In addition, new tools are offered by this study in understanding the theoretical roots of teacher professional learning, and their performativity of professional identities.

Conceptually, this study uses theoretical frameworks that have rarely been employed in the investigation of PCK. These theoretical frameworks create broader understandings of PCK, providing a shift away from understanding PCK as a commodity that can be transmitted from expert to novice. Thus, this study not only contributes to the growing body of research that uses sociocultural perspectives on teacher learning, but also conceptually ties together sociocultural perspectives and understandings of PCK that are linked to teacher effectiveness. In doing so, a new research tool was developed that maps out the different levels of influence that structures, individual identities, and bodies of knowledge have over a teacher’s learning and practice.

Thinking more practically, this study offers conceptual tools that can be used to untangle the complex knot of teacher learning that arises from the intertwining or “braiding” of mind, body, world, and structural relations (Putnam, 1998; Popkewitz, 1991). These tools can be used by those in the field to better understand the importance of certain supports for teacher learning and development over others, particularly for teachers who skip or have limited development in the pre-service phase of teacher development (Feiman-Nemser, 2001a) via their involvement in alternative certification programs. Tools for understanding the complex nature of the production of PCK within the context of sociocultural and historical activity systems can also be used by teachers themselves, who can reflect on their experiences and
positionality in order to develop their own sense of agency within these contexts (Holland, Lachicotte, Skinner & Cain, 1998).

Finally, this study’s significance lies in the theoretical, conceptual, and practical contributions of the study acting as more than just the sum of their parts. Like few other studies, this study draws a clear line between levels of paradigm, theory, concept, method, epistemology, and practice. This study sheds light on the drop of water as well as the broader ocean, and both the forest and the trees. Such intellectual pursuit is needed in fields of research that are usually focused on the pursuit of short-term gains that either mute out practical considerations or are atheoretical in their approach to understanding teacher education and teacher practice.

**Summary**

Most stakeholders in and observers of education agree that context matters in the development of effective teachers. They also agree that there are certain traits of effective teachers, including high levels of PCK. Yet, many understandings of the development of these traits are limited to perspectives that do not consider the important sociocultural and historical context of teacher education. This study seeks to bridge the worlds of teacher quality and sociocultural analysis by using sociocultural perspectives to analyze one element of teacher quality within alternatively certified teachers working in low-income communities.

The following chapter will theoretically frame the study using CHAT and sociocultural theory, as well as conceptually frame the study with a discussion of PCK. This chapter will include literature relevant to both the theoretical and
conceptual frameworks of the study. Chapter Three will discuss the methodological approach to the study, outlining the research questions and detailing the study design, methods for data collection and data analysis, instrumentation, and considerations of validity and reliability. Chapter Four shares and analyzes the data collected from the case studies of the six participants in this study in order to respond to the research questions, while Chapter Five discusses the implications of these findings. Finally, Chapter Six points to conclusions about teacher preparation and support, education policy, and future research in teacher education that spring from the findings of this study.
Chapter 2
THEORETICAL AND CONCEPTUAL FRAMEWORKS AND LITERATURE REVIEW

Using cultural historical activity theory (CHAT), this study seeks to characterize Teach For America corps members’ and alumni’s participatory appropriation and production of pedagogical content knowledge (PCK) in their early years of teaching. This sentence highlights the theoretical and conceptual complexity of this study, which will be discussed in this chapter. First, I will discuss a shift in education research from structural-functional to poststructural perspectives that make this study possible. Next, I will highlight situated learning theories, including CHAT, that have been used to understand teacher learning with a poststructural lens. Within that discussion, I will highlight the importance of the theoretical frame of participatory appropriation, and review the literature on beginning teacher learning that utilizes such theoretical frameworks.

With a theoretical discussion in place, I will move to a conceptual consideration of PCK and studies of beginning teachers’ development of PCK captured in the literature in this growing field. I will then synthesize the theoretical and conceptual frameworks of the study by describing PCK and literature on PCK using CHAT. Theoretical and conceptual framework established, I close the chapter with a brief discussion of the context of the study, analyzing Teach For America’s place in current education debates and the public imaginary of education, including their role as an alternative certification program and a driver in education reform.
Limitations of Modernism and Structural Functional Perspectives

While there seems to be a growing consensus on the importance of teacher quality, and most will agree that teacher learning is the lynchpin in creating effective teachers, there is less agreement in understanding how teachers learn and characterizing the process (if it is in fact a process) of teacher learning. Feiman-Nemser (2008) explains that the concept of learning to teach is a newer field in and of itself, filled with messiness from conceptual and empirical questions and the value-laden nature of education. These disagreements certainly come from differences in policies and differences in perspectives, but they are rooted in differences in paradigm (Guba & Lincoln, 1994).

The traditionally dominant paradigm in education research, and in many ways educational practice, is grounded in modernization and structural-functional perspectives (Kincheloe, 2007; Stromquist, 2005). In these paradigms, priority is placed on causal relationships that explain change over time (Kubow & Fossum, 2003). This has led to a transmission (Wideen, Mayer-Smith, & Moon, 1998) or factory line-oriented view on learning (Cope & Kalantzis, 2000). Historically, perhaps the strongest example of structural-functionalism’s influence on education is seen in Tyler’s (1949) seminal work on curriculum and instruction that was inspired by Frederick Taylor’s creation of “scientific management” (Callahan, 1962). Currently,

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2 The concept of “effective teaching” or “effective teachers” is usually meant to capture a teacher’s measurable impact on student achievement. Sophisticated tools for measuring this impact currently take on a central place in current education debates, but they fall outside the scope of this study. Thus, when I write about “effective teaching,” the spirit of the idea of a teacher’s impact on student achievement is meant to be understood, rather than the empirical demonstration of this idea.
structural-functionalism still influences policy in education and schools, and practices and preparation of teachers, all of which continue to be predicated on causal relationships and transmission-oriented views on learning (Vulliamy, 2004). As will be discussed later, even reform-oriented alternative-certification and preparation programs like Teach For America struggle to escape the grip of structural-functionalism, and perhaps even find their most comfortable space within these perspectives.

Structural-functional conceptions of teacher learning tend to cast teachers as empty vessels that must be filled with the appropriate knowledge for being a good teacher. Freire (1970) refers to this as a “banking” process, where knowledge is treated like a commodity that is transmitted from one person to another. The effectiveness of the expert is measured based on how well he or she broadcasts the information, while the effectiveness of the novice is judged on how well they receive the message and how well they can store the information until the time comes for it to be withdrawn. Several conceptions of teacher learning as a structure of knowledge bases hold fast to this narrative of teacher learning. Examples include knowledge bases for teaching depicted by Elbaz (1983), Wilson, Shulman, and Richer (1987), Grossman (1990), and, more recently, frameworks described by Darling-Hammond and Bransford (2005) in their influential book Preparing Teachers for a Changing World: What Teachers Should Know and Be Able to Do.

I do not mean to state that these frameworks are unimportant, or useless in teacher education. Each offers profound, important perspectives on the knowledge, skills, and dispositions that effective teachers hold. Indeed, neither this nor any other
study of teacher learning, regardless of theoretical frames, would be possible without the incredible developments offered by the giants in the field cited in the previous paragraph. Yet, when teacher education is conceived of solely as bases of knowledge, skills, and dispositions, it contributes to banking models of teacher education. In these models, knowledge bases must be deposited, delivered, stored, transferred and stockpiled for teachers, with little consideration of the incredible amount of social, cultural, and cognitive processes that take place when one learns to be a teacher as well as how to teach.

In addition, most of the frameworks used for understanding teacher learning under-analyze the importance of context in teacher learning. While frameworks like Grossman’s (1990) specifically mention the influence of context and Elbaz (1983) discusses the importance of understanding the “milieu” surrounding teachers’ knowledge bases, these conceptions cast context as something that seems static, fixed, and unchanging, rather than something that exists in a symbiotic relationship with teacher development. That is, context shapes development, at the same time that development shapes context, thus neither development nor context is ever concrete and is constantly negotiated.

The separation of context and teacher development creates a proliferation of universalist and culturalist debates in teacher education. Holland, Lachicotte, Skinner, and Cain (1998) discuss this tension in the context of identity development. Both universalist and culturalist perspectives seem logical enough, as the former believes that people create culture, while the latter believes that culture creates people. A universalist perspective gives primary importance and theoretical priority
to the “natural self,” considering culture as having only a secondary impact on the thoughts and actions of people (p. 20). On the other hand, they describe the culturalist perspective as a vision of a person as “a bearer of culture,” moved by group processes that control a person’s thoughts and actions (p. 14). In other words, universalist perspectives focus on teacher-driven, bottom-up processes where an individual teacher occupies the higher position and context the lower, while culturalist perspectives focus on context-driven, top-down processes where culture occupies the upper position and individual teachers dwell in the lower.

Holland and her co-authors are critical of both universalist and culturalist perspectives. Indeed, they are not alone in this critique, or a call for theoretical frameworks that adequately analyze both bottom-up and top-down processes as they operate reflexively over time (Wortham, 2006). Popkewitz (1991) believes that thinking too much about structures leaves the world too patterned, consistent and unchanged, while thinking too much about actors becomes too individualist and activist for proper consideration for how both structures and actors hold a “dynamic relationship [where] there is no final truth but a pragmatic search for knowledge.” (p. 25). Popkewitz thus casts universalist and culturalist frames as positivistic or post-positivistic in their search for a definitive, final truth. In his criticism of these frames, he uses the analogy of a rope being made strong not because of its individual fibers, but because of the ways the fibers are intertwined. Putnam (1998) uses a similar analogy in writing about mind, body and world being “braided” together, leaving knowledge to function through interaction between each of these components.
Structural-functional perspectives and positivistic universalist and culturalist frames have led to banking-oriented conceptions of teacher education that downplay the significance of context in teacher learning. Yet, advances in cognitive and social science have shown that, “Learning is never simply a process of transfer or assimilation: Learning, transformation and change are always implicated in one another” (Lave & Wenger, 1991, p. 57). A shift away from structural-functional perspectives and positivistic universalist and culturalist frames, and towards poststructural perspectives and constructivist frames, makes possible the analysis of the confluence of teacher learning, transformation, and change, situated within cultural, historical, social and cognitive processes.

**Towards Constructivist and Poststructural Perspectives**

In order to analyze and understand the sociocultural context of teacher learning, it is important to move away from the aforementioned influence of structural-functionalism, as well as universalist and culturalist frames (Holland, et al. 1998). In fact, it is structural-functionalism that gives rise to these limited perspectives (Kubow & Fossum, 2003). Holland and her colleagues (1998) argue for a third perspective, which they label as constructivist. In the constructivist perspective, “behavior follows cultural principles” as people act our or refuse “subject positions…pushed into line by relations of power.” (p. 14). The ability for a person to refuse a subject position is of critical importance in constructivist perspectives, as this accounts for the potential agency in a person or group of people. Inden (1990) describes such agency as, “The realized capacity of people to act upon their world … the power of people to act purposefully and reflectively, to reiterate
and remake the world in which they live, in circumstances where they may consider
different courses of action possible and desirable.” (p. 23). This definition of agency
works well within constructivist frameworks as it signifies the mutual constitution of
individual people and the world at large.

Constructivism can be a problematic term, as it has been used to describe a
variety of ideas at theoretical and conceptual levels, as well as at the level of
paradigms. When Holland and her colleagues (1998) discuss constructivism, it is
important to note that this is not the same as the pedagogical idea of constructivism
that is abundant in research on curriculum and pedagogy (Smagorinsky, Cook,
Jackson, Fry & Moore, 2004; Gordon, 2008; Rodriguez & Berryman, 2008). Rather,
it more closely mirrors the paradigm described by Guba and Lincoln (1994). This
paradigm is based on relativism, and the construction of local and specific realities.
Knowledge is developed through social transaction, and is therefore both situated
and subjective. Thus, Guba and Lincoln (1994) suggest the methodologies that best
fit this paradigm are hermeneutical and dialogical in nature.

The methodological use of dialectics is usually linked to Marxism, and its use
of dialectics in understanding change over time (Kubow & Fossum, 2003). Wortham
(2005) describes the dialectic account of change by writing, “Sociohistorical models
of identity constrain events of identification, while at the same time particular events
either reproduce or help to transform the sociohistorical models” (p. 40). While he
credits the dialectic account of social change and identification as capturing some
aspects of a constructivist perspective, this model has been criticized as being
deterministic due to a lack of analysis of how groups and institutions are created and
maintained over time. Indeed, Kubow and Fossum (2003) reflect this criticism of Marxist accounts of dialectics in their description of the limitations of the use of Marxist theories in comparative education. Marxist theory and dialectics struggle to consider mutations in a simple dialectic system that works through polemic and binary analysis.

Therefore, it is important to understand constructivist perspectives not through a strictly Marxist framework, but rather through poststructural analysis. Popkewitz (1991) describes such an analysis as moving away from dualism and towards an understanding of social life as “made analogous to the text that can be read in multiple ways and in which there is a dynamic relationship between author, text and audience, especially in that there is no final truth” (p. 25). This is an important point to make, as the fingerprints of Marxist thought and social theory are clearly seen in understanding the sociocultural context of teacher learning. In fact, much of our understanding of the sociocultural context of learning and social action in general is based on the important work of Marxist psychologists like Vygotsky and Leont’ev and Marxist-influenced sociologists like Bourdieu, Durkheim, Foucault and Gramsci. Marxism opened up scientific inquiry to understanding important issues like conflict, power, and injustice, so it is therefore important to understand that the “post” in poststructuralism and post-Marxism does not imply an erasure or rejection of Marxist and structuralist thought, but rather an addition to it (Kubow & Fossum, 2003).

The shift towards poststructural conceptions of teacher learning casts learning as active, situated, and bounded by social, cultural, and historical processes.
Since teaching is a cultural activity where teachers act as “cultural workers” (Freire, 1970), it is important for conceptions of teacher education to make this shift towards poststructuralism. Research in teacher learning and teacher education must seek to understand the social, cultural, and historical context around teacher learning, and see the process of learning through those frameworks that allow for this analysis.

**Situated Learning Theories**

A growing movement towards the use of poststructural frameworks in teacher education and teacher research exists through the use of several helpful theoretical accounts of learning as a situated activity. While such studies are still not the norm, Ellis, Edwards and Smagorinsky (2010) explain, “A cultural-historical perspective on teacher education and development offers a powerful theoretical and methodological lens through which both to analyze the problem of teacher education and to design new curriculum and programs” (p. 2). Their edited volume *Cultural-Historical Perspectives on Teacher Education and Development: Learning Teaching* highlights the growing amount of research in teacher education and development that uses theoretical frames intended to capture the situated nature of teacher learning.

In the emerging field of cultural-historical perspectives on teacher education, a variety of theoretical constructs are used, though they share common characteristics. Perhaps the most important characteristic they share is avoiding the false binary of conceiving learning as either purely an individual action or structural phenomenon. Although Smagorinsky (2010) raises an important distinction between cultural-historical perspectives derived from Vygotsky’s work as usually focused on
individuals, and cultural historical activity theory developed by Leont’ev as usually focused on the collective, it is important to note that individual, group and structural processes take place simultaneously and are mutually constitutive, not mutually exclusive.

Several frameworks understand the dynamic relationship between learning, groups, and structures in their conception of situated learning, and have been used in important studies on teacher learning. Lave and Wenger’s (1991) framework of learning as legitimate peripheral participation in communities of practice serves as the basis for several studies that analyze the development of beginning teachers. These studies view learning through a framework of teachers transitioning from being newcomers to old-timers in their workplaces or communities of like-minded teachers (see Flores, 2007; Pardo, 2006; Morrell, 2003). Another framework utilized by those interested in the cultural, historical, and social context of teacher learning is Holland, Lachicotte, Skinner, and Cain’s (1998) conception of learning as identity-in-practice. Several studies have been conducted using their understanding of figured worlds, positionality, and sense of authoring selves as influencing identity formation and one’s realization of agency in the world (see Fecho, Graham & Hudson-Ross, 2005; Fairbanks, Duffy, Faircloth, He, Levin, Rohr & Stein, 2010; Jurow, 2009; Horn, Nolen, Ward & Campbell, 2008; Urrieta, 2007a; Urrieta, 2007b). Other studies on beginning teacher learning have used the framework of trajectories of participation (Lemke, 2000; Drier, 2003; Wortham, 2006) to explain and analyze the development of teachers over space and time (see Richmond, Juzwik & Steele, 2011; Flores, 2007; Cook & Amatucci, 2006).
Although there are several, overlapping theoretical conceptions of situated learning, perhaps none is more useful in the study of teacher learning than cultural-historical activity theory (CHAT). Wortham (2006) argues that CHAT is “the most comprehensive framework for conceptualizing academic learning across events,” (p. 103) which is applicable to teacher learning as it stretches across both time and space. In his study of first year teachers, Douglas (2010) writes, “[CHAT] is helpful because it enables a setting where people are working together on a shared task or object to be examined in order to see if it is a system that is conducive to learning” (p. 32).

Thus, this study uses a poststructural functional perspective and a theoretical framework based on CHAT to conceptualize teacher learning, given the advantages of using CHAT to capture the situated nature of teacher learning.

Understanding Teacher Learning with Sociocultural Theory and CHAT

Before we can understand beginning teacher learning, we must be able to hold a solid conception of it as a situated activity. Yet, these conceptions can be complicated as one decides which of the various elements of teacher learning is brought to the forefront, or is analytically prioritized. Rogoff (1995) addresses this complexity in her insistence that “the parts making up a whole activity can be considered separately as foregrounded without losing track of their inherent interdependence on the whole.” (p. 140). She goes on to describe three planes of sociocultural activity: community/institutional, interpersonal, and personal.

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3 Given that great overlap exists between CHAT and theories like identity-in-practice and ecologies of identity, these theoretical frameworks are also used in this study, with theoretically priority given to CHAT. This will demonstrated later in the chapter.
she makes it clear that these planes are not linear in nature, nor hierarchical in that
one plane precedes another, she uses these planes to understand three types of
development processes that hold different conceptions of how learning and
development occur.

On the community/institutional plane, Rogoff (1995) characterizes
development as *apprenticeship*, while she characterizes development on the
interpersonal plane as *guided participation*. Yet, she gives most priority to the process of
*participatory appropriation*, which occurs on the personal plane. She describes
*participatory appropriation* as “the process by which individuals transform their
understanding of and responsibility for activities through their own participation” (p. 151). She explains that she places particular emphasis on participatory appropriation,
rather than apprenticeship and guided participation, because participatory
appropriation “views development as a dynamic, active, mutual process involved in
peoples’ participation in cultural activities” (p. 153) avoiding transmission-oriented
conceptions of learning as a static, passive action.

This study will follow Rogoff’s lead in conceptualizing teacher learning as
participatory appropriation on a personal level of development. There are three
important reasons why this study characterizes teacher learning on the personal
plane. First, as mentioned before, the act of teaching and working with youth in
schools can be conceived of as “cultural work” (Freire, 1970) as schools have the
power to both reproduce and resist against the cultural context in which they are
located (Solórzano & Delgado-Bernal, 2001). Rogoff (1995) explains that the
personal plane is useful in considering learning in these cultural contexts. Secondly,
teachers, in particular effective ones, certainly grow over time to understand teaching more deeply, and take greater responsibility for their actions as a teacher. This also aligns well to Rogoff’s description of participatory appropriation. Finally, while it may be true that no man is an island, the inverse of that metaphor has been used to describe teaching for several generations. Thus, analyzing beginning teacher learning on the personal plane becomes useful in the context of the fact that many beginning teachers experience isolation as they begin their new careers (Spalding & Wilson, 2006). While analyzing beginning teacher learning on other planes is both possible and useful, such conceptions fall outside the scope of this study.

Therefore, this study seeks to conceptualize beginning teacher learning as a process of participatory appropriation on a personal plane, captured within cultural historical activity theory (CHAT). CHAT is based on Vygotskian (1978) conceptions of tool-mediated activities as well as Leont’ev’s (1978) development of activity theory. Through cognitive mediation, Vygotsky (1987) showed that “people gain cognitive insight not just because of what happens inside their minds, but also because of larger systems that include interrelations among minds, other people, settings and activities” (Wortham, 2006, p. 97). In other words, cognition is not just an internal process, but also a collection of transactions and interactions that take place both internally and externally. Figure 1 is a useful representation of these ideas.
Vygotsky was interested in the ways in which people could take voluntary control over these processes. He believed people were able to do this due to their ability to produce and use tools and symbols, or mediating artifacts, that could modify their physical environment as well as “the environment’s stimulus value for their own mental states” (Holland, et. al., 1998, p. 35). His concept of semiotic mediation thus creates space for understanding a person’s agency (or lack thereof) within powerful social forces, while cognitive mediation demonstrates the influence of the surrounding cultural, historical, and social forces on one’s development.

This work led to Leont’ev’s (1978) idea that “people respond to what they find in the environment of a historical, socially and culturally form of social (inter)action…called an activity” (Holland, et. al., 1998, p. 39; emphasis in original). People do not passively encounter things in their environment. Rather, they actively engage with their environment, making meaning through their activities within their surroundings. These activities thus “establish particular sets of roles, actors, institutions, settings, durations and organizational requirements” (p. 56). This led to Leont’ev’s (1978) concept of activity theory, which sought to describe semiotic

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Figure 1. Vygotsky’s (1987) concept of mediation
mediation as “the tip of the iceberg representing individual and group actions embedded in a collective activity system” (Engeström, 1999, p. 134). In conceptualizing the bottom portion of the iceberg, Leont’ev (1978) posited three levels of activity (Figure 2).

![Figure 2. Leont’ev’s three level model of activity theory](image)

The highest level, Vygotsky’s concept of semiotic mediation, conceives of the use of tools used to perform an activity, while the middle level conceives of both the subject and the goals of activity systems as a way of conceptualizing goal-driven actions. The lowest level examines the conditions of the activity system, conceptualizing the operations of the community as both the division of labor in the system and the norms and patterns of behavior.

Eventually, Engeström (1987) revised Leont’ev’s (1978) three levels of activity as cultural historical activity theory (CHAT) in order to better capture the cultural and historical processes that impact activity systems. CHAT broadens both
Vygotsky’s ideas as well as activity theory in understanding interactions between individuals, mediating artifacts and symbols, cognition, situations, communities, rules, and divisions of labor within activity systems (Engeström, 1999; Cole & Engeström, 1993). Cole and Engeström (1993) use figure 3 to depict a framework for understanding an activity system.

![Figure 3. The structure of a human activity system (Engeström, 1987).](image)

Engeström and Miettinan (1999) point out that activity systems are engaged in goal-oriented activities that are collective and culturally mediated. Therefore, in CHAT⁴, the subject is the individual person or sub-group of people who are engaged in the activity system. This person or sub-group’s agency becomes the point of view in the analysis. The subject sits in coordination and interaction with the object, or the goal of the activity system. The object can also be conceived as the problem the activity

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⁴ The description of CHAT in this and the next paragraph is based on working definitions of CHAT used by the University of Helsinki’s Center for Activity Theory and Developmental Work Research.
system seeks to address and the outcome sought by the activity system. Subjects internally and externally use mediating instruments, artifacts, and tools in order to work towards the outcome. Smagorinsky, Cook, Moore, Jackson and Frye (2004) differentiate between conceptual and practical tools, where conceptual tools tend to be abstract and can be applied to many situations, and practical tools are tools that are immediately applicable to the situation.

Adding more sophistication to Leont’ev’s level of operations and conditions, a CHAT system depicts the community or communities in which the subject(s) belong. These communities are conceived as other people who share the same general object, though they may belong to the activity system at varying levels of influence. Since the subject is a part of a community, there is thus a division of labor, both horizontally and vertically. Horizontally, the division of labor can be conceived of as the division of tasks, while vertically it can be conceived of as the divisions of power and status that impact the ability, or lack thereof, to make decisions for the activity system. Finally, as part of a community, there are rules, or explicit and implicit norms and conventions that participants in the activity system are subjected to by some degree. These rules could constrain or facilitate actions and interactions, as these rules may become negotiated between the community and the subject at varying degrees. On the bottom level of the activity system, we are able to see the space in which subjects are positioned within activity systems and may hold agency over their positioning and their actions in order to impact the direction of the activity system (Holland, et. al., 1998).
Therefore, tools are of central importance in CHAT, as is a subject’s relation with their community and that community’s rules and divisions of labor. Wortham (2006) writes, “Activity theorists study how humans have evolved to be as dependent on sociohistorical artifacts like symbolic tools and cultural models as on neuropsychological and other physiological capabilities” (p. 103). It is important to note that although CHAT can sound very prescriptive and determining given its thorough conception of human activity within cultural-historical processes, Engeström (1999) believes that any object-oriented action is full of ambiguity, surprise, interpretation, and sense-making. Thus, instability and contradictions within activity systems are important to understand as they cause change in the forms of transitions and reorganizations of activity systems. As Freire (1998) writes, “we know ourselves to be conditioned, but not determined” (p. 26, emphasis in original). This is an important concept within Engeström’s (2001) five principles of activity theory.

First, in an activity system, the unit of analysis is always a collective activity, although an individual may occupy the subject position. Second, activity systems are filled with a myriad of voices. While some voices may be louder or hold more influence than others, reflecting positions of power within systems, it is important to understand the “multivoicedness” of activity systems. Third, all activity systems have historicity and have been created over time. Fourth, contradictions within activity systems are the sources of change and development, which leads to the fifth principle that states that activity systems always have a possibility of expansive transformations.
Wortham’s (2006) praise of CHAT in understanding academic learning is echoed by researchers who have used CHAT to understand the learning of beginning teachers, in both pre-service and in-service periods of development. Twiselton (2004) used activity theory to create frameworks for understanding how student teachers interpret their role in the classroom in teaching elementary literacy. Her research shows student teachers tend to conceptualize three different goals that drive their classroom practices, or three different objects in their activity system. She used Cole and Engeström’s (1993) framework to depict the practices of student teachers she labels as “task managers,” “curriculum deliverers” and “concept/skill builders.” Changes in the object of the activity system leads to changes in all other parts of the activity system, including the artifacts and tools used, the division of labor, and the rules in the system. She argues that using CHAT to understand teacher practice allows for an investigation of the way teachers’ identities as task managers, curriculum deliverers and concept/skill builders shape not only their classroom practice, but also their learning as developing teachers.

Other researchers have used CHAT to describe the participation of beginning teachers in collaborative groups. Hoffmann-Kipp (2008) studied the way a group of teachers used CHAT in order to understand their work together. In the same way that Twiselton (2004) used CHAT to depict the practice of student teachers, teachers in this study created depictions of their own practices using CHAT, creating space to learn from other teachers’ activity systems and understand similarities and differences between their practice and other teachers’ practice. Similarly, Levine (2010) argues that CHAT offers tools for understanding goal-
oriented, collective, and culturally mediated activity and should therefore be utilized in communities of teachers who work together. He believes that CHAT creates a powerful space for meaningful learning conversations between teachers.

In the field of beginning teacher learning and teacher preparation, Peter Smagorinsky has taken a central role in using CHAT to characterize how teachers learn. One study he contributes to focuses on the tools beginning teachers use in their practice, and how these tools serve as artifacts of past learning as well as vital components of their community system (Smagorinsky, Lakly & Johnson, 2002). These tools and artifacts demonstrate tensions between different conceptual understandings of “good” teaching that beginning teachers struggle with. The researchers use these tools to understand the ways in which beginning teachers acquiesce to, accommodate, or resist against pressures and mandates brought to them in their schools that run contrary to their conceptions of effective teaching and learning.

In another study, Smagorinsky uses CHAT with an analysis of tools and artifacts to focus on the ways in which beginning teachers learn teaching practices in effective and ineffective ways (Smagorinsky, Cook & Johnson, 2003). The researchers argue that unless tools and artifacts are introduced and utilized in the context of a well-developed and well-understood activity system, new teachers will struggle to make sense of new learning or, worse, misinterpret new learning. These misinterpretations lead to a teaching practice that lacks conceptual coherence, and therefore limits a teachers’ effectiveness in the classroom (a more sophisticated
Later work by Smagorinsky demonstrates that a person does not participate in only one activity system, but many activity systems simultaneously that represent the multiple aspects of their identity. In a study of student teachers, Smagorinsky, Jakubiak, and Moore (2008) describe “contact zones” where activity systems interact with each other. They argue that activity systems take place in both arenas, which have physical properties, as well as settings, which represents the meaning that individuals construe on arenas. In their study, student teachers, their mentors and other colleagues all place different meanings on their practice together, which complicated the learning of student teachers. In CHAT terms, although the student teachers, mentors, and other colleagues appeared to be engaged in the same activity system because they participated in the same arena, differences in settings actually impacted all other parts of the activity system (rules, division of labor, community, objects, and artifacts) and thus led to complications in the learning of student teachers.

Therefore, CHAT is an incredibly useful framework for understanding not only spaces of teacher learning, but the accelerators and inhibitors of beginning teacher learning when “good teaching” is conceived of within the object of an activity system. In addition, it offers a sophisticated, textured set of frameworks for understanding the activity system of a beginning teacher and the way in which different aspects in the landscape of learning influence and are influenced by teacher activity. For instance, beginning teachers are part of several communities that
influence their activity system (including but not limited to their department, grade level team, school, district, and in the case of alternative certified teachers, their certification programs as well) while the beginning teachers in turn influence the communities individually and as a group.

Figure 4 captures a vision of an activity system for beginning teacher learning, depicting the ways in which multiple tools and communities interact with beginning teachers in search of becoming effective teachers.

![Figure 4. An activity system for beginning teacher learning](image)

If “effective teaching” is cast as the object of an activity system, there are many mediating artifacts and tools that have been studied in teacher education and

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5 As was previously stated with the concept of “effective teaching,” this is a complex and highly debatable concept. Empirically measuring and determining the quality of a teacher’s instruction falls outside of the scope of this study. The concept of “good teaching” is meant to be captured in spirit, as it tends to be captured by teachers themselves who seek to be
development as being important in developing a beginning teacher into an effective teacher. These tools can include curricular resources, assessments, instructional strategies, best practices, technology, professional development experiences, mentoring and induction programs and all the other “things” thrown at beginning teachers in their first years of teaching. While any and all of these tools could, and perhaps should, be studied within a CHAT framework, this study focuses on pedagogical content knowledge (PCK) as an important meditational tool in the activity system of beginning teacher learning. Thus, this study focuses on an activity system of teacher learning where the tool under investigation is pedagogical content knowledge (PCK), and the object of the system is effective teaching.

Three other studies have sought to capture PCK within CHAT and cultural-historical perspectives, two of which posit the development of PCK as a tool in developing effective teachers. A review of each of these studies will be offered following the next section, which provides an overview of PCK and a review of literature in the field of PCK that is pertinent to this study.

**The Role of PCK in Beginning Teacher Learning**

In *Examining Pedagogical Content Knowledge: The Construct and its Implications for Science Education*, editor Julie Gess-Newsome (1999) writes, “To make sense of the teaching process and to understand the influence of teachers’ knowledge on instruction, it is necessary to reduce the conceptual and contextual complexity of teaching” (p. 3). She argues that PCK is one of the most important concepts in teaching, as it has “good teachers” without always having a clear way to measure their quality, nor a well-developed vision of what being a “good teacher” actually means.
Revitalized the study of teacher knowledge, provided a new analytical fame for organizing and collecting data on teachers’ cognition, highlighted the importance of subject matter knowledge and its transformation for teaching, incorporated findings across related constructs, and provided for a more integrated vision of teacher knowledge and classroom practice. (p. 10)

Its benefits aside, within the scope of this study it is important to understand the history of PCK, its use in research of beginning teachers, and the different conceptions of PCK found in research on teacher education and development. Doing so allows us to thoroughly understand PCK at a conceptual level, and analyze it within the context of a poststructural paradigm and CHAT.

A History of PCK

The development of the concept of PCK has both a political and an empirical history. Carlsen (1999) explains that PCK was developed at a time when many in education research sought to re-professionalize the field of teaching by leading a paradigm shift that differentiated expert teachers in a subject area from subject area experts. This desire reflected the growing influence of “non-experts” in teaching and teacher education who were driving many reforms in education in the wake of several publications released just prior to the arrival of PCK in education research literature. According to Carlsen (1999), publications like *A Nation at Risk*, the Carnegie Forum’s *A Nation Prepared: Teachers for the 21st Century*, and the Holmes

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*The political history of PCK that follows will be used in the conclusions of this study, as it highlights an important pattern in teacher education of crisis influencing reform, knowledge production, and distributions of power (see Gabbard, 1999). Several problematic events can take place when crisis is the impetus for change (see Berliner & Biddle, 1995) that will be discussed in chapter six.*

33
Group’s *Tomorrow’s Teachers* contributed to a general “dissatisfaction [that] was growing with the state of American educational research and was already widespread with the status of teaching and school reform in the U.S.” (p. 133).

The attack on the teacher education community motivated researchers to seek new paradigms for teaching, and conceptions of teaching excellence that prioritized teaching as a profession in and of itself, rather than just one off-shoot of psychology or other cognitive sciences. In addition to the establishment of the National Board for Professional Teaching Standards in 1985, the group who crowns National Board Certified Teachers, Lee Shulman (1986a) first introduced the concept of PCK as one part of the knowledge base required for teaching. Unlike other knowledge bases, such as knowledge of content area or knowledge of curriculum, both of which could conceivably be held by non-teachers or novice teachers, PCK was labeled as a knowledge base unique to teachers who were able to blend pedagogy and content. Shulman (1987) describes PCK as “an understanding of how particular topics, problems or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction” (p. 8). In another article, Shulman (1986b) describes PCK as “the most useful forms of content representation, the most powerful analogies, illustrations, examples, and demonstrations – in a word, the ways of representing and formulating the subject that makes it comprehensible for others” (p. 9). Thus, PCK is conceived of as a mixture of knowledge bases, combining knowledge of representations of content area with knowledge of how to address the most common difficulties that students experience in learning that content (van Driel, Verloop, de Vos, 1998). Expert,
experienced teachers are believed to hold high levels of PCK, which drives their effectiveness.

Grossman (1990), one of Shulman’s students at Stanford University, later refined her mentor’s conception of PCK by locating it within other areas of teacher knowledge. In her model, four general areas of teacher knowledge interact with one another: general pedagogical knowledge, subject matter knowledge, pedagogical content knowledge, and knowledge of context (figure 5).

![Figure 5. Grossman’s (1990) model of teacher knowledge](image)

Of importance to this study, Grossman’s (1990) model was developed following her landmark study of six beginning secondary English teachers, three of whom were prepared to teach secondary English within a teacher education program and three of whom were not. Not only does this study stand as the first study of PCK in the content area of secondary English/Language Arts (ELA), it is easily still the most prominent in the field of research on PCK.
Research on Beginning ELA Teachers’ PCK

The influential book *Preparing Teachers for a Changing World: What Teachers Should Know and Be Able to Do*, edited by Linda Darling-Hammond and John Bransford (2005) and sponsored by the National Academy of Education, posits PCK within one of the four knowledge areas that beginning teachers must learn. These knowledge areas frame “vast amounts of information relevant to effective teaching and learning” (p. 10), including information related to a knowledge of teaching. In their volume, PCK is one component of the domain of knowledge of teaching. To that end, they point to several studies that have demonstrated the importance of PCK in the development of beginning teachers.

Ball (2000) explains the importance of PCK as the lynch pin in turning a teacher’s knowledge into good teaching practice. Klein (2008) and Feimen-Nemser (2001b) outline the role PCK development plays into the effective practices of young teachers, and the importance of PCK development in teachers’ induction periods. Both authors do not locate PCK and knowledge of teaching as being important to any group of teachers in particular, but rather all teachers. Yet, each subject area certainly has a discreet set of PCK based on the idiosyncrasies of that content area.

To further understand PCK in different content areas, in a chapter written for *Preparing Teachers For A Changing World* and adapted from Grossman’s (1990) study, Grossman, Schoenfeld, and Lee (2005) outline a series of six questions meant to capture PCK in any given content area. Thus, fifteen years after her original research on PCK in ELA teachers, Grossman’s framework is still at the center of discussion of PCK, not just in the field of teaching ELA, but also in the field of PCK.
in general. One reason for this might be the general lack of research on PCK in ELA, in particular with beginning teachers. While other fields like science education (which dedicated an entire edition of the *International Journal of Science Education* in 2008 to the discussion of PCK) and math education have created newer conceptions of PCK based on continued research on PCK development in their fields, PCK is not found in the index of either of the two editions of *The Handbook of Research on Teaching English Language Arts* released since 2004.

Studies by Cercone (2009) and Finders and Bush (2003) report on new secondary ELA teachers growing their knowledge of teaching and PCK through their interactions with more experienced veteran teachers. Both studies explain that beginning teachers feel that they benefit most from professional development that boosts their knowledge of teaching in secondary literacy. Yet, neither study engages in a reflection of secondary literacy using a framework for PCK, thus offering a limited picture of PCK for secondary literacy. This is in line with a general void in research on PCK in secondary literacy, explained by Smith and Anagostopolous (2008). They also explain that most of the studies of secondary literacy PCK do not actually analyze teachers’ PCK in practice and write about PCK in a nebulous manner, rather than specifically outlining components of PCK in secondary ELA.

Three studies have sought to fill this void in the research and are helpful in offering conceptions of PCK in ELA. First, Love (2009) offers a concept she labels Literacy Pedagogical Content Knowledge (LPCK) that has three components: “knowledge about how spoken and written language can be best structured for effective learning; recognition that subject areas have their own characteristic
language forms and hence entail distinctive literacy practices; and capacity to design learning and teaching strategies for subject-specific literacies and language practices” (p. 541). From these components, it is easy to see that her depiction of LPCK is not intended for secondary ELA in particular, but rather literacy across all content areas, further reflecting a lack of research specific to secondary ELA.

A second study that seeks to fill the gap in research on PCK in secondary ELA is a study conducted by Goldschmidt and Phelps (2010) on in-service teachers’ development of pedagogical and content knowledge via a series of professional development experiences. In their study, although they introduce PCK as a special form of content knowledge that is important for all teachers, including secondary ELA teachers, neither their data collection, data analysis nor discussion includes the study of PCK as something separate than the study of pedagogical knowledge and content knowledge. Hence, while the study seeks to capture the development of knowledge of content and pedagogy independent of one another, in contributes to the void in research that captures the development of PCK in ELA.

A third study that considers PCK development in secondary ELA teachers was conducted by Smith and Anagnostopoulos (2008), where the researchers examined how secondary ELA teachers who served as mentors for pre-service secondary ELA teachers developed PCK about facilitating discussions of literature. While their study describes how these mentor teachers developed their PCK by participating in a teacher educator network and offers new insights into this line of research, its conception of PCK relies on definitions from Grossman (1990) and Schulman (1986b) and does not offer meaningful contributions to conceptions of
PCK in secondary ELA. In fact, their opening discussion of PCK research features citations of other research that comes exclusively from the field of secondary science.

Therefore, while there is a growing interest in PCK in the study of the development of beginning teachers, the literature on PCK in secondary ELA is not as advanced as it is in other fields, especially science, and relies mostly on conceptions of PCK developed over two decades ago. While it is, unfortunately, outside the scope of this study to update conceptions of PCK within the context of secondary ELA, this study will add to the field of research on PCK development in beginning secondary ELA teachers.

Critiques and Re-Conceptions of PCK

Perhaps one explanation for the lack of research on PCK in secondary ELA lies in the critiques of PCK that have been developed over the years. As a field that is steeped in the value-laden and context-dependent nature of language, literacy and communication (Elbow, 1990), secondary ELA is particularly sensitive to critiques of conceptions of PCK as being both too universalist and decontextualized, depoliticized, and dehistoricized by its dependency on structuralist perspectives. In each of these critiques, it is important to recognize that the critics do not discard PCK as an important concept, but rather seek to re-conceptualize it in the light of the analysis they offer.

Cochran, DeRuiter, and King (1993) were among the earliest critics of PCK as they sought to modify conceptions of PCK based on constructivist views of teaching and learning. In their critique of PCK, they label PCK as a universalist
notion that views PCK as a static and context-less bundle of knowledge that runs contrary to constructivist views of teaching and learning. In particular, they explain, constructivist views stress that knowing and understanding are active processes that rely on context, thus static notions of PCK are limited in their approach to understanding the traits of effective teachers. For example, Shulman (1986b) stresses the importance of using the most “powerful” analogies and “relevant” examples, but a group of students in a suburban school will invariably respond to certain analogies differently than a group of students in an urban school. Or the most relevant examples of a concept for a group of students in a rural area will certainly differ than the most relevant examples of a concept for a group of students in an urban area. According to Cochran and her colleagues, illustrations, analogies, examples and the other instances of PCK described by Shulman (1986b) and others are context-dependent, thus PCK must be conceptualized as an active process of knowing, rather than a static set of knowledge.

Cochran and her colleagues (1993) thus created the concept of pedagogical content knowing (PCKg) which is described as a “teacher’s integrated understanding of pedagogy, content, student characteristics and the environmental context” (p. 266).
Figure 6. Pedagogical Content Knowing (PCKg), taken from Cochran, et. al. (1993).

They explain that PCK is constantly and continually in a state of development within the context of a teacher’s understanding of his or her students, their characteristics, and the environmental context of learning. Thus, they believe PCKg is a more useful framework for understanding PCK and its role in effective teaching. However, their notion of PCKg has garnered less attention than the conceptions of PCK they critique. Important volumes about PCK and teacher learning such as Examining Pedagogical Content Knowledge: The Construct and its Implication on Science Education edited by Gess-Newsome and Lederman (1999) and Preparing Teachers for a Changing World mention PCKg, but still use more traditional notions of PCK in their analyses.

Another critique and re-conceptualization of PCK is provided by Carlsen (1999) who, in a chapter in the aforementioned volume edited by Gess-Newsome and Lederman (1999), explains that conceptions of PCK are far too dependent on structuralist perspectives, and must be re-conceptualized using poststructural frameworks. Not only does he say that most research and discussion of PCK has
stripped PCK of its political and historical dimensions (discussed earlier in this chapter), he challenges structuralist notions of PCK that assume unquestioned correspondence between the so-called knowledge bases of teacher learning. In addition, he argues that most research on PCK casts PCK as a sign that exists outside of a system, which runs contrary to Vygotskian (1987) notions that signs only make sense in the context of a system. In addition, dominant notions of PCK conceive of PCK as static knowledge bundles that exist on binary notions of teachers who either have or do not have PCK, or teachers who either know or do not know elements of PCK. Finally, he believes most research on PCK assumes that PCK is a neutral, apolitical concept. Interestingly, he believes these structural notions are what make PCK so popular. He writes that PCK in this form is “reassuring” because under these conceptions, “systematic knowledge is possible” and “knowledge can be discovered without political disputation” (p. 136).

Given his critique of structuralist views on PCK, Carlsen (1999) argues for poststructural views on PCK. Such views, he states, would insist on a rejection of fixed, systemic notions of knowledge, assert the interdependency of knowledge and power, reject the displacement of individuals from the center of conceptions of PCK, and would consider the historical and cultural dimensions of knowledge. He offers what he labels the “domains of teacher knowledge” as a new conception of PCK that was created based on the poststructural perspectives described above.
Figure 7. Carlsen’s (1999) domains of teacher knowledge

Yet, similar to the concept of PCKg, Carlsen’s (1999) domains are under-utilized in most of the contemporary research on PCK, which relies on pragmatic and/or universalist frameworks, rather than poststructural perspectives.

A third criticism and re-conceptualization of PCK comes from Barnett and Hodson (2001) who believe there is a “failed view of curriculum development and teacher education as a decontextualized technical problem that has recently been resurrected and used to underpin moves to define teachers’ knowledge in precise and measurable terms” (p. 428). They count conceptions of PCK among the responses to the decontextualized, elusive search for “good teaching.” Thus, they seek to re-
contextualize PCK through their conception of pedagogical context knowledge (PCxK).

PCxK involves two knowledge landscapes that situate four domains of knowledge. They believe PCxK stretches across both societal knowledge landscapes and educational knowledge landscapes (see figure 8).

![Diagram of Pedagogical Context Knowledge (PCxK)](image)

*Figure 8. Pedagogical Context Knowledge (PCxK), taken from Barnett & Hodson (2001)*

Located entirely within educational knowledge are two domains of PCxK: PCK (in its “traditional” conception) as well as classroom knowledge (a knowledge a teacher has for his or her own classroom and students). Couched between the societal knowledge landscape and the educational knowledge landscape are the remaining two domains: academic and research knowledge and professional knowledge. They explain that PCxK is acquired in both public and private arenas, unlike most
conceptions of PCK that posit the acquisition of PCK in public settings like teacher education programs, classroom experiences and professional development activities. They believe PCxK better captures the complex and uncertain nature of classroom life, and captures PCK within both the local and global contexts in which it is situated.

Perhaps unsurprisingly, PCxK has also not received the attention in the field of the study of PCK as more traditional conceptions of PCK, driven by Shulman’s (1986b) and Grossman’s (1990) original conceptions. However, PCxK, along with PCKg and Carlsen’s (1999) domains of teacher knowledge have all been influential in a growing movement in the field of PCK to capture PCK development as a multifaceted process that operates within both individual and collective levels. This has led to Loughran, Mulhall, and Berry’s (2004) depiction of two ways to empirically capture the development of PCK, which they call content representation (CoRe) and pedagogical and professional experience repertoires (PaP-eRs). CoRe captures the more collective aspects of PCK as a shared understanding of content and representations of that knowledge. On the other hand, PaP-eRs signifies the personal aspects of PCK located with the repertoires individual teachers develop through their pedagogical and professional experiences. They argue that PCK cannot be understood through either CoRe or PaP-eRs on its own, as PaPeRs give individual shape to CoRe through a teacher’s actual practice.

Loughran, Mulhall and Berry (2004) point out three important tensions in understanding PCK. First, a tension between PCK as practice-based and PCK as profession-based adds complexity to understanding PCK and its production. This
tension can be navigated by understanding how PCK is born from both individual practice and experience, as well as professional structures, like standards, councils, or departments. PCK is neither one nor the other, but rather knowledge that springs from the negotiation between individual teacher activity and professional structures. A second tension exists between PCK being contextual and PCK being universal. In the practice-based mindset, PCK is always contextual, as context is of the utmost importance in teacher practice. Yet, in the profession-based mindset, PCK is always universal as it applies to any teacher’s situation in any time and space. Again, this tension can be navigated by understanding the negotiation between contextual and universal elements of PCK. Finally, a significant tension exists in understanding PCK as knowledge that is developed or PCK as knowledge that is produced.

Development indicates the idea that a “pure” or “correct” form of PCK exists, and that teachers’ knowledge is developed to closely mirror that archetype or perfect model. Yet, as was argued earlier in the chapter, knowledge is produced in social, cultural and historical processes. The concept of CoRe and PaP-eR navigates this tension well in demonstrating how PCK is produced, and not just transmitted or developed. Given the poststructural perspective of this study, PCK should be considered as both personal and professional-based, as both universal and contextual, and as knowledge that is produced, rather than developed.

Ultimately, two conclusions can be drawn from a review of the literature on PCK production. First, as Lee (2005) states, there is no “universally accepted conceptualization of PCK” (p. 36). This is due to the second conclusion about PCK. As a “bundle” of knowledge, PCK is situated within cultural, social and historical
contexts. Within these contexts, PCK is value-laden and developed within the confluence and mutual constitution of knowledge and power (Foucault, 1975) and must be understood as such. In order to capture this, cultural-historical and sociocultural conceptions of PCK are needed, and will be offered in this study. While this remains a hole in the literature in the field of PCK research and teacher education, there are few examples of research studies that have captured PCK as a conceptual framework viewed through cultural-historical and sociocultural theoretical perspectives. They will be discussed in the next section.

**PCK and CHAT**

Thus far in this chapter, I have made the case for shifting research in teacher education towards poststructural perspectives that utilize cultural historical and sociocultural theoretical frameworks, such as CHAT. I have also made the case for the importance of understanding PCK as a tool in the development of effective teachers, while discussing critiques of decontextualized conceptions of PCK. I will now put this theoretical framework and conceptual framework together, in discussing PCK production through CHAT, with the help of three studies that have attempted a similar synthesis. After a summary of the contributions of each of these studies, I will analyze PCK as a tool in an activity system, using CHAT to point to the hole in the literature that this study seeks to fill.

Twiselton’s (2000; 2004) study of beginning elementary literacy teachers stands as one example of a research study that combines CHAT and PCK, although the connection may not be intentional. In the earlier publication, Twiselton (2000) reports that PCK development is dependent on the different ways that these teachers
view their roles in teaching elementary literacy. She differentiates between the ways that *task managers*, *curriculum deliverers* and *concept/skill builders* perceive their role, and the different ways they develop knowledge and skills, including PCK, in the frame of these viewpoints. She found that the *task managers* and *curriculum deliverers* in her study could not fully transfer PCK into their teaching practice because they were limited in their understanding of their role in the classroom. On the other hand, *concept/skill builders* in her study were beginning to demonstrate the ability to transform their knowledge of the structure of elementary literacy as a content area and their content knowledge into an opportunity for learning, which aligns to Shulman’s (1987) depiction of PCK. While these findings add to understandings of PCK and beginning teachers development and use of PCK, it is important to note that this study does not explicitly demonstrate or discuss the use of sociocultural or cultural historical theories in understanding teacher learning nor beginning teacher development.

Yet, in a later publication, Twiselton (2004) uses the same data set, collected over five years, to conceptualize her depictions of *task managers*, *curriculum deliverers*, and *concept/skill builders* within a CHAT framework, positing them as teacher identities. In this study, she depicts the activity systems of each group of teachers, explaining that their view of their role shaped the object, division of labor, tools, and rules of their activity systems. Unfortunately, she does not carry her discussion of PCK from the previous study into this article, yet it is not difficult to find the ways in which PCK and the identity of being a *concept/skill builder* contribute to the activity system she describes. She explains that in this activity system, the discourse of the
subject is an important mediating artifact, and thus the division of labor includes teachers helping students participate in this discourse. This artifact and division of labor match with the depictions of PCK she describes in the previous study. Thus, with a little of detective work, one can put both studies together to see one example of how PCK and CHAT can be connected: by casting PCK as a mediating artifact within an activity system and participation in a content area as part of the division of labor.

A second study that seeks to capture PCK production within sociocultural theory was conducted by Smith and Anagostopolous (2008). Although this study was already described in the review of literature that studies PCK development in secondary ELA, the study is also important in its attempt to ground their understandings of PCK and teacher development in sociocultural theory. They explain, “Sociocultural theory, and in particular the concepts of boundary objects and brokers help to illuminate the processes involved in creating dialogic spaces for teacher learning in cross-institution teacher education networks” (p. 43). In this study, the researchers introduced several tools, or boundary objects, to groups of mentor teachers to assist the mentors in their own development of PCK, hoping that it would help the mentors facilitate their student teachers’ development of PCK. Through discourse analysis, they trace the development of PCK during interactions and conversations between the mentors facilitated by the researchers.

While Smith and Anagostopolous’ (2008) study does not utilize CHAT as a theoretical framework, by grounding the study in a sociocultural framework, it offers another example of an attempt to bridge understandings of PCK with sociocultural
and cultural historical perspectives on teacher development. In addition, using their
description of the study, one can see how PCK production is conceived as an object
of the activity system they studied. This distinguishes this study from Twiselton’s
(2000; 2004), which conceptualized PCK development as a mediating artifact or tool
in her beginning literacy teachers’ activity systems. The different conceptions of PCK
as an object and as a tool stand as an important consideration in using CHAT to
analyze PCK development.

The third, and perhaps most useful, study that bridges sociocultural and
cultural historical perspectives and PCK is described in McNichol and Childs (2010).
Not only is this study featured in the recent volume Cultural-Historical Perspectives on
Teacher Education and Development: Learning Teaching, edited by Ellis, Edwards and
Smagorinsky (2010), it specifically targets PCK as a secondary artifact in the
development of effective science teachers in England. They explain that as a
secondary artifact (Wartofsky, 1973; Cole, 1996), PCK is a representation of primary
artifacts that “preserves and transmits current ways of acting and thinking” (p. 46).
Their chapter outlines two studies they conducted, the first of which focused on the
challenges faced by secondary science teachers who are teaching outside of their
content areas and the strategies they use to develop PCK (Childs and McNichol,
2007). They found that these teachers seek material artifacts or tools that help them
develop PCK, such as state provided curricular guides and resources, and guidance
from other science teachers in their schools. In this study, they found that “PCK is
the product of a social process…teachers often referred to PCK as being shared,
distributed, and held across people, material artifacts, and social settings” (p. 49).
They explain that this conception of PCK is in line with sociocultural conceptions of knowledge stretched over cultural and material artifacts (Lave, 1988; Rogoff, 1995), Cochran and her colleagues’ (1993) view of the active nature of PCKg, and Barnet and Hodson’s (2001) concept of PCxK. They conclude, “PCK is personal or idiosyncratic knowledge that is also heavily embedded in the context in which it is put into action” (p. 49).

McNichol and Childs (2010) argue that their studies of PCK within cultural-historical perspectives take them beyond limited conceptions of context as static backgrounds in teacher learning. Teacher development takes place within systems of distributed experience and shared practices that make PCK development visible through processes of participatory appropriation, Rogoff’s (1995) conception of development and learning on the personal level. While they use cultural-historical theory, focused on uses of artifacts and tools by individuals, CHAT can also be used to capture the participatory appropriation of PCK within activity systems, with PCK cast as a tool or artifact in such activity systems.

Using CHAT, PCK production and its role in developing effective teachers can thus be depicted as tool in a beginning teachers’ activity system (Figure 9). As we consider this activity system along with the dominant conceptions of PCK, most studies on PCK are focused on the interplay of subjects, objects, tools, and occasionally communities (Figure 10). These dominant conceptions of PCK seek subjects’ conceptions of PCK and good teaching, the tools and artifacts used to develop PCK and good teaching, and the community members that facilitate PCK
development. While these are all important understandings, they do not consider the importance of the other aspects of an activity system: rules, and the division of labor.

**Figure 9.** PCK production within CHAT

**Figure 10.** Dominant perspectives of PCK production
If we look “below the surface” of PCK production within a CHAT framework, there are important considerations that must be made to the interplay of other components of an activity system. The confluence of the object, community, and division of labor can be used to analyze structures and their influence within an activity system. These structures can include departments, schools, and districts that may dictate policies that can have an important impact on the production of effective teaching and PCK.

Any analysis of structures’ influence on developing effective teachers must also include the ways in which people interact with structures. In sociocultural theory and cultural historical perspectives, it is important to remember that structures and individuals constitute each other mutually, and there are two ways to consider how structures and individuals in an activity system interact with one another via rules, community and the division of labor. First, Wenger (1998) offers a social ecology of identity (figure 11), which is characterized as the ways that identity and structures mutually constitute one another.

![Diagram of Wenger's social ecology of identity]

Identity

- Identification
  - Forms of Membership
    - Communities
  - Negotiability
    - Ownership of Meanings
      - Economies of Meaning

Structure
In this model, individuals interact with the communities that structures offer. For instance, a new teacher might interact with a variety of communities housed within a school, such as a department, a grade level team, or even a classroom of students. In addition, individuals negotiate themselves within economies of meaning. For example, a school as a structure may have particular systems for behavior management, which offer a particular set of meanings and discourses around correcting student misbehavior. New teachers must negotiate themselves within these systems, and their accompanying meanings and discourses, depending upon the new teacher’s own conceptions of managing student behavior.

A second way to think about how structures and individuals interact within an activity system is through Holland and her colleagues’ (1998) concept of **identities in practice**. In their theory, individuals hold **figured worlds** and take up positions in activity structures. For example, a new teacher has archetypes and pre-conceptions about teaching, schools, students and other aspects of teaching that reflect their idea of what these features should look like, or how they should operate. They are also given **positions** via a division of labor as well as the rules of an activity system. Holland and her colleagues’ (1998) believe a person’s agency in this system is dependent on their sense of **authoring self**, or their ability to recognize their positions, reflect on their figured worlds, and broker new spaces and worlds through their agency to revise the arrangements of an activity system. People who demonstrate high levels of agency would be characterized as having a strong sense of authoring selves, while those who lack agency are thought of as lacking a sense of authoring self. For instance, a new
teacher who is highly reflective on their pre-conceptions and archetypes (the “narrative” they bring into teaching) and understands their positionality (the “narrative” a school has for them) can find spaces to write and act on a new “narrative.” On the other hand, a teacher with little agency may struggle in reflecting on their pre-conceptions and/or struggle to understand their positionality in a way that allows them to see their own power and ability to write their own narrative.

With both Wenger’s (1998) and Holland, et. al.’s (1998) considerations of the interplay between individuals and structures, the unexamined spaces in a beginning teachers’ activity system from dominant conceptions of PCK can be illuminated (figures 12 and 13).

![Diagram](image.png)

*Figure 12. Wenger’s (1998) Social Ecology of Identity in CHAT*
Therefore, in order to combine the theoretical framework of CHAT and the conceptual framework of CHAT’s role in developing effective teachers, we must understand three concepts: (1) PCK production via the confluence of subjects, tools, objects, and community; (2) structures’ roles in the production of PCK via the interaction of objects, communities, and the division of labor; and (3) the ways in which individuals and structures interact with one another, with agency of central concern via the convergence of subjects, rules, communities and a division of labor. Each of these understandings overlaps with each other, thoroughly covering and capturing the “space” of an activity system.

Thus, empirical examinations and analyses of individuals, systems, and their interactions is the way in which this study will use CHAT to understand the production of PCK as a tool towards developing effective teachers. This study will
use these frameworks to respond to the research questions described in the following chapter.

The Political Context of Teach For America

The final piece of the puzzle of this study is Teach For America (TFA), and the participants’ involvement with the program. TFA serves a few important roles in this study. First, the participants’ involvement with the organization is a vital part of their activity system in learning to be an effective teacher. Second, TFA serves an interesting and influential role in the current political context of education “reform” in the United States that greatly impacts TFA teachers’ practice and goal-oriented activities. Finally, TFA has had a growing influence on teacher education and development, despite limited understandings of the “black box” of a corps members’ first two years of teaching.

Although the participants of this study, like all members of TFA, are hired and employed by schools and school districts, their involvement and identification with TFA may have a stronger impact on their teaching and learning to teach than their affiliation with their employer. In a beginning TFA teachers’ activity system, TFA is one of several communities that offers rules and a division of labor in the activity system, as well as a prioritization of certain artifacts over others. In addition, TFA has a very clear mission of closing the achievement gap that exists between poor and working class children and their more affluent peers in order to change the

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7 The definition of “political” used here reflects Gee’s (2010) own definition of “politics” not as government and political parties, but rather a situation where social goods are distributed, or their distribution is at stake. He believes that education and schooling is one such “social good” as a society has deemed it as “something worth having” (p. 162).

8 The findings of this study certainly indicate that TFA teachers hold a much closer affinity with TFA than their employers, and are influenced more by TFA than the schools and school districts they work within.
life trajectories of children growing up in low income communities, thus greatly shaping the object of a teacher's activity system.

Yet, not all corps members experience TFA in the same way, nor does TFA impact all of its teachers in the same manner. Lave (1988) describes this phenomenon through the concepts of arenas and settings. She explains that arenas carry structural features that are visibly in contact with individuals, while settings describe the individual’s conception of the settings to which he or she belongs. Thus, as Smagorinsky, Jakubiak and Moore (2008) explain, teachers may belong to the same arena, such as TFA, while experiencing it through different understandings, thus demonstrating different settings. Not only may differences exist between teachers’ sense of setting within the same arena, they explain that it is common for beginning and pre-service teachers to experience conflicts and contradictions from different participants in the same arena within settings, as different parts of the setting may contradict each other despite their mutual involvement in the same arena. For example, for the beginning teachers in this study, their arena of teacher learning includes their involvement with TFA as well as their employer, and their certification program. While all three of these groups could be logically seen as working towards the same objective (developing effective teachers) and towards the same outcome (increased student learning), the highly debatable concepts of what constitutes an “effective” teacher and how to demonstrate increased student learning creates tensions that beginning teachers must navigate through their own construal of the arena. Therefore, it is important to understand TFA due to its important place within participants' activity systems.
A second consideration of TFA must be made due to its role in the political context of education “reform.” In many senses, TFA has become a dominant force in defining reform in education and working towards visions of change in education. This dominance can be seen in both its presence and its prestige. While TFA teachers make up a very small portion of the teaching force in the United States, first year TFA teachers in some urban and rural school districts can make up an enormous portion of their new hires. Locally, TFA first year teachers can make up between 30-80% of the new district hires from year to year, according to TFA-Phoenix’s Managing Director of District Strategy.

In addition, TFA’s presence can be felt in its growing alumni movement. Commonly referred to in the organization as “the second half of the mission,” the purpose of the alumni movement is to provide

“a growing force of leaders…addressing the factors that contribute to educational inequity from every professional sector. Armed with a deep understanding of how this problem can be solved and the skills and networks needed to solve it…alumni are helping to transform education for children in low-income communities.” (www.teachforamerica.org/after-the-corps/alumni).

Notable alumni include former District of Columbia Public Schools Chancellor Michelle Rhee and current Interim Chancellor Kaya Henderson; Knowledge is Power Project (KIPP) founders Mike Feinberg and Dave Levin; Colorado State Senator Mike Johnston, the author of sweeping legislation that will require performance pay and value-added modeling practices in Colorado public schools;
and Dean of the University of Washington’s College of Education, Tom Strikus. The “transformations” in education predominantly prioritized by these and other alumni include the prioritization of quantitative measures of student learning and teacher effectiveness via high stakes, standardized testing and accountability policies, and the proliferation of charter schools intended to offer competition to complacent and archaic public school districts and systems that have grown unresponsive to the needs of their community and the nation.

TFA is not only driving many people’s thinking about education “reform,” but also ideas about teacher education. The Sanford Education Project at Arizona State University’s Teachers College stands as an example of the growing force of TFA in teacher education. The project is a by-product of an $18 million grant from philanthropist T. Denny Sanford, who charged ASU with using the funds to build a teacher education program based on TFA’s model for teacher recruitment, support and development. While many in Mary Lou Fulton Teachers College are bracing themselves for yet another round of massive cuts to the budget and are still recovering from two sweeping reorganizations of the college over the past three years, the Sanford Education Project is expanding, more than tripling its staff, hiring almost exclusively TFA Alumni. The Sanford Education Project is just one aspect of a growing partnership between ASU and TFA, which also includes a certification program tailored to the needs of TFA teachers that results in a full teaching credential and a master’s degree, fellowships in the business, law, and education colleges set aside for TFA alumni, and ASU’s hosting of one of TFA’s summer training institutes.
The growing presence of TFA in teacher education can best be seen in an article written by Koerner, Lynch, and Martin (2008). As deans of colleges of teacher education at ASU, the University of Pennsylvania and Loyola-Marymount University, respectively, they see a need for teacher education to partner with TFA. They write that if those in teacher education accept collective responsibility as schools of education to be part of the solution, rather than lay it at the feet of TFA, we might serve as catalysis for the dialectic revolution of the profession. Those of us who partner with Teach For America recognize that the organization has a good thing going; our collective challenge is to help TFA continue to improve and to find ways to scale up its successes, all the while seeking out eclectic solutions to the critical shortage of qualified teachers our country faces. (p. 729)

This is a profound statement. Not only does it suggest that colleges of education are idly standing by while TFA is working relentlessly to solve the challenge of educational inequity in the United States, it posits TFA at the heart of a “revolution” in teacher education.

Whether or not one agrees with Koerner, Lynch and Martin (2008) (for a strong dissenting opinion, see Labaree, 2010), it is clear that the force of TFA in public education and teacher education is only growing stronger as the program enters its third decade of existence. Yet, the two-year teaching commitment of TFA remains somewhat of a mystery. While there have been several books written about corps members’ experiences in the classroom (see Johnston, 2002; Ness, 2004; Sentilles, 2005; Foote, 2008) and the organization itself has authored a book about
highly effective teaching (Farr, 2009), most research on TFA teachers has been focused either on a journalistic or autobiographic approach to telling the story of the struggles and success of TFA teachers, or an explanation of qualities and reflections of the organization’s most effective teachers. Therefore, a sociocultural and historical-cultural perspective on TFA teachers’ learning to teach within the context of their involvement in the organization is largely missing in the literature on TFA.

The best examination of TFA teachers’ learning to teach in a cultural-historical perspective comes from Popkewitz (1998) in his book Struggling for the Soul: The Politics of Schooling and the Construction of the Teacher. In this book, he reports on a study of the first TFA summer training institute, which TFA hired him to conduct in order to evaluate the institute. Despite this charge, Popkewitz instead conducted an ethnography of teachers during the summer and their first year in the classroom in order to capture the socialization of TFA teachers within powerful political and historical discourses in public education. In doing so, he examines the co-construction of corps members’ identity as teachers and their approach to education “reform,” concluding that the ultimate achievement of their teaching was “salvation” for both their students and themselves from an ever-growing system of oppression and economic marginalization in the nation. One very interesting facet of this book is that “Teach For America” does not appear in either the title or jacket of the book. The abstract on the back cover explains that the ethnographic study is conducted on “a national reform program that recruited teacher interns for urban and rural schools throughout the nation,” rather than naming Teach For America. This reflects how far the organization has grown in its presence and prestige in the time since this
book was published in 1998. It also reflects a distance between TFA and this study, as the book is rarely listed among the sources of research on TFA.

Thus, it is important to ask ourselves, what is happening in the arena of a TFA teachers’ two-year commitment in the classroom in terms of their learning to teach? How do these teachers conceive of this setting, and how does this setting impact their learning to teach? How might this setting be inhibiting or accelerating their production of PCK? The answers to these questions are needed as we move into a time where TFA is assumed to have “solved” the riddle of educational disparities between poor and working class youth and their more privileged peers.

Before concluding, I wish to make one final note on TFA as a contextual presence in this study. Critiques of TFA have been deeply engrained in the literature on TFA and many people in teacher education’s overall estimation of the program’s worthiness at the table of education reform. In fact, in the aforementioned description of the political context behind the creation of PCK, TFA can be seen as part of the growing presence of “non-experts” whose influence swayed public opinion on the effectiveness and value teacher education in the late 1980’s-early 1990’s. Often venomous and harsh, these critiques are important, yet are not of central concern in this study. This study does not seek to make any kind of an assessment of how “good” or “bad” TFA is, nor cast the program as either a hero or villain in the struggle for educational equity and social justice in the United States. Rather, this study seeks to characterize, not judge, the development of TFA teachers, leaving such judgments up to others in the education research community. That said, it is important to note that I myself am a TFA alumnus, and I have formerly held
and currently hold several full-time and part-time positions on TFA’s staff. My own critique of TFA and its approach to education reform (which in no way reflects a disdain for the program, but rather high expectations for an organization that has chosen to play such a massive role in the struggle for educational equity and social justice) will be left to other writings for the sake of this particular study of TFA teachers’ production of PCK through a CHAT framework.

Summary

This study seeks to characterize the activity system of TFA teachers’ production of PCK, using a CHAT framework and a poststructural perspective. This chapter has outlined the movement from structuralism to poststructuralism as a fundamental requirement in this analysis, as well as the different theoretical models one can use from a poststructural perspective. CHAT will be used in this study, which will focus on the production of PCK as an important tool used for the object of developing effective beginning teachers in and through TFA. In order to depict PCK as such, it is important to consider conceptions of PCK that reflect a constructivist depiction of PCK and its role in teacher learning and practice. This was discussed through a review of literature that uses such depictions as well as my own ideas of how conceptions of PCK overlap with cultural-historical perspectives on development within activity systems. Finally, this chapter has offered a brief description of the role of TFA in the political context of this study. The next chapter
will use this alignment of paradigm, theory, and conceptual framework to drive a methodological approach to this study.
Chapter 3

RESEARCH METHODS

This chapter will discuss the research design, data collection and data analysis for this study. Following an overview of the study, which will include a restatement of the problem, the research questions, and a statement on the researcher’s background, this chapter will outline the design and methodology for this qualitative study. Discussion of sampling, instrumentation and validity will accompany an outline of the data collection and analysis procedures.

Statement of the Problem

In just two decades, Teach For America has grown from an undergraduate thesis to a national force in the debate over education reform and teacher quality (Labaree, 2010). The underlying assumption of this program, and the movement it has led in education reform, is that educational equity and reform can be achieved through the excellent teaching of first and second-year alternative certified teachers who are among the top graduates in the country’s best universities and have demonstrated strong leadership in contexts other than classroom teaching (Kopp, 2001). This requires that these teachers climb a steep learning curve in very little time, as they develop from un-experienced, untrained rookies to effective teachers who make a transformational impact on the trajectories of their students and the institutions they work within. Additionally, these assumptions are wrapped up in neo-liberal9 notions of social change and education reform that rely on narratives of

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9 Neo-liberalism refers to economic and social policies that have swept the United States and many parts of the rest the world over the past three decades. Neo-liberalism combines neo-conservatism with liberal economic policies, seeking to create social and economic markets
redemption (Haas & Fischman, 2010; Fischman & Díaz, 2012). The teachers in TFA, it can be argued, seek to redeem the shortcomings of public education systems, the academic and personal deficiencies of their students, as well as their own guilt that arises from reflection on their own social positioning (Popkewitz, 1998). The narrative of redemption relies on “super teachers” who can “save” the public education system, the lives of their students, and their own salvation from unjust social relationships. Few organizations and movements illustrate the insistence on “super teachers” as well as TFA does, as the organization rotates around notions of “teaching as leadership” where teacher leaders can overcome any situation through critical thinking and perseverance (Farr, 2009).

Yet, as will be discussed at length in Chapter Two, beginning teacher learning is a complex knot of social, cultural, historical and personal processes geared towards the production of knowledge, increased participation in communities, and goal-oriented activities. In a time where more effective teachers, particularly beginning teachers in alternative certified reform-oriented programs, are seen as the panacea to all that ails public education, more light must be shed on the “black box” of teacher learning and teacher practice within these programs. Most studies of beginning teacher learning fail to analyze the social, cultural and historical contexts of beginning teacher learning, but the study of alternative certified, reform-minded teachers in TFA requires such analysis. As members of TFA, these teachers, their practice, and

that are free of government influence. Examples of neo-liberal ideologies include seeking private solutions to public problems, privileging accumulation of wealth via free enterprise over privileging the redistribution of social goods via Keynesian economic and social principles, and policies that reflect an ideology of individualism. For more discussion, see Ball (2008), Chomsky (2008), Harvey (2005) and Fischman (2009).
their learning are all situated within a complex web of personal, historical, social, cultural, and institutional contexts. Each of these contexts certainly has an impact on the learning, growth, and development of these teachers, and that impact must be understood in order to fully grasp the learning of beginning teachers in TFA and other reform-oriented alternative-certified programs. Additionally, the practices of these teachers begs the question of whether these teachers are indeed effective with their students, and even if they are, one must wonder if their practices actually a true “alternative” to current education practices. Rare are the studies that have both zoomed in on the day-to-day teaching practices of individual TFA corps members and capture the broader social, cultural, and historical context of the program, yet this very analysis is needed in order to untangle the knots of teacher learning, and reform-oriented practices in education.

Furthermore, while there is a growing body of research on PCK and its importance in teacher learning and effective teacher practice (see Gess-Newsome, 1999), most of the literature conceptualizes PCK as a product rather than a production. This research overwhelmingly uses pragmatic and post-positivist frames that under-analyze the role of context on the production of PCK (Cochran, DeRuiter, & King, 1993). For those studies that do consider the role of context in PCK, context is usually limited to just the local contexts of the teacher’s classroom, school, or district, rather than broader social, cultural and historical contexts (Grossman, 1990). This study seeks to complement the existing literature on PCK by broadening its conception to include sociocultural theoretical frameworks within
poststructural paradigms that are more useful in considering the role of context in the development of knowledge and the process of learning (Smagorinsky, 2012).

On the other hand, while sociocultural analyses are gaining more traction and prominence in teacher research (see Ellis, Edwards, & Smagorinsky, 2010), few studies have been done that analyze an element of learning as specific as the production of PCK. Many studies look broadly at teacher learning as participation in a community of practice, or the enactment of a trajectory of identity-in-practice, yet this study seeks to add to this growing field by focusing on the specific development of PCK as the objective in an activity system. Other studies have taken this more specific approach to sociocultural analysis, yet most investigate concepts other than PCK and the production of this valuable knowledge base.

**Research Questions**

This study responds to three research questions:

RQ1. How do Teach For America teachers’ activity systems contribute, or not, to the production of pedagogical content knowledge?

RQ2. How does a Teach For America teacher’s sense of agency and identity in practice impact the production of pedagogical content knowledge?

RQ3. How does a Teach For America teacher’s activity system change over time?

RQ1 characterizes the space in which TFA teachers produce PCK, using CHAT as a theoretical framework. RQ2 looks more closely at the individual teacher’s interaction with the many components of an activity system in order to examine the ways in
which their sense of agency and their experiences and interactions shape their production of PCK. Finally, RQ3 seeks to understand these processes over time by documenting shifts and changes in TFA teachers’ activity systems that occur over the course of their two years in the program and beyond.

**Researcher’s Background**

In studying TFA teachers’ production of PCK, it is important to recognize the perspective and experiences I bring into this study as an alumnus of TFA and as a current member of the TFA staff. In 2002, I joined TFA and was placed as a corps member in San Jose, California, where I taught high school English and English Language Development. Following my two-year commitment, I chose to remain at my placement school for an additional three years. In those five years, I served in a variety of part-time and contracted roles on TFA staff, and I conducted several professional development workshops for current corps members. It was in this time that I first became a Professional Learning Community Leader for corps members who taught high school English in Oakland, California. In this capacity, I facilitated a series of professional development experiences for these corps members over the course of two years.

Following my experiences in the Bay Area, I joined TFA staff full-time in 2007 as a Program Director in Phoenix, Arizona. As a Program Director, I managed and mentored 35 first and second year corps members who taught middle school and high school English/Language Arts and Social Studies in the Greater Phoenix Area. Among my responsibilities in this role were working with corps members to
set ambitious goals for academic achievement that represented significant academic gains, plan curriculum to work towards those goals, and, several times throughout the year, help corps members collect and use student achievement data to solve problems they experienced in their classrooms en route to reaching their achievement goals. Following this experience, I worked as a Curriculum Specialist in the 2008 and 2010 Phoenix Summer Training Institute and the 2011 Los Angeles Institute, overseeing the development of hundreds of corps members who were assigned to teach in several different regions. In that time, I have also continued to work as a Professional Learning Community Leader with both middle school and high school ELA corps members. This summer, I will serve as the Diversity Coordinator of the Phoenix Institute, and I am currently weighing an offer to become a national curriculum designer for TFA.

The personal and professional experiences I have had with TFA have created a unique perspective for me as an educational researcher, as I have first-hand experience with and knowledge about the development of corps members in all phases of their TFA experience. At the same time, in my work as a doctoral student, two manuscripts I have written about the experiences of Teach For America teachers, including a book chapter that critically analyzes their motivations to become teachers, have been published. Having had one foot in TFA and one foot in graduate school for the past four years has allowed me to understand the experiences of corps members from an insider /outsider perspective. This perspective has several advantages in this study. First, I have a deep familiarity with many of the TFA-related experiences of the participants’ in this study. Second, by working with corps
members over their summer training as well as during their two-year experience, I have increased access to those teachers’ classroom and work, via my affiliation with both the teachers and the program. Third, my insider/outside perspective allows me to engage in critical empirical analysis of TFA, rather than oversimplified analyses that either praise or shred the program and populate much of the literature on TFA. At the same time, I have an important obligation to ensure that my experiences as a TFA alumnus and staff member do not compromise the reliability and validity of this study. Procedures to ensure such validity will be explained later in this chapter.

**Research Design and Methodology**

This qualitative study utilizes an interpretive, multiple case study design (Erickson, 1986; Stake 1995; Yin, 2006), which fits the theoretical framework of this study well. Most research on teacher learning that uses cultural-historical and sociocultural theoretical perspectives tends to be qualitative. For instance, Ellis (2007) uses qualitative methods in her data collection and data analysis in her study of beginning English teachers’ concept development within a cultural-historical theoretical frame. In addition, all of Smagorinsky’s studies on beginning teacher learning that utilize CHAT and cultural-historical frames employ qualitative methods as well (see Smagorinsky, Cook, Jackson, Lincoln, Fry & Moore, 2004; Smagorinsky, Cook & Johnson, 2003; Smagorinsky, Jakubiak & Moore, 2008; and Smagorinsky, Lakly, & Johnson, 2002). Most importantly, qualitative research methods are used in other studies that examine PCK through cultural-historical and sociocultural perspectives. Twiselton’s (2000, 2004) research on literacy student-teachers was
conducted using qualitative data collected in observations and semi-structured interviews with her participants. Smith and Agnostopolous (2008) use participant observation to chronicle the experiences of mentor teachers’ production of PCK within activity systems. Finally, McNichol and Childs’ (2010) investigation of how science teachers develop PCK, using a cultural-historical perspective, was based on data collected from semi-structured interviews that were analyzed qualitatively. Therefore, the research questions and theoretical frameworks of this study, as well as other literature on this topic, warrant the use of qualitative methods of data collection and analysis.

This study uses an interpretive, multiple case study design. Each case is bound to one teacher, leading to the conduction of six case studies. Stake (1995) explains that interpretive designs recognize that classrooms are socially and culturally organized, and are best used when a researcher wishes to know about “the meaning-perspectives of the particular actors in the particular events” (p. 121). In characterizing the production of TFA teachers’ PCK within their own particular activity systems through the use of CHAT, the use of interpretive design is therefore well warranted.

The use of multiple case studies works well with this study and its research questions for several reasons. First, Yin (2006) explains that case studies are explanatory in nature, and illuminate particular situations. Also, he explains that case study is an appropriate research design in creating an in-depth understanding of occurrences in their real-life contexts. Such depth is needed to characterize the interplay of PCK production and the cultural-historical context of teacher learning.
using CHAT, as well as to address the need to situate research within real-life contexts. Furthermore, this study is explanatory in nature and is focused on particular situations, rather than general ones. Merriam (1998) adds that case studies provide “intensive descriptions and analysis of a single unit or bounded system such as an individual, program, or group” (p. 19). This study provides such description and analyses of teachers’ experiences and production of PCK, bounded by their activity systems. The use of multiple case studies is derived from Yin’s (2006) assertion that common criticisms of single-case study research is their lack of generalizability, and the increased probability that a researcher’s bias may have strong effects on studying only one case without comparisons.

Several other studies that utilize cultural-historical and sociocultural perspectives on teacher learning provided guidance in creating the research design for this study. Grossman, Smagorinsky, and Valencia (1999) used a case study design in analyzing 15 beginning teachers’ appropriation of conceptual and pedagogical tools for teaching English. They collected data on their participants using observations, artifact collection, semi-structured interviews, and written reflections from their participants. Later, Grossman and Thompson (2008) used the same instruments in a multiple case study of beginning teachers’ learning from curriculum materials that includes cross-case analysis. In addition, Saka, Southerland and Brooks (2009) used multiple case studies in their research on the ways in which beginning teachers become members of a school community. Within each case study, multiple data collection tools were used including open-ended questionnaires, semi-structured interviews, informal interviews, formal classroom observations, and informal school
observations. Finally, Bickmore, Smagorinsky, and O-Donnell-Allen (2005) use case study design in their study of the role that context plays in beginning teachers’ learning to teach. Using the same data collection as the studies mentioned previously, they explain, “Case studies of particular experiences are useful in educational research because they detail developmental paths that, while never representing broader groups as a whole, illuminate facets of life as members of those group” (p. 25-26).

In studies that utilize case study design to study teacher learning, the dominant data collection instruments that are used are semi-structured interviews and classroom observations. Therefore, this study used these same instruments, among others, in order to characterize the production of PCK by a stratified sample of TFA teachers. While the population, sampling procedures, and data collection and analysis procedures of this study will be discussed in more depth later in the chapter, the study design is captured in figure 14.
While the strengths of this interpretive, multiple case study design have already been discussed, there are a few limitations to this research design. First, Stake (1995) explains that case studies are limited in their generalizability, which is not of much concern to this study as it seeks to understand the “particularization” of teachers’ experiences (Erickson, 1986). Also, Yin (2006) describes the difficulty in working within case study designs that comes from having multiple sources of data that can be interpreted in a variety of ways, which could compromise the validity of
findings. Later in the chapter, I will describe the procedures that will take place to ensure the validity of the study in light of these limitations.

In the simultaneous processes of and interactions between data collection and analysis, which Yin (2006) explains is an important part of a strong case study, data collection and analysis occurred simultaneously for each teacher during this study. Table 1 depicts the timeline for this study.

Table 1.

*Timeline for the Study*

<table>
<thead>
<tr>
<th>Month</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2011</strong></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>- IRB Approval</td>
</tr>
<tr>
<td></td>
<td>- TFA Alumni were recruited and selected for participation</td>
</tr>
<tr>
<td>June</td>
<td>- Second-year teachers were recruited and selected for participation</td>
</tr>
<tr>
<td>July</td>
<td>- First-year teachers were recruited and selected for participation</td>
</tr>
<tr>
<td></td>
<td>- Consent and release forms for all teachers were obtained</td>
</tr>
<tr>
<td>August</td>
<td>- Introductory interview with each teacher</td>
</tr>
<tr>
<td></td>
<td>- Pre-observation interview with each teacher</td>
</tr>
<tr>
<td></td>
<td>- Classroom observations with each teacher</td>
</tr>
<tr>
<td></td>
<td>- Artifact collection from each teacher’s classroom</td>
</tr>
<tr>
<td></td>
<td>- Post-observation interviews with each teacher</td>
</tr>
<tr>
<td>September</td>
<td>- Pre-observation interview with each teacher</td>
</tr>
<tr>
<td></td>
<td>- Classroom observations with each teacher</td>
</tr>
<tr>
<td></td>
<td>- Artifact collection from each teacher’s classroom</td>
</tr>
<tr>
<td></td>
<td>- Post-observation interviews with each teacher</td>
</tr>
<tr>
<td></td>
<td>- CoRE and PaPeR activity with each teacher</td>
</tr>
<tr>
<td>October</td>
<td>- Collected data was coded and analyzed</td>
</tr>
<tr>
<td></td>
<td>- Initial interpretations generated by researcher</td>
</tr>
<tr>
<td>November</td>
<td>- Pre-observation interview with each teacher</td>
</tr>
<tr>
<td></td>
<td>- Classroom observations with each teacher</td>
</tr>
<tr>
<td></td>
<td>- Artifact collection from each teacher’s classroom</td>
</tr>
<tr>
<td></td>
<td>- Post-observation interviews with each teacher</td>
</tr>
<tr>
<td></td>
<td>- CoRE and PaP-eR activity with each teacher</td>
</tr>
<tr>
<td>December</td>
<td>- Descriptions and interpretation for each case were created</td>
</tr>
<tr>
<td></td>
<td>- Drafts of case studies were written</td>
</tr>
<tr>
<td><strong>2012</strong></td>
<td></td>
</tr>
<tr>
<td>January</td>
<td>- Member checking took place with case study drafts</td>
</tr>
</tbody>
</table>
- Interpretations were refined following member checking meetings
- Cross-case analyses conducted
- Generate meta-inferences with cross-case analyses
- Written case studies were refined
- Interpretations, discussions and conclusions were written

Sampling

There were six participants in this study: two first-year TFA corps members, two second-year TFA corps members, and two TFA alums who chose to remain in their placement school beyond their second year. Of the alums, one teacher was in her third year of teaching, while the other was in her fourth. All of the teachers taught either 7th or 8th grade English Language Arts in the Phoenix region of TFA. Two groups were made from this population based on their school district. In other words, one group consisted of a first, second, and third year teacher in one district, while the other consisted of a first, second and fourth year teach in another district.

This stratified sample was achieved based on criterion sampling. Two current second year, 7th-8th grade English/Language Arts teachers who returned to their placement school at the end of his or her two-year TFA commitment were recruited to participate in the study via telephone and email and with a letter of consent, included in appendix A. An additional criterion was that the teacher had to work in a district that continued to employ TFA corps members. A final criterion was that the teacher worked at a district school rather than a charter school. TFA helped to identify potential participants based on these criteria, and only two teachers were found who met all criteria: one in the Rocky Mountain School District and one in the...
Blue River School District. Fortunately, they both agreed to participate in the study.

Once the two alumni teachers were in place, the other teachers for their group were recruited with the help of TFA. The criteria for these participants were that they taught in the same school district as the alum teachers, and they taught 7th-8th grade English Language Arts. For both districts, multiple first- and second-year teachers were identified who met the criteria. Random sampling was used to determine the person to ask to participate in each category. In both districts, the second-year teacher who was asked to participate agreed to do so, while the first-year teacher who was asked to participate declined. Another random sampling procedure yielded two other first-year teachers, who both agreed to participate. Table 2 lists the participants in this study.

Table 2.

<table>
<thead>
<tr>
<th>School District</th>
<th>Name</th>
<th>Experience</th>
<th>School</th>
<th>Teaching Assignment</th>
<th>Race/Ethnicity</th>
<th>Hometown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue River School District</td>
<td>Diana</td>
<td>4th Year</td>
<td>Desert Oasis Elementary</td>
<td>7th Grade Reading</td>
<td>Latina</td>
<td>Southern California and Phoenix</td>
</tr>
<tr>
<td></td>
<td>Chris</td>
<td>2nd Year</td>
<td>Rodriguez Elementary</td>
<td>7th and 8th Grade Writing and Social Studies</td>
<td>African-American</td>
<td>Lexington, Kentucky</td>
</tr>
<tr>
<td></td>
<td>David</td>
<td>1st Year</td>
<td>Springdale Elementary</td>
<td>7th and 8th Grade Reading</td>
<td>White</td>
<td>Rural Washington</td>
</tr>
<tr>
<td>Rocky Mountain School District</td>
<td>Michelle</td>
<td>3rd Year</td>
<td>Doolittle Elementary</td>
<td>8th Grade English Language Arts</td>
<td>White</td>
<td>Minneapolis, Minnesota</td>
</tr>
<tr>
<td></td>
<td>Gregory</td>
<td>2nd Year</td>
<td>Slippery Rock Elementary</td>
<td>7th Grade English Language Arts</td>
<td>White</td>
<td>New York City, NY</td>
</tr>
<tr>
<td></td>
<td>Brad</td>
<td>1st Year</td>
<td>Skyline Elementary</td>
<td>7th Grade English Language Arts</td>
<td>White</td>
<td>Spokane, Washington</td>
</tr>
</tbody>
</table>

Pseudonyms are used for all identifiable characteristics in order to protect the anonymity of the participants in this study.
RQ3 (How does a Teach For America teacher’s activity system change over time to accelerate or inhibit the production of PCK?) and the limited time frame for this study created the need for a stratified sample. While this question would best be investigated using longitudinal research, the time frame of this study made such longitudinal investigation impossible. Thus, the stratified sample was used to provide the best possible investigation of this question within the time frame of the study. As such, several steps were taken to ensure the maximum amount of comparability between the members of the stratified sample. The criterion sample ensured that the teachers had several similarities. In addition, data was collected while teachers engaged in teaching the same or similar concepts several times in the study. For instance, in the August observations in the Rocky Mountain district, I was able to see all the teachers lead lessons about analyzing characters and plot in a short story. While these steps in no way made these teachers completely comparable, they ensured the maximum amount of comparability possible under the constraints of this study.

**Sources of Data**

In this section, I will discuss the instruments that were used in this study. To triangulate findings for this study (Flick, 2007), five sources of data were used: (1) introductory interviews with participants, (2) classroom observations, (3) artifacts from lessons, (4) semi-structured post-observation interviews with participants, and (5) CoRE and PaPeR activities for concepts taught. Sources 2-4 were used three times for each participant in the study, while source 5 was used twice.
Introductory Interviews

Modeled after Smagorinsky, Cook and Johnson’s (2003) use of pre-observation interviews in their study of beginning teachers’ experiences in learning to teach, this data source was intended to understand “teacher’s experiences leading up to and the plans for upcoming observation, with particular attention to understanding the sources of the various pedagogical tools used during the classes” (p. 1408). In this semi-structured interview (Merriam, 1998), teachers were asked about their experiences thus far in the year, as well as in past years in the cases of the second-year and TFA alumni teachers in the study. They were also asked about how they usually put their lessons together and to reflect on their greatest strengths and weaknesses as an ELA teacher. A protocol for this interview, which is included in Appendix B, was used in order to structure the interview, however the pre-observation interview was not completely standardized in order to capture the different particularities of each teacher’s experiences. This interview lasted approximately 40-60 minutes, and the audio was recorded. The data collected in the introductory interview was transcribed and coded.

Classroom Observations

Three classroom observations were conducted with each teacher in this study, once in August, once in September, and once in November. The observations lasted from one to three days, depending on how many days the teacher allotted to teach a particular concept. Each teacher was observed at least once for more than one consecutive day.

Given that 7th-8th grade teachers often teach the same lesson several times
during the day, I observed the first class they taught the lesson to each day. The first lesson was chosen because it is common for teachers to make changes to the lesson each time they teach it, and I hoped to observe lessons that most closely matched the teachers planning prior to delivering lessons. In addition, watching the first lesson gave the truest insight into the teacher’s thinking of and understanding about the content and how best to teach it to her/his students. Thus, the observation took place throughout the entire period in which the teacher first teaches the lesson.

During classroom observations, I completed an observation log with five-minute intervals, capturing what the teacher was saying and doing and what the students were saying and doing. Prior to the start of the lesson, I also created field notes about the classroom, the teacher, and the students. Classroom observations allowed me to understand the teacher’s practices, as well as gain insight into the context of their work as a teacher. Of particular significance in the observation was a collection of artifacts that will be described later, as well as the generation of a catalogue of instructional strategies and content representations and materials that were used during the lesson. Data collected during observations was also used to create questions that guided the semi-structured interview that followed the observation. At the end of each observation, I wrote initial reflections on the lesson, and created a list of the instructional strategies and content representations and materials used in the lesson.

**Artifact Collection**

Accompanying the classroom observation, I collected artifacts that were used during the lessons I observed. These artifacts included handouts, class notes,
worksheets, visual aides, other curricular materials and, at times, student work, with all personal identifiers being removed from the work. These artifacts provided a valuable insight into the tools that teachers use in their practice, a primary concern in any research that uses a cultural-historical or sociocultural framework.

**Semi-Structured Post-observation Interviews**

Following the classroom observations, a semi-structured interview was conducted with the teacher within 48 hours of the final day of observations. Much like the pre-observation interviews, the semi-structured interviews used a protocol (provided in Appendix C), yet I was careful to not over-structure the interview in order to create space for the particularities of each teacher’s experiences. The post-observation interview included a reflection on the lesson’s execution and the planning of the lesson. In addition, the post-observation interview asked teachers to explain the context around their decisions in planning and executing the lesson. Post-observation interviews were recorded and transcribed, and lasted between 50-60 minutes.

During the interview, teachers were guided through a tool attribution activity, modeled after Grossman, Smagorinsky, and Valencia’s (1999) tool attribution coding scheme, which has been used in studies of the tools beginning teachers use in their teaching practices. In this attribution activity, teachers were asked about the instructional strategies and content representations and materials catalogued during the observation, as well as the artifacts collected during the lesson observation. They were asked to explain why they used the tool, where they learned about or learned to use this tool and the problem towards which the tool was applied. Grossman,
Smagorinsky, and Valencia (1999) explain this attribution activity is useful in understanding the context surrounding teachers’ appropriation of mediating artifacts. This understanding was key in characterizing the activity system in which teachers are learning to teach and producing PCK towards the objective of becoming an effective teacher. It also was integral in understanding these teachers’ teaching practices and learning to teach as the participatory appropriation of tools.

**CoRE and PaP-eR Activity**

Following the September and November post-observation interview, participants were asked to take 20 minutes to create a CoRE (content representation) and PaP-eR (professional and pedagogical experience repertoires) for the content they taught in the observation, as outlined by Loughran, Mulhall, and Berry (2004). While they created this representation, they were asked to talk about where they learned the ideas they captured in the representation, which was recorded along with the pre-observation interview. This tool was used for teachers to write out their understanding of the content through two activities. First, teachers wrote out the “big ideas” of the concept, which were used to title the columns of the representation captured in Table 3. Second, teachers responded to eight questions about each big idea, listed in rows on the representation. Finally, after completing the CoRe and PaP-eR activity, teachers were asked to reflect on the sources of the ideas they wrote about.

Loughran, et. al. (2004), the creators of this tool, explain that the purpose of a CoRe is to “help codify teachers’ knowledge in a common way across the content area being examined, and, through this, to identify important features of the content
that teachers recognize and respond to in their teaching” (p. 376). The entire representation captured in table 3 is the CoRe for the concept being taught. PaP-eRs are reflected in teachers’ personal reflections on and responses to each of the eight questions. Loughran, et. al. (2004) explains, “A PaP-eR offers a window into a teaching/learning situation wherein it is the content that shapes the pedagogy” (p. 377). This representation is thus both a research tool, as well as a way of capturing teacher’s knowledge.

Table 3.

CoRe and PaP-eR Tool

<table>
<thead>
<tr>
<th>Question</th>
<th>Big Idea 1</th>
<th>Big Idea 2</th>
<th>Big Idea 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What do you intend the students to learn about this idea?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Why is it important for students to know this?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. What else do you know about this idea that you don’t intend students to know yet?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. What are the difficulties connected to teaching this idea?</td>
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<td></td>
<td></td>
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<tr>
<td>5. What knowledge about your students’ learning influences your teaching of this idea?</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. What are other factors you consider when teaching this idea?</td>
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</tr>
<tr>
<td>7. What teaching procedures will you use when teaching this idea, and why will you use them?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. What are specific ways of ascertaining students’ understanding of or confusion with this idea?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Using this tool, I gained insight into teacher’s knowledge and thinking about the content I observed them teaching. Also, through their narration of the completion of the representation, I gained valuable insight into the sources of their learning, in
particular the sources of support they found most useful. This was helpful in capturing the teacher’s activity system using CHAT, which is explained later in the data collection and analysis procedures.

**Data Collection Procedures**

Data was collected between August and November 2011. The participants determined dates and times for the pre-observation interview, classroom observation, and post-observation interviews. All interviews were held in locations that were determined by the participant, based on places that were most convenient for her or him.

One important consideration made for data collection involved the content of teacher’s lessons. Given each district’s use of common curriculum maps, I was able to conduct data collection cycles while the teachers in each group taught the same concept for most of the study. As much as was possible, data collection schedules accommodated the changes teachers made to curriculum maps, so the desire to capture data from teachers engaging with the same concepts took an important amount of coordination and consideration. Observing teachers as they teach the same concepts served as the basis for many of Grossman’s (1990) initial findings about PCK in ELA classrooms, as she investigated the ways that different teachers taught the same pieces of literature. Yet, unlike Grossman, I investigated teachers teaching the same concept rather than the same text (i.e. teaching figurative language, rather than teaching *The House on Mango Street*).

The audio of all interviews were recorded and transcribed, while artifacts, CoRe and PaP-eRs, and field notes were recorded using a computer. Copies of
transcriptions, field notes and CoRe and PaPeRs were made available to the participants. Appendix D presents a chronological timeline of data collection for each participant.

Data Analysis Procedures

Data analysis for this study took place in multiple phases: (1) data was coded using categories from PCK and CHAT, (2) data was organized and sorted based on the categories from PCK and CHAT, (3) themes were generated that characterized activity systems and their influence on the production of PCK, (4) themes were used to create written drafts of each case study, (5) case study drafts were member checked and revised accordingly, (6) cases were compared a time-ordered matrix, (7) disconfirming evidence was sought and analyzed.

Data analysis was conducted using Stake’s (1995) framework for instrumental case studies. He explains that such case studies give insight into an issue or a theory, which fits each of the research questions well as they all seek to give insight into the production of PCK within an activity system. With instrumental case studies, data analysis can therefore be conducted with a particular theory in mind. Yin (2006) indicates that researchers that have limited experience studying a particular topic or using case study methods (I would certainly consider myself to be in this group) are best served by using already established theoretical perspectives, rather than building their own grounded theories (Strauss & Corbin, 1998). Therefore, I used CHAT as a theory and PCK as a concept that was used to analyze the data collected in this study.

Yin (2006) explains that analyzing case study data is no easy task, but can be
facilitated with a strong use of theory in analyzing data. One way to do this is to code data using the theoretical frameworks of the study. Thus, the first step in data analysis was to selectively code interview data and field notes with the qualitative data analysis program HyperRESEARCH, using codes from CHAT and PCK. These codes are listed in Appendix E. CHAT codes were developed based on elements of CHAT systems, then refined after the first round of coding in order to capture more nuanced elements of CHAT systems. PCK codes were developed from categories of PCK described by Grossman (1990) and Lee, Brown, Luft and Roehring (2007). These categories are described in more detail in Chapter Four.

Following coding, the next phase in data analysis was to generate themes in the data for each of the six case studies. These themes related to the ways in which teachers’ activity systems were organized, and the relationships among the different parts of a teacher’s activity system. This was similar to the way in which Twiselton (2000) created the themes of “concept/skill builder,” “curriculum deliverer” and “task managers” based on qualitative data she collected on beginning teachers. Other themes were developed that reflected the PCK produced, held, and acted upon by the teachers. Thus, the themes described and categorized the PCK held by teachers, the sources of that PCK, and the teachers’ activity system’s influence on that production.

Themes were originally generated following the September observation and post-observation interview, which included the completion of a CoRe-PaP-eR activity. These themes were tested in the November observation and post-observation interview, and refined using the data collected in November. In some
cases, disconfirming evidence was found, while in other times, the themes were confirmed in the November data collection.

In December, once coding and analysis were completed, first drafts of each teacher’s case study were written. The next phase in data analysis was to member check these drafts, in order to ensure the analysis accurately depicted the activity system, PCK and experiences of the individual teacher, from the perspective of the participant. In a member checking meeting, which lasted approximately 60 minutes, each participant read the case study and commented about its accuracy and their reflection. All participants indicated they agreed with the analysis in the draft, with three participants adding some important details to their case study. In all cases, the themes and analysis did not need to be refined following the member checking.

Completion of the member checking phase signified completion of data analysis within a single case, and allowed discussion of RQ1 and RQ2. Once data was analyzed within each case, the next phase of data analysis was to conduct cross-case analyses in order to respond to RQ3. Miles and Huberman’s (2003) explanation of time-ordered matrices were used to conduct these cross case analyses, and to investigate the production of PCK across years of experience. The time-ordered matrix that was used is pictured in Table 4.

Table 4.

<table>
<thead>
<tr>
<th>PCK or CHAT Category</th>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
<th>Significance / Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSM</td>
<td>Non-existent</td>
<td>Growing</td>
<td>Leveling</td>
<td>CSM goes from not being existent, to growing in Y2, but its development levels in Y3.</td>
</tr>
</tbody>
</table>
Teachers begin with little to no CSM, then produce some based on their first year experiences. Yet, this growth does not continue in future years.

| RM       | Teachers are highly dependent on them. | Teachers are more judicious in using RM. | Teachers use the same RM as years past, and more RM from district sources. | Teachers fill the void of CSM with RM they yearn for in Y1. They are more critical consumers in Y2, and in Y3 connect the RM they developed in Y2 with ready-made RM provided by their school district. |

Cross-case analyses were vital in discussion of RQ3. This matrix did not only facilitate cross-case analysis, but also allowed discussion of RQ3 by examining cross tabulations of the same code across teachers in different years (i.e. comparing “rules” of teachers in their first year to “rules” of teachers in their third year).

**Knowledge/Individual/Structures Figure**

A final, important aspect of data analysis for this study was the creation of “Knowledge/Individual/Structures” Figures for each participant. These figures were created in order to represent the level of influence that different bodies of knowledge, different structures, and the individual him or herself held over the activity system of the teacher. An example of these figures is show below.
The figures were created in Microsoft PowerPoint, where I used a blank slide for each teacher. On the slide, I used different font sizes from 10-100 to represent the level of influence each aspect of the activity system held over the activity system. At the top of the figure are the different aspects of PCK analyzed in this study, and the size represents the level to which each aspect of PCK influenced the teacher’s practice. For Gregory, the large size of “RM” and “IS” represent his reliance on representations and materials and instructional strategies in his practice, whereas the diminutive size of “V” represents the lack of consideration he makes for variations in student learning.

In the middle of the figure is the name of the individual, which represents the level of agency and the level of influence of each teacher’s identity. In Gregory’s activity system, Gregory’s agency and identity-in-practice held a stronger influence over his learning and production of knowledge than any structure he belonged to, as well as any knowledge base he held. Finally, at the bottom of the graphic are the different structures that influence the teachers’ production of knowledge. Gregory’s students have a relatively stronger impact on his practice and knowledge production.
than does his school’s administration, his school district, and his credentialing program.

Each slide was saved as a .jpeg, then transferred into Microsoft Word with the same aspect ratio in order to keep sizes consistent. The intention of these figures was to have a simplified representation of the data in regards to the levels to which PCK was produced and the extent to which knowledge, the individual, and the structure impacted the production of knowledge. An unintended benefit of these figures was that the overall size of the graphic depicts the overall production of the teacher’s knowledge. The most effective teachers, whose knowledge is represented by larger words, led to figures that were larger themselves. These figures will be used to guide the discussion in Chapter Five.

All in all, the data analysis procedures in this study were aligned to the research questions and data collection procedures. This is depicted in table 5, which displays the connection between research questions, data collection procedures and products, and data analysis procedures and products.
### Table 5.

**Research Questions, Data Collection and Data Analysis**

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Collection</th>
<th>Data Analysis</th>
</tr>
</thead>
</table>
| 1. How do Teach For America teachers’ activity systems contribute, or not, to the production of pedagogical content knowledge? | Procedures:  
- Pre-observation interview  
- Narration of CoRe and PaP-eR  
- Classroom observations  
- Tool attribution | Procedures:  
- Framework analysis  
- Coding with codes from CHAT and PCK  
- Theme developing  
- Draft of case study  
- Member checking |
|  | Products:  
- Transcripts  
- Field Notes  
- CoRe and PaP-eR | Products:  
- Themes  
- Written case study  
- Knowledge/Individual/Structures Figure |
| 2. How does a Teach For America teacher’s sense of agency and identity in practice impact the production of pedagogical content knowledge? | Procedures:  
- Create time-ordered matrix for cross-case analysis  
| Products:  
- Table of cases and codes, with themes captured in cells | Procedures:  
- Cross case analysis using time-ordered matrix  
| Products:  
- Comparisons of themes |

### Validity

Given the nature of qualitative research and case study methods, validity was a central concern in this study. However, it is important to note that in using such methodologies, as well as cultural-historical and sociocultural perspectives derived from a poststructural paradigm, generalizability was not of the utmost importance in this study, thus addressing many concerns of validity. Still, several techniques were used to ensure the validity of the findings in explaining the particularities of the study.
First, triangulation was used in each case study by using multiple sources of data collection, including interviews, observations, artifact collections, and the CoRe and PaP-eR activities, with accompanying narration. This triangulation ensured that the data sources overlapped with one another, as well as spread a wide net of data collection in order to ensure important pieces of data are not overlooked. The multiple data sources also ensured that an abundance of data was collected, further strengthening the interpretations and inferences of the study.

Second, multiple case studies were used in order to increase the validity of findings within and across case studies. All six of the case studies were used to substantiate the findings of the other case studies. More importantly, by conducting cross-case analysis over two different groups of teachers, more cross-comparisons strengthened the interpretation of data from this study.

Third, member checking served a central role in the data analysis procedures of this study, as participants had the opportunity to clarify meanings and validate the accuracy of the interpretation of data that led to the characterization of their PCK and of their activity systems. Member checking increased the credibility of the findings, while also ensuring the authenticity of the inferences made in the results of the study.

Finally, disconfirming evidence was sought during data analysis, both within individual cases and across multiple cases. Such disconfirming evidence allowed me to both validate claims as well as capture important findings that fell outside the scope of the inferences made from the data.

**Summary**
In this chapter, I outlined the research questions, research design and methodology, data sources, data collection procedures and data analysis procedures for this study of PCK production among beginning teachers. The theoretical and conceptual framework of this study shaped the research questions, which called for qualitative research methodologies. I chose to use multiple case studies, given the strengths of this design, its use in other studies that utilize cultural-historical and sociocultural perspectives, and its use in studies that investigate PCK production among beginning teachers. The case study design led to the development of multiple sources of data and processes of data collection. The theoretical frames drove the procedures for analyzing this data, resulting in interpretations that addressed each of the research questions. I also discussed the advantages and disadvantages of my position as a researcher, as well as threats to validity and the strategies used to compensate for those threats. Chapter Four shares and analyzes the data collected in each case study, while Chapter Five discusses more deeply the results of the cross-case analyses and implications of the findings.
Chapter 4

CASE STUDY FINDINGS AND ANALYSIS

In this chapter, I share the stories of each of the six participants’ production of PCK, beginning with the teachers in the Blue River School District followed by the teachers in the Rocky Mountain School District. Demographic information for each teacher and the schools in which they teach is also shared in order to provide more context for their teaching practice and PCK production. The purpose of this chapter is to share the data collected and report the findings of each individual case study. While some of the findings that resulted from cross-case analyses will be shared, Chapter Five offers a deeper discussion and analysis of the cross-case analysis. In other words, this chapter is meant to share the individual stories of teacher, while Chapter Five tells the broader story that runs across each participants’ experiences.

Components of PCK

Using Grossman (1990) and Lee, Brown, Luft and Roehring’s (2007) studies of PCK, seven components of a teacher’s PCK are analyzed in each case study. The following table lists these components.
Table 6.

Components of PCK

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Component</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSM</td>
<td>Conception of Subject Matter</td>
<td>Knowledge of and beliefs about the nature of a particular subject matter, and the overarching conceptions of what it means to teach that subject matter. Includes a conceptual map or organizing framework of a subject and the goals of teaching of teaching that subject.</td>
</tr>
<tr>
<td>CSS</td>
<td>Curriculum Scope and Sequence</td>
<td>Knowledge of and beliefs about the selection and organization of content for instruction. Includes the curriculum developed and taught by the teacher, as well as knowledge of how that curriculum differs from grade level to grade level.</td>
</tr>
<tr>
<td>RM</td>
<td>Representations and Materials</td>
<td>Knowledge and use of representations of a particular subject matter and materials that can be used to teach a subject matter. Includes instructional resources that are content-specific.</td>
</tr>
<tr>
<td>IS</td>
<td>Instructional Strategies</td>
<td>Knowledge and use of instructional strategies that can be used to teach a particular subject matter. Includes pedagogical strategies and resources that may or may not be content-specific.</td>
</tr>
<tr>
<td>SPK</td>
<td>Use of Student Prior Knowledge</td>
<td>Knowledge and use of students’ prior knowledge. Includes the ways that teachers plan lessons and curriculum around prior content knowledge, or experiential knowledge that will aide students in learning a particular subject matter.</td>
</tr>
<tr>
<td>D</td>
<td>Common Student Difficulties</td>
<td>Knowledge of the most common difficulties students experience with particular concepts in a particular subject area. Includes a teacher’s ability to both proactively and reactively navigate their instruction around most common student difficulties.</td>
</tr>
<tr>
<td>V</td>
<td>Variations in Student Learning</td>
<td>Knowledge of variations in the ways in which students best learn. Includes a teacher’s ability to differentiate instruction around the different ways in which their students learn.</td>
</tr>
</tbody>
</table>

Blue River School District

The first group of participants teaches 7th and 8th grade in the Blue River School District. Two important considerations are made to the structuring of Blue
River’s schools. First, each of the schools in this study is a K-8 school. Second, the school district structures English Language Arts in the 7th and 8th grades by offering a 120-minute reading class and a separate 120-minute writing/social studies class.

Diana is in her fourth year of teaching, and teaches four sections of 7th grade reading at Desert Oasis Elementary School. She is the only 7th grade reading teacher at the school. Chris is in his second year, and teaches two sections of 7th grade writing/social studies and two sections of 8th grade writing/social studies at Rodriguez Elementary School. He teaches all but one of the school’s writing/social studies classes. Finally, David is in his first year, and teaches two sections of 7th grade reading and two sections of 8th grade reading at Springdale Elementary School. He is the only reading teacher for both 7th and 8th grade at the school.

Table 7.

Demographic Information for Research Participants in Blue River

<table>
<thead>
<tr>
<th>Name</th>
<th>Exp.</th>
<th>School</th>
<th>Teaching Assignment</th>
<th>School Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diana</td>
<td>4th Year</td>
<td>Desert Oasis</td>
<td>7th Grade Reading</td>
<td>C</td>
</tr>
<tr>
<td>Chris</td>
<td>2nd Year</td>
<td>Rodriguez</td>
<td>7th &amp; 8th Grade Writing/Social Studies</td>
<td>D</td>
</tr>
<tr>
<td>David</td>
<td>1st Year</td>
<td>Springdale</td>
<td>7th and 8th Grade Reading</td>
<td>C</td>
</tr>
</tbody>
</table>

% of FRD Students

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diana</td>
<td></td>
<td>Desert Oasis</td>
<td>7th Grade Reading</td>
<td>C</td>
</tr>
<tr>
<td>Chris</td>
<td>4th Year</td>
<td>Rodriguez</td>
<td>7th Grade Reading</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>2nd Year</td>
<td>Springdale</td>
<td>7th Grade Reading</td>
<td>C</td>
</tr>
</tbody>
</table>


11 In 2011, the Arizona Department of Education began using an “A-F School Accountability System” that assigns schools grades based on Academic Growth and Academic Outcomes, measured using the state’s testing system.

12 Great Schools is a service that provides information about schools to parents, via their website, www.greatschools.com. Schools are given a rank from 1-10, based on their quality, with 1 being the lowest quality, and 10 being the highest.
One important theme that runs through Diana, Chris and David’s production of PCK is that they all produce PCK on their own, with personal qualities that make their PCK different from each other. This is accomplished by an institutional setting that leaves them mostly on their own in constructing their course and determining how to teach content to their students. In addition, their own individual trajectories feature a level of agency that allows each teacher to write their own scripts for teaching. In other words, using Holland, et. al.’s (1998) concept of identity-in-practice, their positionality in their schools and districts leaves them mostly on their own, while the strong sense of authoring self they brought into the activity system of teaching aids them in making their own meanings out of their teaching practice.

Interestingly, all of the teachers take the bulk of the responsibility for working on their own, rather than blaming their schools and districts for leaving them on their own. Additionally, comparing David’s experiences from the beginning of the year to the end of the first semester, and Chris’ experiences in his second year to Diana’s experiences in her fourth year, the teachers take advanced ownership over their classrooms, defying their district at times by doing what they feel is best for students. In other words, using Wenger’s (1998) social ecology of identity, the teachers are denied advanced forms of membership by the structures in which they work, but they take advanced ownership over meanings within their activity systems. While the teachers take responsibility for the rules and division of labor in their activity system, it seems as though there may have been no other alternative for these
teachers but to work on their own, as their communities do little to foster their PCK production.
Diana’s Production of PCK

Diana has taught 7th grade reading at Desert Oasis Elementary School for the past four years. To an outsider, Desert Oasis Elementary seems like a well-to-do school in a solidly suburban neighborhood, with its well-manicured landscape and the newness of the buildings that sprawl across the large school campus. It is surrounded by one- and two-story suburban track homes with two car garages and wide driveways, some with crystal blue swimming pools in the backyard. Based on these surroundings, one might wonder what a TFA teacher is doing at a school like this, but a closer look reveals a hidden story about the Desert Oasis community. Originally conceived of and built as an upper-middle class suburban haven, there have been over 600 homes sold in this zip code over the past two years, and another 500 are sitting on the market. A massive population shift has occurred as the affluent population has chosen to either move further into the outskirts of the city and into the pristine Sonoran Desert, or into revitalized urban neighborhoods near downtown Phoenix. In just four years, this area has transformed from a suburban enclave with average home values hovering near $280,000 to a source of cheap housing for middle-class families whose homes are now worth, on average, just $71,000\(^\text{13}\). Consequently, 64% of students at Desert Oasis qualify for free or reduced lunch, and 22% of students are designated as English Language Learners, both well above the state average. In addition, the majority of students, 74%, are Latino/Hispanic.

While this may seem like an odd community to many, it feels like home to Diana. Like many of her students, Diana grew up in a solidly middle-class home.

\(^{13}\) This data is provided by the Maricopa County Assessor's Office
while living in a low-income area, first in Southern California and later right here in Phoenix. She is also a Latina, bilingual, and the first in her immediate family to graduate from college. What sets her apart from her students is her education. Living in California, Diana attended private Catholic schools, but she explains that their quality was far from what one expects from such a setting. She explained that the middle school she attended was understaffed, under-resourced, and held tremendously low expectations for her and her classmates. This left her woefully unprepared when her family moved to Phoenix and Diana was enrolled in one of the state's best private high schools. Despite being significantly behind her peers, she eventually attended an elite private university in California, where she graduated in 2007 with dual degrees in International Studies and Spanish. Yet, she has never forgotten the struggle she encountered in high school and in college. She explains,

The whole time I was in high school I was trying my very best to keep up. I feel like I was always running and trying to keep up - like literally catching up to everyone. When I got to college, I realized that all the other Latinos that I knew had done the same thing. It had not been an easy high school experience. It wasn’t like the partying and fun that you hear. It was really working hard to keep up. I thought that was really unfair. Why do I have to keep up? Just because my school is horrible?

Diana’s experiences led her to join TFA, and her experiences in middle school, high school and college also profoundly shape her activity system and her production of PCK in two ways. First, her experiences have fostered a close connection between Diana and her students at Desert Oasis, who face many of the
same social and academic struggles she has also encountered. Second, and equally important, her experiences inform her perspective on teaching, learning, education, and her own development and practice as a teacher. Thus, Diana’s production of PCK is most impacted by the intersectionality of her own experiences in school and her connection with students who have a similar cultural background to her own.

Diana explains that her positive impact on her students is a result of her similarity to them. Not only does she mean this in terms of her own social experiences and cultural heritage, she is also referring to her stature and appearance. Each morning as she welcomes her students at the door to her classroom, she finds herself looking up at several 7th graders who are taller than her. Diana stands just a tick over five feet tall, but as she strides up and down the rows of her classrooms, her presence grows exponentially. All of her students listen intently to what she has to say, and most turn their heads to follow her around the room. In my first visit to her classroom in August, Diana was teaching her students how to describe a character using an author’s characterization. In the lesson, she explained to students,

We said Selina can be bossy. But, let’s say, one day, that Christian is sitting there, and Selina says, ‘Give me the ruler or else!’ Christian’s eyes start to get watery and there are tears. He turns next to Isaac and says, ‘I just can’t take it!’ She has done more than have action. She has had an effect on Christian. That is what we talk about when we talk about effect on others. How does that character make other characters feel or act?

Explanations and demonstrations like this are common in Diana’s class, as, instead of using a story to illustrate this concept, she uses the real world of the classroom.
Selina really can be bossy, and she sits right in front of Christian and Issac. After this explanation, Diana flashed the sentence “Effect on others: How does the character make other characters feel or act?” on the projector, and the students rapidly copied this sentence into their notes on characterization. Moving from her students’ personal experiences to the concept of characterization continued as she asked students to describe the effect their siblings have on them.

The district-approved textbook for this class that has its own definitions and examples of characterization sat on a shelf in the back of the classroom during this lesson. In this lesson, Diana consciously and intentionally chose to use her students’ examples rather than the textbook. She explained,

What I don’t like is that a lot of teachers use the textbook to teach. But there is no content really. Like they give you the little blurb only, and that’s it. But it is not taught well. It’s not the best way to teach it. I think that it clicked, like this book is not a textbook. It’s an anthology of stories. Why is it treated like a textbook? For me it's a source for stories and I will pull stories out of it. We have a class set of them, but it is in no way meant to teach kids any skill. It’s meant to touch on the skill, maybe.

Whenever we discussed the textbook in interviews, Diana explained that she has never been trained on using the textbook, and has determined how to use it on her own. As she says, it “clicked” for her in between her first and second year of teaching that the textbook, in her estimation, was a good source for stories, but not a tool for building reading skills. In the three lessons observed, Diana used the textbook just once. In the characterization lesson, students practiced the skill of
describing characters with a comic strip and a story from another resource provided by the district. In the November lesson, students read seven poems, none of which came from the textbook.

The textbook stands as an important representation and material (RM) given to her by her district, and her rejection of the textbook also signals her disposition towards her school district more broadly. Rather than using the textbook to demonstrate concepts, she uses her students’ experiences, feeling a much closer affinity towards and knowledge of her students’ experiences rather than the textbook. Their similarity of experiences causes a bond between Diana and her students that she explains is one of her greatest strengths as a teacher. Diana’s background not only creates this helpful bond between her and her students, it shapes her broader dispositions towards teaching, learning, education and her own development and teaching practices.

Even in her earliest trainings with TFA and her work at Desert Oasis, Diana’s background created a filter through which she made meaning of her learning experiences. She explained in an interview in November:

I think really early on, I knew that my experiences [in school] had been tough. And I might not have had a really concrete idea of what they were, or what they evolved into, or what 7th grade standards were supposed to look like. But, I had the idea of where I did want [my students] to be at some point. Maybe not as big picture as life, but at least high school.

In this statement, Diana states that although she lacked knowledge of 7th grade reading, she knew about the experiences of struggling in school at this age, which
was more important than the content or pedagogical knowledge others could have offered her. In her first two years of teaching, this led her to largely rejecting support from her school district, TFA, and her credentialing program at Arizona State University.

No community has impacted her production of PCK, nor her brokering of rules and the division of labor in her activity system, more than her home community and the community of her students. Diana distinguishes herself from what she calls “cutesy teachers” in her school and her school district. She explains that “cutesy teachers” do not view education in the way that she does, leading to less rigorous curriculum, less demanding classrooms, and lowered expectations of students. Diana is quick to throw the vast majority of her colleagues at Desert Oasis and in Blue River into the category of “cutesy teachers.” Especially early in her career, Diana rejected support and tools that did not align with her background, particularly from her school district. She says, “My district does a horrible job at in-services,” and when asked if her district-provided support person is of any help to her, Diana was quick to reply, “No. Oh, God no. No. No. No. My achievement advisor is horrible.” She offered similar assessments of both TFA and ASU’s support of her teaching.

Despite the fact that Diana has largely rejected support from her school, district, TFA and ASU, she frequently points out two colleagues with whom she has built positive and meaningful relationships. The first colleague who she has formed a close relationship is Jill, another former TFA corps who was also assigned to teach middle school language arts at another school in the Blue River district. At the
beginning of their TFA experience, Diana and Jill formed a bond and partnership that is as strong four years into their career as it was when they found strength in each other in their first days of teaching. Jill’s name appeared dozens of times in our interviews and in her attribution of her CoRE and PaPeR activity, and as we discussed Diana’s lessons and development, she cited Jill’s help seventeen different times. When asked in an interview why she has such a close relationship with Jill, Diana explained that Jill “views education the same way that I do.” When pressed to think of why that might be, Diana explained that Jill also experienced a history of academic struggle as a result of being raised in a low-income community, en route to her successful completion of college and acceptance into TFA. Like Diana, Jill experienced a significant shift in the rigor of her education as she entered high school, but successfully struggled through high school, ultimately being accepted into a private college herself. The parallels of Diana and Jill’s background help bind together their close partnership, and solidify Jill’s influence in Diana’s activity system and production of PCK.

The other colleague who Diana points to having a positive, productive relationship with is, not surprisingly, another teacher from a similar background as Diana. The 7th grade math teacher at Diana’s school, Adriana, is another person that Diana collaborates with. Diana explains that Adriana grew up in a low-income community near Desert Oasis, and her family still lives in the area. She doubts that many Blue River teachers other than Jill, Adriana, and her understand the experiences of their students, thus limiting other teachers’ and her district’s overall effectiveness.
As Diana’s background and connection to her students most greatly impact her activity system, as opposed to her relationships with colleagues in her school or district or mentors in TFA or in her university program, she mostly works on her own to produce the PCK she needs to teach 7th grade reading. It is not clear if Diana works by herself because she wants to, or because she sees no other alternative to this arrangement. Diana’s district provides a curriculum map that she generally follows, but she rarely uses the RM her district give her to teach her course, because, she explains, her district has never trained her on how to use these materials.

There has been no shortage of support providers for Diana in her career, but with each one, Diana has an explanation for why she does not work closely with them. Her colleagues are “cutesy teachers” who do not see education the way she does. Her achievement advisor, who used to teach 2nd grade, is not knowledgeable about 7th grade or language arts. Her administration is focused on topics other than instructional practices. In her first year teaching, her main support provider in TFA offered no legitimate support, nor did her support providers and professors at ASU’s credentialing program. Diana is accurate in explaining that none of these people teach nor have taught her content area and grade level, and those that did do not view education the same way that she does. These people are more equipped to provide Diana with general pedagogical support, rather than the PCK exclusive to 7th grade reading that she needs to plan, execute and reflect on her lessons.

Diana’s self-production of PCK has created two interesting phenomenon. On the one hand, Diana has a track record of great success with her students as measured by student achievement results and as demonstrated in the classroom
observations from this study. In 2010, 7th graders at Desert Oasis passed the Arizona Instrument to Measure Standards (AIMS) reading test at a rate of 80%, well above state average and towering over the 60% passing rate from the 8th graders at the same school (Arizona Department of Education, 2011). Yet, on the other hand, closer examination of Diana’s teaching reveals an uneven set of PCK that has been limited by her lack of influential experiences with other reading and language arts teachers. In particular, Diana’s conception of subject matter (CSM) is developed on her own. Her conceptual understandings of reading have come from her own experiences, and her own reflections. She does not and has not allowed many people to influence her CSM, whether they are from TFA, ASU, or her own school or district. Working with little to no influence or guidance from a wider perspective of ELA over the past four years has led to an uneven development of CSM, where she has strong conceptions of some topics but a limited conception of others.

In some areas, Diana’s CSM is very strong. In her introductory interview, Diana described her greatest strength as a reading teacher as an understanding of the subject matter and what the students need to do to master it. One example of this was seen in her September observation when she was teaching students about text features of non-fiction text and astutely connected this lesson with finding the main idea and supporting details of a text. In addition, her teaching of main idea and supporting details demonstrates a stronger CSM than her district resources do. Diana explained that the district-provided materials for finding main idea almost always consist of five-sentence paragraphs on a single topic, where the first sentence is always a topic sentence with the main idea, and each of the following sentences
provides one supporting detail. The district asks students to use different coding symbols to double-underline the topic sentence, and circle the supporting details in the following sentences. Diana, on the other hand, pulls articles from news sources like NPR and from the students’ science and history textbooks, then teaches her students to metacognitively ask themselves what the author is trying to communicate in a section, and the details and examples the author provides to support those main ideas. In Diana’s words, the district focuses on a “pull and plug process” that only applies to highly structured articles, while her teaching focuses on a conceptual and metacognitive understanding of making meaning of real-world text.

While her teaching of text features and main idea display a highly developed CSM, other observations and interviews revealed a much less developed CSM in other areas of reading. In her introductory interview, Diana explained that one of her biggest weaknesses was teaching poetry. When asked why, she responded, “Poetry is just terms. And I think I did too much without stopping and explaining [when I taught it in years past]. It was like here are all the terms. Write them down. OK. Now let’s use the terms we learned.” Her explanation that poetry is “just terms” illuminates an underdeveloped conception of poetry that was seen in her November lessons.

The two lessons observed in November came at the very end of a poetry unit. In the lessons, students read several poems in a packet Diana created, then responded to questions about each poem that asked them to either analyze the poem and make meaning of it (i.e. identifying the speaker and the speakers’ message or describing the theme) or identify an author’s use of poetic devices (i.e. finding
examples of alliteration or figurative language). More priority was placed identifying the use of poetic devices than on making meaning of a poem. The day before, Diana’s class was left in the care of a substitute as Diana was out sick. With the substitute teacher, the students read the packet of poems and answered multiple-choice questions. The next day, Diana was observed going through these poems and questions with the students. As she led students through their responses, her students responded to questions by identifying the answer choice, rather than the response indicated by the answer choice. For instance, when asked, “Which of the following is a simile?” students answered with a simple response of “A.” This shows an emphasis on correct answers, rather than conceptual understanding. Correct answers are an accurate demonstration of the ability to identify the use of poetic devices, but not sufficient in demonstrating the more complicated mastery of understanding a poem, which requires a strong conceptual understanding of poetry that will aide a reader.

The lack of focus on understanding the meaning of a poem was further demonstrated in the review of questions. Students routinely responded incorrectly to questions that asked students to make meaning of poems, but almost always answered questions about poetic devices correctly. The first three questions of the packet asked students to make meaning of the poems in the packet: identifying to whom the “they” in a line referred to; identifying the most likely speaker in certain lines of a poem; identifying what a poet means when they use the word “deserter.” Each of these questions requires the student to understand the poem. Drawing a Popsicle stick to call on a random student, Diana received incorrect answers from
students for each of these three questions. Later in the packet, when students were asked more simple questions regarding terms, Diana routinely received correct answers using the same Popsicle stick method. After finishing their review of the packet, Diana asked her students to review the definitions of poetic devices using flash cards they had created. With a partner, students quizzed one another on these terms, showing yet another example of Diana’s conception of poetry as “just terms” rather than reading and making meaning of poetry.

Student responses to questions served as an important window into two other instances of Diana’s underdeveloped CSM. In her August lesson on describing characters using an author’s use of characterization, Diana asked students to read a comic strip and a story, identify an example of characterization (e.g. an author using the character’s speech, thoughts, actions, etc.) and use that example to describe the character. In other words, she asked her students to find textual evidence, and then use the evidence to describe a character. Her students, on the other hand, continually tried to describe characters when she asked them to find textual evidence. Diana’s process was cognitively backwards for this group of students, who were trying to describe a character (i.e. Charlie Brown is lonely), then find textual evidence (i.e. in the second panel, he has no Valentine’s day cards) while Diana was trying to have them find the textual evidence, then describe the character (i.e. Charlie Brown receives no Valentine’s Day cards, so he is lonely). While it is hard to say that either of these conceptual approaches to the topic is better than the other, in this lesson it was clear that her students were more comfortable with the approach they were using than the one Diana used. Later in the lesson, this led to her students creating
character descriptions on their own that did not actually describe the character.

Rather, the students routinely simply stated what the character said or did while not actually describing them. This data also suggests limitations in other areas of Diana’s PCK for this concept, namely addressing students’ difficulties (D), incorporating students’ prior knowledge (SPK), and adjusting for students’ variations in learning (V).

In the September lesson on text features, Diana began by modeling using text features to determine the main idea and supporting details using an outline with the opening sections of an article on sharks. In this model, the main idea and supporting details she created did not always fit with one another. For example, in her model, she included the following outline:

I. Definition of Sharks  
   a. Skeleton is made of cartilage  
   b. Sharks are cold blooded  
   c. Breathe through gills

This set of supporting details does not create a definition of sharks, but rather describes characteristics of sharks. This misconception reappeared in her guided practice with students, where students and Diana collaborated to create outlines for the other sections of the shark article. In one section, the students and Diana had agreed that “Sizes of Sharks” was the main idea of the section. When she asked students to provide supporting details from the article, one student responded that the whale shark was the longest shark and was, on average, 25 feet long. On the board, Diana wrote, “whale shark is the longest” but did not write the actual length provided by the student. She explained the “number of feet is irrelevant,” which was puzzling considering the main idea of the section was about size and the “number of
“feet” provided detail about the size of a shark. After this explanation, Diana quickly moved to another student who provided an example of the smallest shark while not indicating the length of the shark. After writing this down on the board, the class was left with the following outline:

II. Sizes of Sharks
   a. Whale shark is the largest
   b. Dwarf shark is the smallest

Diana explained that there were no other supporting details and moved onto the next section with the students, when it seems clear that in the outline the supporting details provided do not actually indicate, in any quantifiable way, the size of sharks. The answer she rejected, whale sharks average 25 feet in length, does, however, stand as a more appropriate supporting detail.

Finally, in the November lesson on poetry, after reading a poem, Diana asked the students to identify a metaphor in one of the stanzas. One of the students volunteered a response, stating that the line where the author compares the stench of a weed and the smell of a rose was an example of a metaphor. While Diana accurately identified this as an incorrect answer, her explanation was puzzling. She explained that this was not a metaphor because nothing was being compared. Quickly, she moved on to a student with the correct answer, while the student who offered the incorrect answer scrunched his face and tilted his head. The line clearly compares a weed to a flower, so Diana’s explanation of “nothing is being compared” was nonsensical. The accurate reason why this was not a metaphor, and thus an incorrect answer, is that a metaphor compares two different things, and the smell of a weed and the smell of a flower are too similar to be considered a metaphor.
During a CoRe and PaP-eR activity in the post-observation interview for the poetry lessons, Diana was asked to explain why poetry is important to learn in school. Diana offered a very curious answer. She said:

You can't be an adult and not know that. I mean that’s the best way that I think of it. That’s the way that I, the reason why I feel like they really need to know. Yeah, it’s on the test. Super important. To succeed in life, they need to do well on the test. But, you don’t want to be an adult who doesn’t know that. It’s expected that you know that. People are going to make references to things like that, and you should know that. I don't know if that's reason enough, but I would feel so bad if someone said something, like, a poetry term like allusion - which they will learn in high school. I would feel really dumb if someone said something like that and said, oh, they are making an allusion to this. And I said, ‘Allusion? What's that?’ I wouldn’t want my students to have that happen. And I feel like I would hate for my kids to have that moment of embarrassment of, ‘Oh, I don’t know what that is.’ And their peers do. I feel like that is not fair.

Rather than offering a response that captures either the technical reasons for learning poetry, such as improving one’s writing skills or level or reading comprehension, or a more humanistic understanding of poetry, such as learning how to effectively express one’s emotions or understand the complexity of other people’s experiences, Diana offered a response that depicts a very narrow understanding of why learning poetry is important for a 7th grader. When asked why she believes this, she pointed directly to her own experiences in school and beyond, saying that she has experienced the
“embarrassment” she describes “all the time.” It is hard to say that Diana’s understanding of the importance of poetry is incorrect in light of these experiences, but suffice to say that it is certainly limited. It thus becomes clear why her teaching of poetry focuses more on memorizing and identifying devices, rather than making meaning of poems. Memorizing and identifying poetic terms is a much better fit for this understanding of why poetry is important, and her own personal experiences in understanding the importance of poetry.

The best way to understand how a teacher like Diana could have such a developed CSM for some concepts and a limited CSM with others is to recognize the self-production of PCK in Diana’s activity system. This unevenness seems to have become hardened over time; as if her first year she knew nothing, her second she knew a little bit and in her third and fourth year, she has codified that little bit into a cement-like pillar of knowledge. While that knowledge is strong, it is still limited to only those learning experiences in her first two years. Thus, Diana appears to be a master of her own game, showing very high levels of PCK and effectiveness in the limited repertoire she has developed on her own.

**Chris’ Production of PCK**

Chris teaches 7th and 8th grade Writing/Social Studies at Rodriguez Elementary School. While Desert Oasis is one of the newest schools in the Blue River School District, Rodriguez is one of the oldest and largest schools in Blue River. Rodriguez Elementary is wedged in between a turf war involving two of this area’s biggest street gangs, and surrounded by rows of middle-class homes decades older than the ones near Desert Oasis. The freshly paved streets of Desert Oasis
...don’t exist here either. Strips of fresh tar stretch like band-aids over cracks in the pavement. The tar gives the sense that the streets are busting at the seams, ready to rip open, and the school does not appear to be much different.

Rodriguez Elementary is in the throws of a radical transformation caused by the undoing of a previous change in the school’s structure. Two years ago, the school changed from a K-8 to a K-5 elementary school, with the 6th, 7th and 8th grade students being consolidated into a middle-school campus just a mile away. Last year, it switched back, leaving two classes of students who left the campus for a year, only to return the next. While this might seem like a minor inconvenience, it has caused a great strain on the school as students struggle to reconcile last year’s feelings of accomplishment and independence in attending a true junior high school, and being thrown back into the elementary school environment of Rodriguez. In addition, waves of Muslim refugees from Africa have been assigned by the federal government into nearby apartment complexes, creating a different, yet still significant, population shift at Rodriguez. Between the gangs, the older kids, and the more than 100 refugees who have enrolled in the last two years, the Rodriguez administration has had its hands full over the past two years, leaving little time to provide support to second-year corps member Chris.

“From my school, I was supposed to be observed every month last year,” explains Chris. “That didn’t happen. I think I got observed maybe 4 or 5 times. My principal was in my room maybe once, and I didn’t get a lot of feedback off of that.” In spite of this, Chris believed he had a moderately successful first year of teaching, climbing a steep learning curve but eventually helping his students make academic...
progress that he felt went largely unrecognized. In an interview during the second week of school, Chris confessed,

It’s actually a bit frustrating because I feel that especially last year – last year I was a reading teacher – I grew a lot, and I feel that nobody with the school or the district knows just how much I grew from the beginning to the end of the year. So I was frustrated at them for that. But now, it kinda is what it is and they’re not going to be around too much.

He interrupted himself to clarify that he was a reading teacher last year because just two weeks before the start of school, Chris was informed that the district reassigned him to teach a new class. After offering reading, writing, and social studies as three separate classes for several years, the district made a shift in policy over the summer that combined the social studies and the writing class into a 120-minute block. Chris and another second-year corps member from Rodriguez were moved out of their reading course assignments and into these new hybrid classes, leaving Chris with two sections of 7th grade writing/social studies and two sections of 8th grade writing/social studies. The reassignment also sent Chris’ summer preparations out the window. In his first interview, he shared, “It’s a shame that the collaboration I did over the summer turned out to be the class I’m not teaching anymore. Hopefully I will be able to use it at some point.”

It was apparent during our first interview together, conducted in the week before the first day of school, that a perfect storm of circumstances was brewing above Chris’ classroom. Significant shifts in district policies left him teaching a brand new course to a group of students who didn’t want to be there, while the school
administration’s limited resources were dedicated to assisting the new African refugee students and keeping gang violence off of the Rodriguez campus. In the first observation of his classroom in August, the storm was breaking.

The walls of Chris’ classroom are a dull shade of grey, and that day were mostly bare save for a few posters Chris had created displaying rules, consequences, inspirational quotes, and the students’ big goal for the year. As I entered the classroom, Chris met me in the back of the room to tell me that all of the school’s printers were broken, so he was unable to copy the materials needed for today’s writing lesson when he arrived at school this morning. Thus, he had to throw out the writing lesson he prepared, and was still determining what to do in today’s class. As I settled into a chair and pulled up to a semi-circle table, the morning announcements began on the closed-circuit television at the front of the room. Chris’ students sat in groups of three to five at rectangular tables, as two smiling students on the TV screen greeted the class with a “good morning.” They asked their peers to stand for the Pledge of Allegiance, yet only a handful of students rose to their feet. After three demands from Chris, all but two students stood. At the conclusion of the pledge, a female student shouted out from the side of the room, “They are not that pretty,” eliciting some chuckles from her classmates but no direct response from Chris. Rather, he said, “Silence,” and told the kids to quietly take a seat and listen to the announcements.

Not more than 30 seconds later, the room grew chatty, causing Chris to say, “I want the room to be silent,” this time a little louder with a sharper “s” and crisper “t.” The rhythm of students chatter growing from soft to loud, and Chris firmly
stating “silence” continued for the rest of the period as the students learned how to use their pre-writing from yesterday’s lesson to draft a body paragraph. Although the students continually engaged in chitchat, they were never completely off task, but their attention was not solely on their work either. Chris walked around the room and said in a low voice, “You have no time to waste” four times to four different tables of students.

The following observations in September and November not only featured similar episodes of student misbehavior, but similar conversations in the back of the room at the beginning of class. In September, Chris told me that the administration had changed the day’s schedule that very morning, resulting in Chris only seeing one of his two 8th grade classes. He explained he had decided to scrap his writing lesson, understandably, because he didn’t want the two classes to be out of synch with each other. In November, Chris sent a text message the day before his observation because, again, the day’s schedule had been altered. This time, class would only be 40, rather than 120, minutes long, meaning the writing lessons he prepared would have to be significantly altered.

Despite the inconveniences, in each observation, Chris was able to pull together and lead students through a writing lesson that had a consistent structure. Each lesson began with Chris modeling a writing skill to his students. In August, he demonstrated using pre-writing to write a persuasive paragraph. In September, he showed his students how to write “the perfect paragraph” with adequate details in a business letter. In November, he read aloud an exemplar of narrative writing with sufficient clarity and detail. After this 10-15 minute model, he set students loose to
complete the skill on their own, silently and individually at their tables. As the students worked, Chris walked around the room, working one-on-one with students who were struggling or needed clarification and reminding the class that they “have no time to waste” in order to keep them on-task. This process of modeling, then floating and supporting students working independently was the only example of the instructional strategies (IS) Chris uses to teach writing that was seen in observations. With each class, the floating and supporting continued until it was time for the students to pack up their belongings and head to their next class.

Not only were the IS similar in each lesson, Chris’ use of representations and materials (RM) were analogous in each lesson observed. All three lessons featured students writing to a prompt similar in structure to the prompts on the AIMS test. Chris created each of these prompts on his own, as well as the graphic organizers that students used to organize their pre-writing. Chris explained his approach to teaching this class was to create prompts that would prepare students for the AIMS test, create a graphic organizer for the prompt, then model completing the organizer and writing the essay prior to having kids plan and write the essay on their own. In reflection of each these lessons, it became clear that Chris’ writing instruction and PCK production was severely influenced by a lack of content knowledge caused by an absence of content-based support and the lack of a community of writing teachers. In the same way that multiple forces colluded to create a difficult situation at Chris’ school, multiple institutional and individual trajectories cross each other in a place that leaves Chris on his own to produce PCK both by choice and by force.
Prior to joining TFA, Chris attended and graduated from a large public university in the South, earning a degree in social work. This was a major accomplishment for Chris, who grew up in a low-income household in working class communities where he personally experienced educational and societal inequity. Yet, it is his work outside of the classroom that Chris speaks most proudly of. He was the founding member of a student organization that worked to create racial harmony at his university and was a National Collegiate Boxing Association Champion. He attributes this success to his poise and his self-determination, two qualities he brought with him into the classroom.

Admittedly overwhelmed by the many pressures inherent in the first year of teaching, Chris explained that he overcame these challenges by working through problems he encountered in the classroom on his own. He said,

[Working on my own] is always the way I have learned. I just go into a dark corner and try to figure things out. Even when its working with my [support provider in TFA], I kind of want to get the things that I need, refine them, and try to figure it out. And if I can’t figure it out I will go back [for help]. I am very big on at least trying to figure it out by myself for a while. I found that when it comes to figuring out what exactly is going wrong, I am best off doing that by myself and then going to somebody who knows how to deal with it.

After finding success and a sense of identity with this approach to learning and development as an undergraduate, Chris fell back on working on his own in his first year of teaching, continuing into his second year in the classroom.
After completing the CoRe and PaP-eR activity for teaching the perfect paragraph, Chris attributed the understandings he documented to no one but himself. He explained,

Professional developments have not given this to me. It really is classroom experiences that these things came from. I would say the majority comes from what I have seen in class and deciding on what to do to alleviate some problems in class and build on some success that I am seeing. Definitely a lot of trial and error. And, a lot of error, I think.

He chuckled as he finished this statement. The CoRe and PaP-eR activity reflected this assessment of his work, as Chris struggled to answer questions that related to how best to teach and ascertain understanding of this concept. For both of these questions, Chris described the lesson he had taught, which was largely ineffective as students routinely made mistakes in keeping their paragraph on-topic and organized.

Although Chris’ self-production of PCK seems to occur through Chris’ freewill, it is doubtful that Chris would have any other option should he have been on a trajectory less driven by self-determination. Given the structure of the communities, rules, and division of labor of his activity system, Chris seems to have been fated to work alone on his writing instruction regardless of his work style.

Although the district is responsible for creating the new hybrid course of writing/social studies and chose Chris to teach this course, they have done very little, in Chris’ estimation, to support him in the planning the curriculum and instruction for this new class. The district has given a curriculum map to Chris for the course, which organizes standards into instructional periods, but they have not created
formative assessments to measure mastery of these standards as they have done with other subject areas. Rather, they have left this to the writing/social studies teachers to create on their own. In addition, they have not supplied Chris with a textbook or lesson planning guide for the writing course: tools he was given as a reading teacher the year before. The district has adopted a curriculum for writing instruction, but given the late switch of teaching assignments, Chris was never trained to use it. Furthermore, the only other teacher at Rodriguez who teaches the writing/social studies is, like Chris, a second year teacher from TFA, who, in all likelihood, is in the same boat as Chris. Thus, the district mandates to Chris what he needs to teach, yet supplies him with very little direction or tools to use in order to determine how to teach it.

Chris fills the “how to teach it” gap through his participation with TFA. His writing course relies on lessons he learned through his summer training with TFA, backwards planning the course to align with assessments and following an “I do, we do, you do” lesson sequence matched to objectives derived from standards. Yet, this support is almost purely pedagogical, and has a minimal content-specific focus. In interviews, Chris cited TFA as the source of most of his pedagogical approaches to teaching, yet never cited them as a provider of content knowledge.

After his district and TFA, the support community of his credentialing program at ASU seems to be in a place to provide Chris with much needed content knowledge. Yet, again due to the switch in teaching assignment, Chris has slipped through a crack in the program’s scope and sequence. In students’ first year in the program, they take a variety of content-area based courses, while in the second year,
their coursework focuses more on theoretical concepts, policy issues, and learning research methodologies needed for completing their master’s thesis. Since Chris was a reading teacher in his first year, he took courses focused on reading instruction last year. This year, the program has moved him into the courses for second-years, although he is a first-year writing teacher. Therefore, he will graduate from this program never having taken content-related courses for writing, nor social studies.

Chris thus finds himself without a community of writing teachers, nor a writing community as he rarely engages in any form of meaningful writing on his own outside of the classroom. Although he faced similar hardships in his social studies instruction given the course assignment change, he has been able to find both of these communities through his collaboration with others in TFA, his real-world political participation, and his own “apprenticeship of observation” (Lortie, 1975) in social studies.

After learning about his new assignment, Chris met with a group of other middle school social studies teachers in TFA to create a list of prioritized standards and draft a curriculum map. He explained this list was created by asking, “What does an American absolutely need to know about history and government?” Given his experiences as a youth and college, Chris also considers himself to be politically active in his personal life, giving him another source of content knowledge of many social studies concepts. In fact, during one of the observed social studies lessons, Chris taught his students the concepts of recalls, referendums and initiatives in the political process just days after the State of Arizona voted on a recall of an elected official for the first time in its history. Although the concept of a recall was new
material, the story of Senator Russell Pearce’s ouster, mostly due to his anti-immigrant views, was not a new topic of conversation for Chris’ students.

Finally, Chris’ own experiences attending low-performing schools as a youth has created a powerful “apprenticeship of observation” that he can draw upon in his social studies instruction. He describes his social studies class by saying he crafts it, along the lines of what I didn’t get when I was in social studies in middle school. Because we went in and read from a book and answered the questions and I don’t remember anything that we talked about. But I really get the feeling that because we are making connections to things that are going on in their lives, or things that they or I feel that they need to know - and they believe me - I really think that when they leave they will still know what it was that we spoke about. What we learned and they will know how it affects their lives. So, I find it to be a much more powerful class than what I had when I was in school.

Chris strives to create a similar experience for his students in writing, yet he has no such experiences to draw upon.

When discussing what the biggest challenges for him this year, Chris pointed to a lack of content knowledge in writing. First, he explained teaching writing was a challenge because, he said, “In my middle school and high school classes, I never had a writing class.” He explains that this is significant, because it leaves him in a place where he struggles to understand how to teach students to write well. He said, With writing, if you don’t know how to write a sentence, it is very difficult for me to teach you how to write a sentence. Because I never remember
learning how to put together a sentence. Or I never remember learning what
an informative interrupter was, or what it was called, when I realized that I
had to teach it as a part of writing. But I write with them all the time. I have
appositive in my writing, but nobody ever sat me down and told me this is
what this is. And this is how you do it. I kinda picked up on it more naturally.
Writing always came naturally to me. And with that, I have no idea how to
teach it to somebody else. Teaching something that seems so fundamental to
me is pretty difficult.

Although other research on teacher learning has discussed the “apprenticeship of
observation” as having a problematic impact on beginning teacher learning, in Chris’
case, it seems as though this would actually do him a lot of good.

Without an “apprenticeship of observation,” continual personal writing
experiences, nor colleagues who also teach writing, Chris is left without a writing
community. He identified this in his August interview, when he was asked if he had a
writing teacher role model or a vision of a writing teacher he aspired to be like. He
said,

There are teachers who I am starting to work with. Some TFA alums who
have been sharing resources, but now I actually want to sit down and see
how they do it because they have had really good results. There are people I
would certainly like to sit down and work with and learn more about what
they are doing but as far as there being a particular teacher who would be
the pinnacle or someone that I am striving to be like, not at this point. Maybe
because I don’t know what I don’t yet.
Three months later, he reported little progress in working with other writing teachers. He said

I have yet to find [a community of writing teachers]. People go in so many
different directions with their writing classes so it is hard harder to find a
planning group for a subject like writing because it seems like people tend to
get a bit particular. It is definitely still a work in progress and I am trying to
figure it out. I think going to see another writing class and how they format,
or seeing how they target their students' needs in a way that's going to help
them get better. Once I am able to do that I think I will have a lot of
perspective of what I should be doing in my classroom.

At the time of our final interview, Chris was planning to ask his principal for a day-off in order to observe a more experienced writing teacher who facilitated a
workshop on teaching writing offered by TFA. Yet, Chris doubted his principal
would give him the time off, and was planning to call in sick if the principal denied
the request.

A deficiency in content knowledge leaves Chris in a place where all aspects of
his PCK are both self-developed and under-developed, confined to his own
classroom teaching experiences. This creates a catch-22, as his own teaching
experiences are his most meaningful source of knowledge, yet they do not feature a
solid base of content knowledge. Thus, he is caught in a cycle of under-development.

Although support providers in TFA, Rodriguez Elementary, and the Blue River
School District jump into this cycle, they consistently do so with pedagogical, not
content-based, support that does little to help Chris build the content knowledge he so desperately needs in order to become the teacher he aspires to be for his students.

**David’s Production of PCK**

Education is a huge part of who you are and how you understand yourself. And how you relate to society. I absolutely think that your brain is probably the biggest gift that God has given you, and with the gifts that God has given you, you ought to use them not only towards just plain fun and curiosity, but figuring out who you are and why you are on this spinning rock in this huge universe that we can not explain. But also, you have a responsibility to yourself, to your family and to your society, to use that brain and your gifts to do the work of God. Thy kingdom come, to be specific. (*November 7 Interview with David*).

David is a first-year teacher at Springdale Elementary School, another K-8 school that is similar in location and demographic to Desert Oasis, where Diana teaches. He is the school’s only 7th and 8th grade reading teacher, and began his teaching career after completing a master’s degree at an elite theological seminary on the east coast. He said that he loves reading literature, can read three ancient languages, and even dabbles at times with creative writing. In spite of this background with language and literacy, he faces many of the same struggles as most first-year teachers, from effectively managing the classroom to feeling that there is not enough time in the day to meet all of his commitments to his students, their families, and his school. Yet, the statement above reflects an additional challenge to David that makes him, in his eyes, unique to many of the other first-year teachers in
David has typical struggles within a wider context of his spiritual/moral conception of education that he believes sets him apart from the vast majority of his colleagues in both his school district and in TFA. Ultimately, David's PCK development occurs in a space between his spiritual/moral conception of education as the “work of God”, and TFA and his school district’s technical conception of education as achievement on multiple choice benchmark tests aligned to standards. This results in David working mostly by himself, pragmatically and intellectually, to build a middle school reading course that fits within his paradigms of language, literacy, and theology.

A visit to David’s classroom does not immediately illuminate the tension between his spiritual/moral vision of education and the middle school course he has been asked to teach. The walls of the classroom are mostly bare, and a disorganized bookshelf with a collection of random paperbacks thrown all about the shelves sits to the left side of the room. At the front, the students, who sit in rows, face a white board and a smart board that doubles as a projection screen. The room looks like a typical first-year teacher’s classroom, and the lessons David teaches suggest the same.

I had the fortune of observing David's first content-focused lesson of the year, and his in-service career, in early August. The lesson showed a keen conception of subject matter (CSM), no doubt related to his background at seminary and his graduate education in language and literacy, wedged within resources, materials (RM), and instructional strategies (IS) that reflected the many sources of his teacher learning. The lesson focused on inferring character traits in a short story, and began with an activity conceived of and designed by David where students saw an
illustration of a man appearing to be a janitor on the projector and were asked to infer the person’s profession and some of the person’s probable characteristics. Six of the thirty-one students in the classroom actively participated in this activity, volunteering to share their ideas about the man in the drawing. The others sat back in their chairs and silently listened to the conversation between David and their classmates. This culminated in David explaining to his students,

You know this is a janitor because it is something you see at school. And something you see all the time. What you have done is made an inference. You do them all the time, but so quickly that they are hard to remember. But they are easy because you do them all the time. An inference is a combination of what you read, and knowledge from your experience.

At this instant, David animated his PowerPoint to reveal this definition of an inference, which the students then copied into a notebook. The activity showed the ability for David to not only capture the skill of making inferences within a real-world example, but also draw upon students’ supposed prior knowledge (SPK) to build understanding. This was no small feat for a teacher executing his first true content-based lesson.

The lesson continued with David projecting excerpts from several texts on the screen and modeling for students how a reader can infer a character’s traits. Introducing the first example, David said, “All we have done is moved from pictures to a text,” then read the opening paragraph to The Catcher In The Rye to the students in a dramatic, spirited voice that captured Holden Caulfield’s sarcastic and cynical tone well. After the reading, David again led his students in a series of questions
similar to those he asked about the illustration of the janitor, and again, only six
students participated actively, raising their hands and offering their ideas to the class.
After the students had inferred the character was bored, lonely, and probably around
18 years old, David exclaimed, “That’s it! You already made inferences on a high school
text!” Next, David followed the same routine using selections from Bram Stoker’s
_Dracula_, Mark Twain’s _The Adventures of Huckleberry Finn_, and a short story by
Flannery O’Connor. After modeling the skill of inferring character traits with the
students who continually volunteered, David then told the students they would be
reading a short story from the textbook titled “Zebra” and would infer the traits of
the main using a graphic organizer as they read.

Switching from high school level texts to “Zebra” signaled a shift from RM
made by David to RM given to him by his school district. Both the textbook and
graphic organizer, neither of which was used in his introduction to new material,
were district materials. As the lesson shifted from materials from David’s own
personal experiences and library to the district provided materials, it sputtered.
Students read with partners, but struggled to stay on task. Those that did tended to
read the story as fast as they could, paying little attention to the skill of inferring
character traits or completing the organizer that asked them to write a character’s
actions, speech or thoughts from the text, and explain the character trait
demonstrated in this part of the story. David walked around the room, monitoring
student progress and helping students who raised their hands for the final 25 minutes
of the lesson. At the end of class, David did not collect the organizers, nor check
their work, explaining that they would have to finish the next day since most
students were only about halfway through the story. In addition, they would complete a short quiz on inferring character traits that David planned to give them. I returned the very next day to see the students doing the same partner work for the entire lesson. David did not administer the quiz nor collect the students’ work at the end of that day either.

While the lesson featured a developed CSM, consideration for SPK, and RM generated from a variety of sources, it also showed a lack of IS that would engage the entire class and little consideration of students’ difficulties (D) with the material and variations (V) in their approach to learning. However, after visiting the same class again in September, it appeared as though a “honeymoon effect” between the students and David may have actually been taking place, and the disconnect between David’s modeling of the skill using texts from his own personal library and the students’ practice of the skill using the textbook would take on a more significant role in causing a division between David and his students.

A month later, I returned to David’s classroom to see the room looking mostly the same. The classroom library was still disorganized and bulletin boards for “excellent student work” and “tracking classroom mastery” were bare. This day’s objective was to analyze the influence of a story’s setting on its conflict, aligned to Arizona State Standards as well as the curriculum map given to David by the district. In the month between observations, two important shifts were made in the lesson’s construction. First, rather than modeling the skill with texts different from those the students would practice with, David modeled the objective using the beginning of the short story “The Flowers,” which students continued to read in their practice.
Second, rather than using a graphic organizer taken from district-supplied materials, David had created his own graphic organizer that represented the metacognitive tasks that he modeled to the class. In addition, the short story was given to him by TFA during a workshop on lesson planning he attended, thus none of the RM of the lesson were provided by the district. Oddly, the lesson did not feature any consideration for SPK, as seen in the August lesson. There was also no apparent consideration for D or V, which was confirmed in the post-observation interview.

In shifting from using district-provided materials to his own materials in the lesson, David seemed to take a step towards his own understandings of language and literacy. “The Flowers,” written by Alice Walker, is a story about a young Black girl who, while walking through the woods collecting flowers, finds the decomposing corpse of a Black man who has been lynched. David explained that he chose to use this story in class because it would better capture his students’ attention and boost student engagement, and because of his own affinity for the story. Passing it out to students in class, he told them, “I love this story. I love it.” Yet, while he thought the story would encourage more engagement from the students, the inverse was actually seen when two students audibly moaned as the story was being passed out. David did not react to either student, but rather carried on by introducing the story to the students. Once all the students had both a copy of the story as well as a copy of the organizer, David dramatically read the story to the students. When the students arrived at the part of story where the main character discovers the corpse, several of them laughed out loud when they heard the word “naked.” At that time, three
students were also doodling on the paper, rather than reading along, and two students sitting next to each other were pretending to punch each other.

At the end of the story, David told his students, “Now this is pretty straightforward until we get to the part that says ‘she stumbled on his eyes.’ Can anyone tell us what happened here?” Only two students raised their hands. The student called upon simply saying that the character found a skeleton. David then re-read the final two paragraphs, slowly and more dramatically to the students. At the end, he said, “It says she found a ‘raised mound.’ What was in this raised mound?” After a few seconds of silence, he followed, “She says she found a noose. What is a noose?” Again, no students responded, leading David to, at the spur of the moment, turn to the board and draw a picture of a noose. As he drew, students shouted, “He was hanged!” “She was killed!” “I think she died!” “No she didn’t!” After getting their attention, David explained to the students what happened in the story, then transitioned them to the activity of analyzing the setting. Yet, students were still confused and focused on the plot of the story, even as David demonstrated how to complete a graphic organizer that analyzed setting using the opening paragraph. Given that many of the students did not follow along with his model, when they were told to finish the organizer for the rest of the story, few completed the activity. In addition, when he told the students to work with a partner to complete the chart, his request was greeted with several moans, and a student loudly yawning.

Ultimately, the lesson ended with David reminding the students that the objective was to analyze the influence of setting on the conflict. He asked the students to share what they believed to be the conflict of the story. Two volunteers
raised their hand; one sharing the conflict was person vs. nature, the other saying person vs. person. David did not respond to nor challenge these answers, seemingly content to simply end the lesson as soon as possible as the other 28 students were already restless and starting to pack up their materials, while several chit-chatted to each other in loud whispers.

In reflection, David was quick to share his observation that the lesson “choked” once he saw that the students did not understand the story. Yet, he was pleased in the way he had scaffolded the lesson and created a strong organizer that would lead students through the task of analyzing setting. This led David to reflect that what was most challenging from this lesson was having “fun and interactive” activities for the students that would engage them in the lesson. While he completed the CoRe and PaP-eR activity item that asks to share teaching procedures that could be used for the concept, he shared, “I would love to know more, but I feel like my methods part of teaching knowledge is probably my weakest.”

The CoRe and PaP-eR activity not only elicited David’s reflection on his lack of knowledge of IS, it also illuminated a more problematic element of David’s PCK and his PCK production. When asked why it was important for students to learn the skill of analyzing plot’s influence on conflict in the story, he offered two responses. First, he said, learning this skill would lead to success on AIMS, the state’s assessment and accountability system. Second, this skill allows students to access the larger question of social context and how it’s important in the story. They need to understand the social context to access bigger questions.
and deeper meanings of the story and to create links between this story and other stories, and life in general.

The second response was interesting, as the lesson did not include any discussion of the social context or “bigger questions and deeper meanings of the story.” This seemed especially odd given the choice of text. Perhaps more importantly, the lesson did not push students to engage in assessments of learning that mirrored the AIMS test, meaning that although David had two legitimate ideas for why the lesson was important, the lesson itself was not constructed to reach either of those two goals.

How could David so articulately share twin rationales for this content, yet fail to create or execute a lesson that reached either one? While David’s reflections explained this gap as a result of a lack of engaging IS, it became more apparent that this gap might actually be the result of David’s struggle to take his thoroughly developed CSM and transform it into effective 7th grade teaching. In other words, his CSM is based on his own experiences as a writer and a graduate student at an exclusive private school and exists on a “moral/spiritual plane” (David’s own words), devoid of the perspective of his 7th grade students as well as an ability to engage on an “instrumental plane” (again, David’s own words) of teaching students standards so they can succeed on tests.

The community of his school district and TFA, explains David, prioritize the instrumental practice of teaching students standards so that they will have the knowledge and skills to succeed on important assessments. Thus, the tools they share with him, including RM and IS, are tools that are meant to bend his activity system towards their instrumental purposes. Each of David’s lessons are structured
in the five-step lesson plan template taught to him during the TFA summer institute, and feature IS he attributes to the summer institute as well as professional development activities from Blue River. Furthermore, the rules provided by the district and TFA push David to focus his teaching towards measurable student mastery, made quantifiable via formative assessment. Although the “standards mastery tracker” in his room was empty in September, David shared that he enjoys working with student data and working with the goal of boosting student achievement in mind.

David’s own background gives him a different set of tools and rules, based on his own experiences with language and literacy, particularly as a graduate student at seminary. Yet, his activity system is not equipped with a community of people that can support him in his endeavor to capture his teaching and his students’ learning on a spiritual/moral plane. This was seen most vividly in his inability to use “The Flowers” to open a discussion of the social, spiritual, or moral context of the story. His struggle to turn his understandings into the PCK needed to teach 7th graders was also seen in an interesting interaction in his November lesson. In this lesson, as David posted notes on the projector for students to copy, one student loudly moaned, “Noooooooot.” David replied,

You are a smart seventh grader. This is so good for you. On the count of three you need to be silent and writing notes. You are writing because it is good for your brain, good for your future, and good for your personhood. 3…2…1.”

All of the students were writing notes silently when David reached “1.”
When I asked David about this exchange, he smiled, and explained he had begun to use the phrase “good for your brains, good for yourself, good for your future, good for your personhood” more and more with his students, something he had created on his own based on his own mindset about education. He explained,

Education is a huge part of who you are and how you understand yourself. And how you relate to society. I absolutely think that your brain is probably the biggest gift that God has given you, and with the gifts that God has given you, you ought to use them not only towards just plain fun and curiosity, but figuring out who you are and why you are on this spinning rock in this huge universe that we can not explain. But also, you have a responsibility to yourself, to your family and to your society, to use that brain and your gifts to do the work of God, basically. Thy kingdom come, to be specific.

As we discussed this idea, it became more and more clear that this “mindset about education,” derived from his own personal experiences, might be both his best friend in teaching, and his own worst enemy in PCK production.

With feelings this strong about literacy, teaching and learning, it stands to reason that David has a clear vision of where he wants his teaching and his students’ learning to reach, and thus most values those materials and sources of support that best align to this vision. Yet, as he engages with the communities of TFA and his school district, these sources of support are simply not there. He explains that the closest he comes to having conversations about his vision for education with colleagues comes from his involvement with his certification program at ASU. He said,
My ASU instructor tends to bring up a lot, like, ‘Why are you doing this?’ She says to ask those questions, and pushes it towards the general goodness of your personhood. The enrichment of life based on our use and knowledge of literature. So she goes there a little bit, but it stays generic and humanistic. Thus, by his own admission, David doesn’t “adopt stuff very well” and resorts to working on his own to build the resources and materials for his classroom. Not only does this leave David exhausted (he explained to me in November he works all day on Saturday and most of the day Sunday just to plan Monday, Tuesday and Wednesday’s lessons), but alone when it comes to planning lessons and building his course. His November lesson on poetry confirmed both of these tendencies, as it featured the analysis of poems collected by David that were not in the textbook, and activities conceived of and constructed solely by David.

In one interview, David shared that he believed, “Mostly, all teachers resort to what did they do, or did not do, or wish had happened to them when they were in middle school, for better or worse.” The “for better or worse” clause certainly comes into play in David’s own teaching, as the vision he has for education rarely resonates with his support community and his students. While he sees the importance of reading authors like Alice Walker, Flannery O’Connor, Mark Twain, and J. D. Salinger, at this point of their lives, his students do not. Devoid of that connection with his students, David struggles to see his course through his students’ perspective, as evidenced by his lack of consideration for students’ difficulties (D) and variations of student learning (V), as well as the subtle, passive resistance of his students during his lessons. His students’ resistance, including their sighing and moaning, occurs in
his lessons mostly when they are asked to practice analysis skills on their own and with their partners, and rarely occurs while David models these skills at the front of the room. David recognizes this struggle, saying,

The analysis I am trying to get them to do is probably more than what is going to be asked of them on a test. And that’s kind of a struggle for me. Because, [if I don’t push the analysis] then it just kind of reinforces to them that if they can identify these things and bubble in the right letters, then they are good. It’s an unspoken tendency that I have seen in the students to where they get to the end of identifying things in a text and they think the job is done. I don’t know. I’m of the age where I didn’t go through any standardized testing. And maybe its like these kids have been raised in a culture of standardized testing. That's the only thing I can get to. It is maybe their past experience with school is to bubble in the right letter and make sure you do really well on benchmarks, make sure you do really well with AIMS and teachers have been reinforcing that. And so that's their understanding of what education is.

His students’ understanding is clearly different from his own perspective, but David is quick to point out that this does not result in any antagonism from him towards the students, their past teachers, his colleagues, or his school district. Rather, he feels it his responsibility to bring together the two arenas of his spiritual/moral perspective on education and his school’s instrumental perspective on education. At the end of his first semester of teaching, he does not seem to be any closer to bridging these two worlds than he was at the beginning of the year, resulting in a
PCK that is both fueled and limited by his own experiences, and an activity system that pulls him in two directions. David explained,

I feel like for me, that’s my approach to education and I feel like if I can get kids to at least get some taste of that too, that probably will make some effect on some of them. But I can't really - I love the data too! I'm kinda nerdy about that but the data for me has to speak to a both/and situation. I feel like if they all get exceeds, but they don't have any takeaways, it’s just hoops they have jumped through in order to get to college or wherever. I mean I kinda question why. Why are we doing this? This is way too much work if it is not actually going to effect their intellectual life.

With his first group of students, David’s question of “why” has left him in a state of hopelessness. He explains that his initial interactions with his students has placed him and them on a trajectory where he is doubtful that he will make any kind of profound impact on them, intellectually or otherwise. Explaining that TFA is “a big source of guilt” because he is not doing as effective a job as his colleagues, he said,

It’s probably an unhealthy mindset, but next year is going to be better. I mean I can’t lie and say that I haven’t thought that. I mean to restart this school year, even with the little bit I know, I could completely change the relationship with my students. But, we already have a history that cannot be undone from days where I didn't know what I was doing. I was underprepared and they talked and yelled through my whole lesson. And that's in their mind. And it’s just like, if I could start - if we started tomorrow,
I could make sure that never happened. It would be a different year. So I know that’s an unhealthy mindset of putting everything off to next year, so I am focusing on what are the things that have to happen immediately to make sure these kids are successful in benchmark and are successful on AIMS.

Ultimately, David’s PCK production and activity system are most structured by his own experiences with language, literature, and a spiritual/moral understanding of education, “for better or worse.” His self-professed greatest strength as a middle school language arts teacher is his love of literature and literacy, his own background in language study, and his own ventures into creative writing, yet, these experiences may create a profound disconnect between David, who is 30 years old, and his students who are just reaching an age where they can begin to understand the connections between language, literacy, and the world at large. As David struggles to funnel his own insights, experiences, and background into a 7th grade reading class, so too does his attempt to be an effective teacher for his students.

**Blue River Teachers’ Production of PCK**

Although Diana, Chris, and David’s production of PCK is influenced by their own individual idiosyncrasies and individuality, the institutional impact on PCK production is the same. The Blue River School District and their respective schools leave them on their own to produce PCK, failing to offer support that they find meaningful. TFA offers pedagogical support in the form of IS, traces of which are seen in their lessons, but fails to offer either content knowledge or PCK. In their activity systems, thus, their own individuality, crafting of rules, and division of labor
are foregrounded, while the communities they belong to carry less direct significance on their production of PCK.

Using Holland and her colleagues’ (1998) concept of identity-in-practice, the teachers’ figured world and sense of authoring of self thus has a significant impact on their teaching practices. The positionality they are offered does not create a space for significant production of PCK, nor the fostering of effective teaching practices in general. The teachers, thus, use their figured worlds and authoring self to write their way out of the corner the Blue River School District and TFA have pinned them into. While Diana and David both hold powerful figured worlds for teaching reading that are very different from each other, Chris has a much less-developed figured world for teaching writing. On the other hand, Diana and Chris seem to have the strongest sense of authoring self, while David seems to have the hardest time putting his figured world into action. Again, then, it is little surprise that David and Chris struggle more significantly than Diana in teaching their content area. While experience certainly has an impact of Diana’s effectiveness, the influence of her well-developed figured world and sense of authoring self cannot be rendered invisible by her years of her experience. In fact, perhaps those years of experience are probably what have helped her develop such a powerful identity-in-practice, while Chris and David struggle with developing figured worlds, and sense of authoring self, respectively.

Using Wenger’s (1998) social ecology of identity, the rules, division of labor and communities in Diana, Chris, and David’s activity system create a similar negotiation of forms of participation and ownership of meanings. On the one hand,
over time, each teacher takes a stronger sense of ownership over his or her teaching practice and his or her work with students, signaling advanced ownership over the meanings in their activity system. Yet, with advanced ownership of meanings come stunted forms of membership. None of the teachers feel any sense of meaningful membership to the community of Blue River, or the community of TFA. In fact, Diana’s experiences as a fourth year teacher signals these memberships becoming less developed over time, which stands contrary to a common sense that would imagine membership becoming stronger over time. Even looking closely at David’s experiences from August to November signals a similar shift away from forms of membership in the structures of the Blue River School District and TFA.

The implications of the arrangements in the teachers’ activity systems, identities-in-practice, and ecologies of identity will be discussed further in Chapter Five, after they are compared to the experiences of the second group of teachers in the Rocky Mountain School District. Yet, the consequence on this arrangement on the production of these teachers’ PCK seems clear. By producing PCK on one’s own, PCK production becomes both uneven and under-developed in each teacher’s activity system. This is not meant to say that PCK is non-existent, however, as some components of PCK are very strong for these teachers. A similar pattern was seen in the teachers from the Rocky Mountain School District, whose case studies will be shared in the next section.

**Rocky Mountain School District**

The next group of participants teaches 7th and 8th grade in the Rocky Mountain School District. Like the Blue River School District, each of the schools in
Rocky Mountain is a K-8 school. Rocky Mountain structures English/Language Arts in the 7th and 8th grades by offering a 120-minute period that is used for both reading and writing instruction. Michelle is in her third year of teaching, and teaches all sections of 8th grade ELA at Doolittle Elementary School. Gregory is in his second year, and teaches all sections of 7th grade ELA at Slippery Rock Elementary School. Similarly, Brad, a first year teacher, instructs all sections of 7th grade ELA at Skyline Elementary. Each of these teachers is the only grade-level ELA teacher at their school, working with one other ELA teacher who teaches the other grade.

Table 8.

<table>
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<tr>
<th>Name</th>
<th>Exp.</th>
<th>School</th>
<th>Teaching Assignment</th>
<th>School Grade</th>
<th>Great Schools Rank</th>
<th>% of FRD Students</th>
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<td>3rd Year</td>
<td>Doolittle</td>
<td>8th Grade ELA</td>
<td>B</td>
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<td>77%</td>
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<tr>
<td>Gregory</td>
<td>2nd Year</td>
<td>Slippery Rock</td>
<td>7th Grade ELA</td>
<td>C</td>
<td>4</td>
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<tr>
<td>Brad</td>
<td>1st Year</td>
<td>Skyline</td>
<td>7th Grade ELA</td>
<td>C</td>
<td>4</td>
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*This data was unavailable, although this school is designated Title I, meaning at least 50% of students qualify for free or reduced lunch.

The Rocky Mountain School District is a network of several K-8 schools located on the edge of metropolitan Phoenix. A generation ago, Rocky Mountain was considered mostly an impoverished, rural community whose economy was focused on agriculture and trucking. Today, many of the fields have been turned into suburban sprawl, as a population surge has occurred in this part of town. Five of the six schools in the district have been built into planned housing communities, anchoring blocks of three-bedroom, two-bathroom houses with two-car garages.
While the housing boom has brought a more middle class feel to Rocky Mountain, every school in the district has kept its Title I status as most students in the district qualify for free and reduced lunch. As the housing market has crashed, the community has only slipped further and further towards poverty. Many of the houses have been foreclosed and are now abandoned, while multiple families cram into homes that were originally designed to house a single family.

Like the teachers in Blue River, the three Rocky Mountain teachers in this study produce PCK on their own, navigating a complex web of district mandates and support from TFA that does not always align to the district’s requirements. The Rocky Mountain School District has placed increased pressure on their teachers to raise student test scores on AIMS, leading to the development of a district-wide formative assessment system that tests students on standards mastery at the end of each quarter. The district has also created curriculum maps that align to these quarterly benchmarks. Despite the increased pressure on what teachers should teach, and when they should teach it, the district provides little meaningful development or direction with regards to how to teach the material, as was similarly seen in the Blue River School District. Thus similar arrangements in activity systems, identities-in-practice, and ecologies of identity take place, leaving similar impacts on the production of PCK. The actual PCK, though, still differs from teacher to teacher, signaling the individual idiosyncracies in these teachers’ activity systems.

**Michelle’s Production of PCK**

Michelle is a third-year teacher at Doolittle Elementary School in the Rocky Mountain School District. For all three of her years at the school, Michelle has
served as the school’s only 8th grade ELA teacher, teaching four sections of students that are grouped by ability. She has one honors class, two mainstream classes, and one class of students with special needs that she co-teaches with a resource teacher.

At the beginning of her first year at Doolittle, Michelle worked for a principal who told her that he “completely trusted her” to make all instructional decisions for her class. Confused and surprised by this level of trust, Michelle created and led her students through what she felt was an “impactful” curriculum for those two years. She leaned heavily on support from TFA, both from colleagues in the program, including her former roommate and her main support provider. In our post-observation interviews, Michelle attributed the vast majority of the representations and materials (RM) and instructional strategies (IS) she used to people she worked with in TFA. Consequently, at the beginning of the year, Michelle was nervous about moving forward as a teacher without support from TFA, since she had graduated from the program. Adding to her trepidation was the fact that a completely new administration at Doolittle was pressuring her to adhere closely to the district-provided textbook and curriculum map.

Michelle’s production of PCK is caught within a tension between her own ideas about middle school ELA (founded on her own experiences in school, her two years of teaching experience, and her involvement in TFA), and her district’s push towards aligning instruction to high stakes assessments like AIMS. She believes the purpose of her course is to develop “critical thinkers,” and not just the “test takers” her district wants her to produce. In our introductory interview, she explained that she felt “torn” by what the district wants her to do with her course. She said:
I feel like there has been so much just thrown at my head like if you don’t raise these AIMS scores then you are not an effective teacher. We are in a really weird position because my school did not meet AYP. We lost our administration, so we have all heard about all the different things coming our way. So I think they are more focused about AIMS than my environment, which is making me really confused because I know that I want to develop good people versus good robots who can spit off facts. So I have to figure out a way I can do a curriculum in a way that is OK with my district, so its OK with me philosophically.

In each of the three observations of her classroom, Michelle taught in a way that sought to satisfy both her own philosophical needs and the practical demands of her school district. In addition, each of her lessons had a solid flow to them, as the class efficiently transitioned from one activity to the next, each focused on a different component of ELA. In August, her lesson began with seven minutes of silent, independent reading with books students had checked out from the library. At the end of silent reading, the students transitioned with incredible efficiency to practicing reading fluency with a partner. After fluency practice, the students took notes from the board on plot and conflict while Michelle lectured about the differences between internal and external conflict. After notes, students were asked to explain the difference between internal and external conflict to a partner, then Michelle randomly called on three students to check their understanding of the content. Satisfied with her students’ responses, Michelle then displayed notes about four types of conflicts (person vs. person; person vs. self; person vs. society; person
vs. nature) that students added to their notes. With each type of conflict, Michelle gave students an example of the conflict using examples from the students’ lives. One example of this was when she said that an example of person vs. self conflict would be if Sandy, a student in the class, saw one of her friends cheating on a test, then debated whether or not she should cheat, too.

After completing their notes on conflict and successfully responding to another check for understanding, students read a story from the textbook titled “Broken Chain.” As students took out their textbooks quickly and quietly, Michelle passed out a graphic organizer students could use to take notes about the exposition and rising action, and identify conflicts in the story. Michelle modeled how to complete this organizer to students, and then let students read the story with a partner while they continued to fill out the organizer. As students began to read with partners, Michelle called a group of four students to a table at the side of the room, where she worked with them to complete the task. After working with the group for five minutes, she called another group up, until she had a chance to work at the table with every one of the 16 students in the class. At the end of the class, Michelle told students that they would have time tomorrow to finish reading the story and completing their graphic organizers, then told students to pack their belongings so they could be dismissed.

From a distance, this lesson was remarkable, as students moved efficiently between a variety of reading skill development activities. Additionally, as students charted their fluency practice, a pair of boys in the back of the room gave each other a high five as they recognized their improvement. During notes, Michelle was always
smiling. The students bashfully grinned when they saw their names in the examples and proudly responded to check for understanding questions with accurate answers. While working at the table in small groups, Michelle spoke casually with students as they energetically engaged with the story. Michelle explained this repertoire of IS mostly came from working with TFA colleagues and her main TFA support provider.

Yet, a closer examination of the lesson revealed that these activities, while all impressive on their own, were not integrated in a way that expressed a thoroughly developed conception of subject matter (CSM) on Michelle’s part. Students’ development in independent reading, reading fluency, and standards mastery were all done in isolation, rather than in a connected way. Also, as students engaged in independent work, reading “Broken Chain” with a partner while Michelle worked with small groups, they moved in and out of being on-task and compliant, while chit-chatting with partners, or staring blankly at the text. While students read, they also blazed through the text, paying no attention to completing their organizer, until Michelle told them to complete it while they sat at the table with her. To help students complete the organizer, Michelle asked them questions about the elements of plot and conflict. When students struggled to answer her questions, Michelle took an increased role in the activity and began to answer many of the questions for students, or would take a limited one-word response to a question like “what type of conflict is this?” and would use it to give kids an entire sentence to put in their notes.

In reflection, Michelle was quick to point out that many of the RM of this lesson were new to her teaching, and different than what she had done in years past.
First, the fluency development was something her district told her to do in her first year of teaching, but thinking that it was not an effective use of time, she did not use the resources they provided her. In her second year, she taught a group of resource students and began to include fluency development in her instruction. Seeing the difference it made with students’ reading skills, she decided to use the fluency development resources with all of her non-honors classes this year. In addition, she explained she used the story “Broken Chain” because of her district’s insistence on using the textbook to prepare students for AIMS. In past years, students in Michelle’s class read short stories that were not in the textbook. Finally, and perhaps most importantly, Michelle preferred to teach her students through reading novels, rather than the textbook, and had the freedom to do this in years past when she was free to organize her curriculum as she wished. This year, though, the district had, for the first time, created a list of standards that were to be taught in the first quarter and would be tested district-wide at the end of the quarter. Michelle had then decided to use stories in the textbook to teach those standards and prepare students for their first quarter benchmark.

Michelle’s self-created curriculum from her first two years featured RM aligned to her CSM: novels and short stories not found in the textbook that focus on “critical thinking” and not on rote skill development. She explained this alignment between CSM and RM was difficult to achieve with the district’s demand to use the textbook, but she was trying to integrate her curricular goals of critical thinking with the demands of the district, an example of brokering rules in her activity system. She said:
We [the teachers in the district] have been put in this box of you are going to create test-takers and people who will make AYP as opposed to critical thinking human beings. Just basic students thinking for themselves does not happen very often… As a teacher my goal is to get them to think for themselves for what they do in their life and what they read in their life. And I think that with the textbook I can pull stories that I want to, or that I like, or that I think are interesting. So I think I am kind of doing it [following her own ideas]. I’m not really doing it to the extent that I want to…I am trying to do what I think should happen in a classroom, but at the same time, I have to do what [the district] need[s], too.

In all interviews and reflections, Michelle was skeptical that the district had the right ideas about what her class should look like, but expressed that she was trying to meet their needs while staying true to her own ideas as well. It was clear that Michelle felt she knew what was best for the students and would not back down from offering them a curriculum that met her vision.

The best example of Michelle’s tension with her district and its impact on her production of PCK was captured in the final observation of her classroom. In her first year of teaching, Michelle decided to teach one of her favorite books, which she read for the first time when she was in 8th grade: Elie Wiesel’s memoir *Night*. She hoped that reading *Night* would increase student engagement. Constructing a three-week unit that also taught the students about the Holocaust, Michelle noticed a sharp increase in her students’ interest in reading and the depth of the comments they had in class discussions. In the summer between her first and second year, she expanded
the Night unit to a longer thematic unit on The Holocaust, which culminated in her students creating a Holocaust museum in their classroom that was open to the public after school. Behind Michelle’s desk, a newspaper article about the event was laminated and taped to a cabinet. Night is the centerpiece of Michelle’s curriculum, and the accompanying unit is the time of her year she most looks forward to. In the first quarter, when Michelle scrapped curriculum she had created in the past in order to prepare for the district benchmark using the textbook, she was firm in her resolve to teach her Night unit in the second quarter, no matter what pressure or mandates her district would put on her to stick to the textbook.

At the beginning of the school year, Michelle confessed to feeling “pressured” from the new administration of her school. Yet, in September, she said she no longer felt pressured but now felt “nervous” about her school’s demands. In the first six weeks of school, an administrator had only visited her class once and although she turned in lesson plans to her administrator every week, she had not received feedback on any of these plans. When it was time to teach Night, Michelle was no longer worried about her district’s influence for two other reasons. First, on the first quarter benchmark, although she was dissatisfied with her students’ performance, Michelle’s 8th graders had the highest-class average among all of the 8th grades in the district. In addition, she was seriously weighing leaving her school at the end of the year.

Michelle teaches on a grade level team that is comprised of four TFA alums that have remained at the school beyond their two-year commitment. The other three members of her “amazing team” were planning to leave at the end of the year.
to pursue other commitments they felt would make a broader impact on educational equity and reform. One planned to attend law school in the fall, another planned to go to graduate school, and the other was trying to move into a position at a high-performing charter school. Michelle described the situation, saying,

If my amazing team leaves, I don’t trust the district to hire people who are going to come in here. I think [my colleagues] see big picture. They don’t see a future here. I think they need to make - I guess the district needs to make teachers see their future in this school and with these kids.

Michelle was quick to point out that her and her colleagues’ feelings towards the district had nothing to do with their feelings towards their students and their students’ families. Michelle and her husband live just minutes from the school, and Michelle said she loves regularly running into and interacting with students and their families outside of school. She said:

We all love these kids. Its definitely the district that - or like the district and I think its just education itself. Like the system. Being in this system where you look around and you realize that, yeah, you are helping these hundred kids but what else are you actually doing? I know [her colleague] does. Like she has told me multiple times. When I have said maybe I'll leave, she will say, ‘You deserve better than this. You can do better than this.’ That's what she has told me. It has nothing to do with - I mean she lives right down the street. So she's even closer than I am to our community.

The combination of her students’ success on the first quarter benchmark, her school’s inability follow through on the mandates they made at the beginning of the
year, and her concerns about returning to Doolittle the following year pushed Michelle to a place in November where she exhibited a strong sense of authoring self in making the decision to teach her Holocaust unit. The district had told her she should be teaching her students concepts, skills and strategies for reading expository text, so Michelle added several expository passages about the Holocaust from the United States Holocaust Memorial Museum (USHMM) website to the unit. On the day I observed her in November, students read an article about Jewish Ghettos before reading the scene in *Night* when Elie’s family is forced to move into a Ghetto.

After completing their fluency practice, students were told to get into their “active reading groups” to read the article from the USHMM. As they read in groups of four, they were told to use a highlighter to underline the main idea and supporting details of the text. In addition, students were told to write a one-sentence summary of each paragraph in the margins of the article. Michelle modeled this process on the overhead projector with the first paragraph, explicitly telling her students to underline no more than three supporting details from each paragraph, and to avoid copying the text word-for-word in their summaries. Next, she asked students to read, highlight, and summarize the subsequent paragraph. While they worked, Michelle walked around the room checking students’ work. As she floated from table to table, she noticed the students had two difficulties in completing the task. First, many students were highlighting the vast majority of the paragraph, not focusing on the most critical supporting details as she said to do. Second, student summaries were usually more than one sentence long and copied phrases verbatim from the text.
Just as she had done in her August lesson when students struggled to identify and describe conflicts in the story, Michelle responded to her students’ difficulties by reading the text to them and asking rhetorical and closed-ended clarifying questions. For instance, with one group that had not captured the most important details of a paragraph, Michelle read a sentence, then restated it in simpler language and asked, “Is this an important detail?” When students said, “Yes,” she responded “Good! Let’s underline this.” When another group had summarized a paragraph with three sentences, Michelle pointed to a sentence in the summary and said, “Is this the main idea or a detail?” When her students said, “detail” she said, “Good, so let’s take this out of the summary since it is not the main idea.” As Michelle moved from group to group, she increasingly read and restated the paragraph in simpler language, then asked students questions like these. Not only had Michelle specifically instructed the students to not do the things they were doing, Michelle said that they had successfully completed this task several times throughout the year with other articles. This suggests that the article the students read was simply too difficult for them, given their reading level. Michelle said in the post-observation that she did not know what the reading level of the article was, and that her main consideration for choosing this text was that it made students see that Night was “real.”

After reading the article, students read Night in their groups through reciprocal reading, a reading strategy where students work together to use different reading comprehension strategies to understand a common text. Michelle learned this strategy from a TFA workshop the year before, and explained it was the single most important thing she had learned about teaching reading. In their groups,
students rotated the jobs of reader, summarizer, clarifier, and questioner after reading each page. Michelle walked around the room, monitoring her students’ work, crouching down next to their desks when they engaged in summarizing and clarifying the text. She noticed that in most groups, students struggled to summarize what they had read. Like before, Michelle responded to this by restating the text in her own words, (usually by saying “So, what this is saying is…”) then asking students rhetorical or close-ended questions like “does that make sense?”

After reciprocal reading for thirty minutes, Michelle asked the groups to determine two connections between what they read in the article from the USHMM and the scene in *Night*. As students talked about the readings, Michelle pre-empted student struggles to respond to the question by writing the following sentence starter on the board: “One thing that is similar between the article and ‘Night’ is ____________.” After getting the students’ attention, she asked four groups to share out their responses using the sentence starter. Her students responded:

- Jews were being transported to concentration camps.
- Jews were being isolated.
- Germans controlled the Jews’ lives.
- Germans were killing Jews.

Despite using several different instructional strategies throughout the lesson and pre-empting student struggles multiple times in the lesson, these responses reveal that Michelle had not led her students to more than a recall-based understanding of the text. In fact, the first and third of these responses included phrases used in Michelle’s own discussion of the article, suggesting that students were simply recalling what she said to them while they were in groups, rather than what they read.
The students’ struggle in the Night lesson was most likely a result of reading texts that were too difficult for them. Given the fact that Michelle had selected these texts on her own, this suggests Michelle struggles to do more than simply cover the curriculum she had created to teach her students the Holocaust. While students walked out of the room with some factual understandings of the Holocaust, it is doubtful that the lesson developed their reading skills or conceptual understanding of reading expository and narrative text in any meaningful way. This is significant in light of the fact that these lessons most closely aligned to Michelle’s own ideas about the curriculum and content of her class, and were perhaps her proudest curricular construction. In this lesson, Michelle exhibited her most developed sense of authoring self, and in the process exhibited a struggle to create lessons based on an understanding of her students’ needs and a thorough conception of 8th grade language arts. Rather, the lesson was based on her own ideas regarding the Holocaust, and the texts she believed would best “cover” this content.

Therefore, Michelle’s teaching reveals a highly developed repertoire of IS, most of which she says she learned from TFA, that are applied to RM that come from a variety of sources. The RM she uses demonstrate the tension in her activity system between doing what she feels is best for students and what her district mandates that she does in teaching the course. Although these elements of Michelle’s PCK are well developed, her use of student prior knowledge (SPK) is nearly non-existent in her lessons and her ability to respond to her students’ difficulties (D) is demonstrated to be limited.
Perhaps most importantly, Michelle’s CSM and sense of curriculum scope and sequence (CSS) are most underdeveloped as a result of the arrangement in her activity system. In her CSM, priority is placed on curriculum coverage, as in covering the Holocaust, rather than conceptual/skill development, such as developing reading skills with texts that students can read independently. Additionally, in the CoRe and PaP-eR activity, Michelle expressed frustration with being unable to respond to the question that most illuminates CSS, not being able to explain what about the content described she did not want her students to know yet. Combined with Michelle’s decision to read texts that are more suitable for high school students (she also reads Romeo and Juliet and To Kill A Mockingbird with her 8th graders, both of which are read by 9th graders in the school district most of her students attend), this shows that Michelle has a limited understanding of where 8th grade language arts fits into a larger vision of literacy development in the secondary grades. Finally, in approximately 270 minutes of observed instruction, Michelle never provided instruction in writing, and students never wrote more than one sentence at a time in any of the observations in spite of that fact that Michelle’s ELA class is supposed to instruct students in reading and writing.

All in all, Michelle’s PCK is both uneven and underdeveloped, and highly influenced by her distrust towards her district and her participation in TFA. Her activity system features a structure of rules from her district that Michelle brokers, and tools given to her by TFA. This leads her to develop her course on her own, using a base of PCK that most reflects and is influenced by her own teaching experiences.
Gregory’s Production of PCK

Slippery Rock Elementary is a K-8 school that sits at the very edge of Rocky Mountain. A generation ago, this area housed little more than sprawling cotton fields, ranches, and trucking and distribution warehouses that ran alongside the railroad tracks. Over the past few years, this part of the desert has become paved-over with new roads and tens of thousands of track houses and planned communities. On one end of the Slippery Rock campus, an observer is surrounded by the comforts of suburbia, complete with cul-de-sacs and windy roads that add a certain charm to the neighborhood. Yet, on the other end of campus, one sees only cotton fields and mountains. This setting startled Gregory when he began to work at Slippery Rock two years ago.

Gregory was born in Montreal, but spent his earliest years bouncing between Hong Kong, Singapore, New York City and Houston as his father worked as an executive for an international corporation. When he was an adolescent, his family settled just north of New York City, where Gregory lived for eight years before moving to the South to attend a small, private, liberal arts college. As an undergraduate, he majored in international studies and travelled the world, including spending a semester in India where he worked as a science teacher. The experience opened his eyes to educational inequity in India, and when he returned to the United States, he began to see similar inequities here at home. Eventually, he heard about TFA, and after seeing many of his friends apply for the program, he tracked down a recruiter, set up a meeting and was eventually accepted to the corps. Given his metropolitan background, he expected to be placed in an “inner-city” school that
was filled with defiant and disinterested young people. He was surprised to find
himself at Slippery Rock, a community that, to him, is more rural than urban, and
depicts a much different picture of educational inequity.

Reconciling his expectations with the reality of teaching in Rocky Mountain
was but one tension Gregory struggled with in his first year. Before the school year
started, he was given a curriculum map to follow, which he quickly discarded, feeling
it did not prepare him to teach as adequately as other curricular resources he was
given from TFA. At his school, Gregory encountered frequent negativity from
veteran staff members, leading him to spend the year eating lunch alone at his desk
rather than listening to rants in the teachers’ lounge. After school, Gregory spent
hours upon hours planning lessons deep into the night as he struggled to find
resources to use in his classroom. Spending all of his time collecting resources and
planning left him exhausted and by spring, he found that a zest was missing from his
work at Slippery Rock. With each passing day, he felt less and less like himself.
Knowing this, he planned to spend the summer between his first and second year
backpacking alone in Bulgaria, reflecting on the year that was, and thinking about the
year to come.

In his reflections, he pinpointed one source of frustration to be that in his
first year, he couldn’t let “Mr. Gregory come out.” He decided to reprioritize his
time by relying more on already-made resources, and spending less time creating
resources on his own. He also wanted to find more space to be the fun and engaging
teacher he thought he would be when he joined TFA. “Mr. Gregory” (neither his
students nor colleagues use his last name) believes education should based on
experiences and meaning, not on rote-learning and memorization; something he
realized when contrasting his own education to the learning he saw in India and in
his classroom his first year. In one interview, he explained this juxtaposition by
telling a story about an interaction with a student. He said,

I'll never forget it. Last year, one of my students looked at me. And he meant
it jokingly, but he said, ‘Mr. Gregory, this is school. We know that we don’t
read books here.’ And he wasn’t saying that we don’t read in school. What he
was saying was why are you giving us something that is not in the textbook?
And that’s like all he had ever seen in seven years. And I know he was joking,
but it really hit home because when I think about my education, all we did
was read books. It was seldom that my teacher ever pulled out the textbook.

In his second year, Gregory hoped to bring “Mr. Gregory” to life, and this
was seen from the very first days of school. Gregory sounds like a carnival barker
when he talks to his students, but his orders bring to mind the syncopated rhythms
of a drill sergeant. “Aaaalll riiight, Ladies and Gentleman!” he shouts at the front of
the room. “Today is Tuesday August 30th! It is 8:15 in the morning, and time to start
the Do Now part of class!” His voice dramatically rises and falls in and out of his
highest register as he says this. “Take out your notebooks. Use them to make
predictions about the story we will start today. You have already mastered this
objective. You know how to do it. Go.” His New York accent becomes more
apparent as he gives these directions. Around his waist, he wears an apron filled with
a roll of tickets he hands to students who are following directions. He wears khakis
and tennis shoes, which come in handy as briskly zigs and zags around the tables in
the room where students are writing in their notebooks.

Between the cadence and affect of his speech, the pull of his accent, and the
apron around his waist, Gregory knows all that is missing a waxed handlebar
mustache, a red and white striped shirt, a cane, and the phrase “step right up!”
Discussing his class, he says, “The best way to describe it is a four-ring circus.” If his
class is a circus, Mr. Gregory is certainly the ringmaster. During two days of
observations in November, his students listened to him closely and intently, and
moved briskly from activity to activity during the 120-minute language arts course.
After the Do Now, the students transitioned into vocabulary development, where
Gregory led them through a “prefix-of-the-week,” identifying and creating words
that use the prefix. Next came grammar, where students corrected mechanics and
punctuation in a series of sentences. Gregory projected the error-ridden sentences
onto the white board and asked the students to lead him through correcting them,
after they have had time to work on them on their own. Fluency practice followed,
where students practiced and charted their reading fluency progress the same way as
Michelle’s did on the other side of town. Next, the students pulled out their
textbooks for standards practice, the part of the lesson that aligns to the district’s
curriculum map. In November, students were practicing using text features in
functional text to follow steps in a process.

After standards practice, the students jumped into reciprocal reading groups
to read the novel *Holes*. Gregory attended the same TFA-led workshop on reciprocal
reading as Michelle, and felt just as strong about the power of this instructional
approach to reading as she did. While the students moved their desks around to get into groups, Gregory disappeared into a corner of the room, where he put on a baggy orange jumpsuit and a red hat, the same uniform worn in the book by the children at Camp Green Lake. Once he had the students’ attention, he slipped into character, telling the students,

I hope you had a great weekend! I know I did. I am just so happy that I don’t have to dig holes anymore. And I am so glad that I don’t have to live in Camp Green Lake anymore. As you read more you will find out why I am so happy that I don’t work there anymore. Mr. Gregory told me that I needed to tell you that you need to stop every three pages. He said not all of you do that, so you need to stop at three pages and take your time. He also told me that you need to switch jobs today. Today, Mr. Gregory said you have 12 minutes and you need to get as close to chapter 12 as possible. Figure out jobs, and you may begin!

He walked around the room for the next dozen minutes as students read and discussed the novel. Once time expired, the students moved back to their original desks to pack up for the day. As they did, Gregory explained their homework to them, which was to draft a persuasive essay that was due next week.

In his lessons, it was apparent that Gregory has many representations and materials (RM) and instructional strategies (IS) that he uses during his time with his students. Each part of class requires resources that he has collected from various sources. An instructor at ASU gave the vocabulary lists and prefixes-of-the-week to him. A friend in TFA who uses the grammar materials in her district gave the
grammar practice to him. The fluency practice and materials for standards practice mostly come from his school district, while the reciprocal reading resources come from his support provider at TFA. Finally, the students’ writing assignments and all materials are pulled directly from the district-provided textbook. While we see an abundance of RM and IS, there is no curriculum scope and sequence (CSS) that pulls them together. Each part of class is exclusive to itself, disconnected from the other components of class.

With no CSS to bind together the divisions of his class, Gregory has produced a pillared, uneven conception of subject matter (CSM) exclusive to each topic of the day. There does not appear to be any framework that brings each of these topics together, and some of his pillars of CSM are certainly stronger than others. His vocabulary process leads students through generating words that use a certain prefix, but never use their knowledge of prefixes to determine the meanings of unknown words: the actual standard for 7th grade. In addition, when students are asked to identify synonyms of vocabulary words for practice, they often simply define the word. For instance, when students were asked to create synonyms for “irrational,” Gregory accepted a student’s response of “something that doesn’t make sense.” The students’ grammar practice does not include direct instruction on conventions or mechanics, leaning on what students already know about grammar and punctuation.

While his CSM in vocabulary and grammar is limited, his CSM in standards mastery runs much deeper. During the CoRe and PaP-eR activity, when we mapped out his PCK in teaching characterization, Gregory gave articulate responses to each
CSM-related question. In some cases, the responses he offered displayed a more developed CSM than was actually seen in the lesson. On the other hand, his CSM in fluency and writing is completely based on the RM given to him by his district, where the RM that is given to him drives all instruction and reflection. While it is certainly inaccurate to say that Gregory has no CSM, it is apparent that the CSM he has produced is isolated by disconnected concepts in language arts, and uneven in their development. The “four ring circus” has no grand finale and no sense that each of the rings together offers an experience that is greater than the sum of their parts.

When examining the reason for Gregory’s pillared, uneven CSM, one explanation that became apparent was Gregory’s unquenchable thirst for RM and new IS that would engage his students and facilitate his teaching of content. Reflecting on his lesson planning, Gregory explained, “The number one thing I think about is how I get the information across. Then. I also spend a lot time thinking about how I can get the most information across to [students’ different] ability levels.” More than thinking about content, Gregory plans lessons based on the best RM and IS he can use to deliver information to students on varied levels of ability. While this signals a strong bias towards developing aspects of his PCK related to RM, IS, student difficulties (D) and even variations in student learning (V), it ignores the conceptual framework that unites those resources, strategies and his students’ abilities. It also pays little attention to a CSS that unites all the aspects of his language arts class.

With regards to his robust support network, Gregory wants resources, not conversations. He said,
I always go to my [support provider in TFA] for little quick fixes. And its nothing against her. I think she has been one of the most positive influences I've had, but I think that time is of the essence. Whenever I have met with TFA people and ASU people, I've been like, ‘Hey, I need help with X.’ And it's always become a big sit down. Let's talk for an hour and half. What do the students need to know? What are the skills? Let's map this out. And the whole time, I'm thinking, ‘Oh this helpful,’ but I'm also thinking this is an hour and a half. I could be grading papers right now. This is really stressing me out. What I get the most from them are always kind of like the prefix of the week, or the reciprocal reading. I don’t want to spend an hour and a half talking about this and this and this. No, I want, ‘Here's my problem, how do I patch it up.’ Then I'll make it work from there.

An example of his reliance on resources was seen in his September lesson on characterization, where his students completed a graphic organizer called a “SODA Chart.” With this chart, students wrote notes on what characters say, what others say, what characters do, and what attitudes others have about a character. His lesson focused less on a conceptual lesson of describing characters, and more on completing the SODA chart, a resource he received from a colleague in TFA.

Additionally, in his vocabulary, grammar, reciprocal reading and writing instruction, Gregory relies on leading students through materials using a variety of activities, rather than building conceptual understandings of topics.

Gregory explains that his support systems provide him with plenty of resources, but they do not show a way to use them nor do they fully align with one
another. In his own words, he explains he wish he could have a teaching “script” to follow that shows him how to teach a concept well. He says,

Instead all I got was here’s your textbook, here’s our expectations, go. And out of necessity, I had to create Gregory’s world and theory in teaching. And as much as TFA and ASU have helped me, because they never fully aligned to the district’s expectations, I had to create. I am taking this, I am taking this, I am taking and I am creating my world because there was never a, ‘Here’s a good world,’ if you will.

Not having a “script” to follow has left Gregory on his own to build his classroom from the ground-up. He says,

Since I don’t have that script, it’s all on me. [Building systems] is very much how I plan. It’s let me start with the reading because that’s important and once that system is fine, let me do the next piece. Which is the vocab. And once that system is fine, let me do the next piece which is the reciprocal reading, and then let me get to writing. And I think that’s why it is very systematic. It is because the way that I am as a person, unless I am given that script, I need it to be compartmentalized like that to be successful.

While it could appear that Gregory prefers to work on his own, using resources that he tries to understand by himself, Gregory explains he works like this because he has had no alternative. In our final interview, Gregory offered a powerful metaphor to explain his experience building his language arts course:

If you are afraid of skydiving and then you see your best friend jump out of a plane, you are like, ‘Oh. OK. I can do this.’ Then you will do the exact same
thing they did. And I very much just feel like someone said to me, ‘Hey, you should go skydiving.’ And the next thing I know I am in an airplane. So I have no option but to kind of figure it out while I am freefalling. And then create my own form or system because I have never seen it happen in action from someone else.

Pushed out of an airplane by his support systems, and left to figure things out on his own, Gregory produces his PCK on his own, foregrounding those aspects of PCK that meet his most immediate needs: RM, and IS. Backgrounded are his CSM and CSS. He makes sense and meaning of sources of support and resources on his own, and his class moves in and out of alignment with his district curriculum map. In addition, his district’s recent insistence that teachers faithfully follow the textbook and curriculum map has made Gregory stop collaborating with peers in TFA who do not teach in his district, something he said helped him tremendously in his first year. Furthermore, Gregory explains that his practice of producing PCK on his own is part of a trajectory that began at the TFA summer institute, when he was put in charge of a high school English classroom without a curriculum map or guide to show him how to structure the course.

All in all, a confluence of brokered rules about building his course, tools in the form of IS and RM, and a division of labor that provides direction but little support vertically, and much agency horizontally, finds Gregory in an activity system where he produces PCK on his own, influenced by his own needs and ideas about education. In addition, it is important to note that in his second year, Gregory has begun to find happiness and success in this system. The *Holes* lessons showed “Mr.
Gregory’s” presence growing in the classroom, while students enthusiastically read an engaging story, both goals Gregory has for this year. Perhaps not coincidentally, his students also scored second highest in the district on the first quarter district benchmark assessment for 7th grade reading. Gregory admits that “Mr. Gregory’s Circus” might not be perfect, but at least it is still his circus and his students have found enjoyment and success in it. At the end of the day, Gregory is not sure he could have asked for anything more.

**Brad’s Production of PCK**

Brad was born and raised in a rural part of the Pacific Northwest, and grew up in a religious middle-class family. After graduating from high school, Brad followed the footsteps of his two older brothers and attended a major religious university to study accounting. While at university, he took part in a service mission in Mississippi, where he began to take notice of “domestic issues,” such as educational inequity. This led him to take an internship with TFA’s recruitment team during his junior year of college. He eventually applied and was accepted into the program, and was pleased to be assigned to Phoenix, where some his wife’s family already lived. In reflection, Brad admits that one of the things that drew him to TFA was that he did not have to commit to teaching for very long. In our introductory interview, he explained that he did not want to teach for more than two years, and that he wasn’t entirely sure what he wanted to do for a career. While he applied to TFA, he also applied and was accepted to two private law schools, but turned both schools down to join the corps.
At institute, Brad grew to love the structure TFA provided during the summer. Specifically, he enjoyed having many resources to draw from as he prepared his lessons, and having people provide immediate, direct feedback to him as he taught his class. Corps members like Brad are given a curriculum map with daily objectives and assessment resources known as the Institute Student Achievement Toolkit (ISAT). Brad specifically mentioned “missing” the ISAT during his first weeks teaching 7th grade ELA at Skyline Elementary School, his placement school in the Rocky Mountain School District.

In contrast to TFA’s Summer Institute, Skyline lacked both structure and support at the beginning of the year. Early in the school year, Brad said,

Being in the swing of things for two and a half weeks at Skyline, I miss the days of being coddled by institute. Having the ISAT and objectives given to you. One of the things I [am finding] hard is just unit planning, because we are not given units. We kind of have like a somewhat decent curriculum map but I don’t have any experience or expertise to decide what [students] should learn before what. I feel like my judgment isn’t as qualified as it should be to make some decisions like that.

Compounding Brad’s struggles was the fact that Skyline had not fully staffed its front office in the summer. This meant that administrators were inundated with clerical tasks at the beginning of the year, leaving little time to work with teachers, especially new ones like Brad. In addition, one of the two instructional coaches at the school was on maternity leave for the first three months of the school year. Further complicating the situation at his school was that Skyline’s only other middle school
language arts teacher was also a first year CM, who Brad said also struggled with the same things he found difficult.

Like the other teachers in Rocky Mountain, Brad was given a curriculum map and a textbook, but without support, Brad was not sure how to use these resources to build his class. Not being able to work with his administration or instructional coach, whom he said were all busy picking up the slack from the depleted office staff, Brad sought help from TFA almost exclusively in the first weeks of school. As he did this, Brad decided to put his curriculum map to the side, ignoring it as he collected resources from his TFA support network. The district curriculum map mandated that Brad’s lessons focus on concepts, concentrating on one or two reading standards each week. Brad was then supposed to use stories from the textbook to teach those concepts. Instead, he flipped the script, with TFA’s help, by choosing stories to read with students first, then determining the concepts that could best be learned with the stories. He explained,

I don’t know if planning like this is what the district wants us to do. Like we had a meeting yesterday, and [the instructional coach] was like, ‘Well, its week four now, and you should be on summarizing main idea.’ And I was like, ‘Well…’ But it’s probably OK. I am just making sure that, hopefully, that stuff is covered in the first quarter. I don’t really take the curriculum map into that much consideration. However, it does end up getting loosely followed, I think.

Brad’s confusion over determining what to teach students was coupled with a lack of understanding of how to teach his students. Early in the semester, this
resulted in Brad having difficulty in managing his students’ behavior. The three-part crossfire of not being clear on what to teach, not fully understanding how to teach content, and not being able to control his students’ behavior was on display in the first lesson I observed in Brad’s class. On that day, students were learning to identify the setting in a story Brad had picked up during a TFA professional development workshop. His students’ disruptive behavior was apparent from the moment I walked into the room. As I walked through the door at the beginning of class, nearly all of his students craned their necks to look at me, although they were supposed to be completing a bell-work activity. Two of them loudly said, “Hello!” in a manner that was more mischievous than friendly. After getting the class’ attention, Brad was able to redirect them to the bell-work activity as a general buzz of chattiness covered the room. This buzz would grow and shrink throughout the rest of the period as Brad complimented the behavior of compliant students and handed out consequences to the most unruly ones, but the chatter never really went away. As Brad introduced a story that took place Russia titled “The Path Through The Cemetery,” he spoke about the story’s cultural roots. During this introduction, students tossed highlighters and mocked Chinese and Russian accents by shouting gibberish. When Brad asked a student to come to the front of the room to point out Russia on a map, the student responded that he was not “smart enough” to find it. Yet, throughout these instances of misbehavior, Brad kept his cool, speaking in a calm and monotone, yet friendly voice to the students.

After the introduction to the story, Brad introduced a definition of setting that he created: “the cultural location, historical location and geographical location”
of a story. He told the students, “Before you might have thought setting was just where the story takes place. But we can go deeper now.” Although Nathan was correct in pushing students to a deeper understanding of setting, the actual 7th grade standard asks students to “analyze the influence of setting on the problem and resolution [of a story].” While Brad’s introduction of new material in the lesson gave students a definition of setting, he never explained or demonstrated to students the skill of analyzing setting’s influence, as the standard called for. Instead, after reading the story to students, Brad had students re-read the text on their own, underlining examples of the setting. On the board, he wrote two questions: (1) What is setting? (2) What is the setting in the story? After students read on their own for 15 minutes, Brad asked students to answer these two questions on a sheet of paper they handed in as they left the room.

Despite the struggles, the lesson certainly had its bright spots. Before reading the story, Brad took time to give students a thorough introduction to the historical and cultural context of the story. He showed students pictures of Russian currency, and spoke briefly about the reign of Ivan the Terrible. Since the story takes place in winter, he also asked students questions to build schema about snow, knowing that students who live in the desert may have had limited experiences with harsh winters. Finally, knowing that a major theme of the story is the definition of courage and manhood, he asked students to talk about the “manliest man they know” before reading. Still, the lesson demonstrated Brad’s struggle in determining what to teach, as he placed more emphasis on reading the story than practicing the skill of analyzing setting. In fact, the questions at the end of the lesson reflected an elementary-level
understanding of the story. Simply identifying the setting is a fourth grade standard in Arizona. In addition, Brad’s lesson illuminated his lack of understanding of how to teach the skill, as student misbehavior led most of them to not complete the activity of underlining examples of setting in the story.

In September, I observed Brad teaching a lesson on characterization and point of view that featured many of the same problems. In the post-observation interview, Brad referred to these struggles as a “content gap” that was a result of not knowing what to teach, nor how to teach it, and lacking resources for teaching concepts. He said he mostly addressed this gap by heavily leaning on support from TFA. Colleagues in TFA had given him unit plans to organize his course and resources for teaching specific concepts. His main support provider had worked one-on-one and in small groups with Brad on the weekends to plan lessons and talk through what he would teach students and how he would teach it. In both the August and September lessons, Brad almost exclusively used representations and materials (RM) he received from people in TFA and instructional strategies (IS) he learned in TFA-led professional development opportunities. Although TFA had become a rock-solid source of support of RM and IS, Nathan had no source of support to develop his conception of subject matter (CSM) or curriculum scope and sequence (CSS). The support he received from TFA was usually short-term, need-based support, such as giving him a story to teach, or a strategy to boost engagement. His school district also failed to supply him with more than the curriculum map and textbook, not helping him organize his course or build a conceptual understanding of his content area. This was apparent in the CoRe and
PaP-eR activity, when Brad struggled to articulate his ideas about teaching characterization, then stated that his school and district had not helped him formulate his ideas in any way.

In September, Brad’s struggles led him to feel “guilty” for his lack of success. Talking to TFA colleagues who he perceived to be more successful with their students led to these feelings of guilt. Yet, when I returned to his classroom in November, several improvements were immediately apparent. While student behaviors were still not perfect, the amount of disruptions had significantly decreased, while his students’ ability to stay on-task during class had significantly increased. Also, Brad was concluding his first unit that correlated to the district curriculum map, teaching his students about functional text. Brad’s teaching was still driven by RM he received from TFA colleagues, but he explained that he had begun asking for resources only from those people who “knew his situation.” This meant that rather than asking his support provider for resources, he more often received help from more experienced CMs in his district, especially Gregory and Michelle. Gregory gave Brad the idea and materials for the lesson I saw in November, when Brad led his students through practicing a root word of the week, and identifying missing steps in a process. The observation occurred the week of Thanksgiving, and when I asked Brad what he was planning to teach students after the holiday, he explained that Michelle had given him resources for teaching Night and the rest of her Holocaust Unit. Brad also explained that he found support from his school more helpful, as the office staff had finally been fully hired, and the second instructional coach had recently returned from maternity leave. He said that most of the support
he received from the school was in the form of managing student behavior. Thus, while he was still not receiving support in the form of conceptual understandings of language arts or in building an appropriate CSS, Brad appeared to be moving beyond some of the struggles he encountered as he simply tried to survive each day with his students.

In spite of his progress, when I conducted the post-observation interview with Brad in November, I was surprised to hear him casually call himself a “bad teacher” twice. The first time, I simply took note of his statement but did not explore it more deeply. The second time, I asked him why he felt he was a bad teacher. He explained that he was “not where he wanted to be” as a teacher, using TFA’s vision of successful teaching as his indicator of “good” teaching. This vision of success includes increased student achievement, which was lagging according to the first quarter benchmark from Rocky Mountain. Brad could see that although he had made progress with classroom engagement and student behaviors, he still had not made progress in student learning. This could be because his support was not focused on student learning, which would have pushed him to develop a fuller base of PCK, including CSM, CSS, V, SPK, and D, rather than simply supplying him with RM and IS. While Rocky Mountain’s support was largely non-existent in our conversations, TFA’s support was focused more on sharing ideas and tools, rather than building conceptual understanding.

At the end of our final interview, Brad indicated a sense of hope that he would one day be the teacher he wanted to be. He felt that he had spent the past four months understanding more deeply what he should and should not be doing in
the classroom. Also, he still had a clear vision about the type of class he wanted to create for his students. He said,

I am looking forward to next year a lot. I can see myself planning really well what I want the whole year to look like next year. I think that will be exciting. But I also understand that there’s really a long ways to go this year. And so I feel like I’m working really hard. I wish I could implement everything I would like to immediately, but I would probably die. (Laughs).

Brad was put into a position where he felt being the teacher he wanted to be would lead to his death, due to a division of labor in his activity system that gave him little direction, leaving him on his own to determine the content and course of study for his classes. His background had set him on a trajectory where teaching was only a temporary vocation, while his school structurally left him (and his first-year counterpart in 8th grade) in a space with little support. The communities in his activity system, especially his school and district, did little to author his positionality, but he lacked a sense of authoring self as he had little understanding of both his content area and his profession. Thus, what directly drives the production of Brad’s PCK is neither the communities he belongs to, the rules and division of labor of his activity system, nor his own trajectory and sense of identity and agency. Rather, it is the tools in the forms of RM and IS that he mostly uses to construct his course. As he becomes more equipped with these tools, and more experienced as a teacher, he is more deeply understanding his role. While that role is currently limited to engaging students and modifying student behavior, he believes this will eventually lead to higher student achievement in the not too distant future. His path to being an
effective teacher, though, is running out of time, as he nears completion of the first half of his two year teaching commitment with an eye towards reapplying to law schools at the end of his time as a corps member.

**Rocky Mountain Teachers’ Production of PCK**

The Rocky Mountain teachers’ production of PCK features several similarities to the teachers in Blue River. Although they belonged to distinctly different school districts and experienced different contextual realities, these teachers also rely on PCK that is self-produced as a result of working mostly on their own. Their activity systems are highly dependant on their own individuality and the tools they use, rather than the communities they are a part of, and the rules and divisions of labor those communities offer. For all three teachers, the school district and colleagues at the school are mostly non-existent in their activity systems, save for the curricular demands they receive from their superiors: demands that they ultimately, in one form or another, ignore. Instead, they follow their own directions, which are much more closely aligned with TFA than their school district.

The Rocky Mountain teachers experience TFA’s presence in their respective case studies differently, although TFA’s effect on their conception of “excellent” teaching is the same. While Michelle has very positive reflections on her experience and credits TFA greatly for her success in the classroom, Gregory and Brad feel differently about support from the program. Gregory is frustrated by the lack of practical, immediate help the program offers him, while Brad says being a part of TFA makes him feel “guilty.” Brad and Gregory’s reflections are very similar to their first- and second-year counterparts in Blue River. Chris also felt that TFA did not
offer enough hands-on help, while David used the same exact word as Brad to
describe his involvement with TFA. For all teachers, TFA’s support was usually
limited to pedagogical strategies, in the form of IS, devoid of other important of
PCK, or simply content knowledge, for that matter.

The context provided by Rocky Mountain and TFA point to a trend where,
like their counterparts in Blue River, the teachers’ figured world and sense of
authoring self take on important significance in their activity systems. Brad, Gregory,
and Michelle all experience the same context, yet find distinctly different levels of
success in their teaching practice. Brad’s struggles can be juxtaposed to Michelle and
Gregory’s successes by comparing his lack of figured world and sense of authoring
self to their highly developed identity-in-practice. In addition, the teachers’ social
ecology of identity creates advanced ownership of meanings over time, while their
forms of membership in structures remains highly limited. At the time of writing,
Michelle was fairly certain she would be leaving Rocky Mountain at year’s end, while
Gregory had no doubt in his mind that this was his last year in the district. Brad
seems to be headed down the same road, affirming in November that he planned to
teach for two years and no more.

By working in an activity system that leaves them both alone and
unsupported, while coming from past experiences where they have developed their
sense of agency and identity, the teachers can not hope for producing more than
uneven, pillared PCK that is underdeveloped in many places. In addition, it seems
that they can not hope for doing more than teaching for a few years before they
simply exit the activity system altogether. The implications of this arrangement will be discussed in the next chapter.
Summary

This chapter shared the stories of each of the six case study participants. In their cases, some patterns were found in their PCK production. They mostly produce PCK on their own, driven by RM and IS, while lacking CSM and CSS. They also work in structures that place limitations on what they should teach, while offering very little support with understanding how to teach it or offering any rationale of why to teach it. The activity systems, then, rely on teachers to have a highly developed sense of identity and agency. Yet, as these individual identities become more developed, the teachers experience more limited forms of memberships with their structures, although they have a deeper ownership of meanings in their activity systems. This dissonance in their activity systems leads to all of the teachers in this study, except Chris, to have an eye towards leaving the activity system at a point where they can no longer accept these arrangements. With limited production of PCK and a foot already out of the door, this situation is problematic to say the least. The following chapter will discuss the implications of these findings.
Chapter 5

DISCUSSION AND IMPLICATIONS

Three research questions guided this study:

RQ1. How do Teach For America teachers’ activity systems contribute, or not, to the production of pedagogical content knowledge?

RQ2. How does a Teach For America teacher’s sense of agency and identity in practice impact the production of pedagogical content knowledge?

RQ3. How does a Teach For America teacher’s activity system change over time?

The previous chapter shared findings related to RQ1 and RQ2, demonstrating that TFA teachers’ activity systems leave teachers to produce PCK on their own, based on their own experiences. This is a result of activity systems where communities and structures fail to provide teachers with meaningful support for producing PCK. Due to this lack of support, teachers rely on their sense of agency and identity in practice in remarkable ways. Those teachers who displayed a developed sense of agency and identity in practice possessed the most ownership over their classroom, the most developed PCK, and the highest levels of effectiveness, while those who struggled to enact a sense of agency and identity in practice did the opposite. They struggled most in their teaching practices, possessed a limited base of PCK, and were less effective teachers overall. This chapter addresses RQ3 by engaging in cross-case analysis. In addition, this chapter presents a broader discussion of all three research questions and implications of this study’s findings.

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The research questions could be answered simply through either universalist or culturalist perspectives. From the universalist perspective, the data of the previous chapter could be read as saying that the identity, agency, and trajectory of each teacher drives his or her production of PCK. David’s spirituality, Diana’s cultural experiences, Gregory’s quest for an experiential education, and Brad’s desire to leave teaching after two years could be seen as being the prime influencers of their PCK production. In this sense, though, PCK becomes personal and practice-based, formulated by the individual trajectory of each teacher. In addition, the importance of the structural context these teachers experience is minimized through this perspective.

On the other hand, from a culturalist perspective, the data could be read as telling a story of structures that do not provide these teachers with the support to produce PCK, and perhaps do not value the benefits PCK can offer to beginning teachers. The school districts, TFA, and the university programs are like three ballplayers racing towards a pop fly that ultimately falls in between them, as they expect their teammate to catch it. In this sense, though, PCK becomes structural and professional-based, and the powerful influence of teachers’ own individuality is lost through these perspectives.

In both universalist and culturalist explanations, determinism reigns over hope. In the universalist perspective, some teachers are simply better suited for being a better teacher than others based on their own individuality, thus there is little hope in developing teachers on a continuum that runs from novice to expert. In the culturalist perspective, these structures simply are not built to offer a better
education to the students served by these institutions, and there is little hope in expecting any alternative other than these structures continuing to fail students.

Ultimately though, there remains the need to remain cognizant of Putnam’s (1998) analogy of mind, body, and world being braided together and bound by knowledge. There is also a need to pay attention to Loughran, Mulhall, and Berry’s (2004) assertion that PCK is both structural as well as personal and experiential. Through the post-structural lens, the data shows that PCK production is influenced by individual idiosyncrasies within the same structures. Thus, PCK is both practice-based and professional-based, and is part of the knowledge that binds together these teachers, their actions, their thoughts, and their structures. Similarly, TFA teachers are conditioned, but not determined, by the contexts in which they work (Freire, 1992). While there is constant fluidity, interaction, and negotiation in TFA teachers’ activity systems and production of TFA, the data in this study points towards a predictable, remarkable, and lamentable pattern of these teachers’ production of PCK.

The Predictable: Constrained PCK Production Over Time

Research on teaching learning and development has led to the assertion that teachers pass through stages of development as they begin their teaching career (Katz, 1977). Moving through stages of survival, consolidation, renewal and maturity, teachers are pushed to the very brink in their first year, yet they roll with the punches as they establish their belief that they are capable of being great teachers. This leads to a renewal of the hopes they originally brought into their teaching practice, culminating in a maturity that gives them a comfortable feeling of confidence. While
scholars like Berliner (1988) argue that it takes a teacher three to five years to move through these stages, TFA teachers have no such opportunity as their learning curve is limited to only two years.

The data in this study points to these stages of development taking place in a much more tightly compressed space and time. It then stands to reason that a tension between quality and time, where it seems that more quality PCK would require more time to produce, seems to exist in these teachers’ activity systems. Yet, using the data collected, it is doubtful that extra time would produce extra quality in terms of the breadth of TFA teachers’ PCK. The data demonstrates a pattern where first-year teachers, in David’s words, learn “what and what not to do.” In the summer between their first and second year, these teachers take what “worked” in their first year, and attempt to construct their course around this knowledge, while anticipating and avoiding the pitfalls they fell through in their first year. In their third and fourth year, then, teachers are placed on a path where they further develop the knowledge they focused on in this pivotal second year (and likely the summer between first and second year), seemingly asking the question, “How do I do this better?” This pattern of production results in the uneven and underdeveloped PCK seen in Diana and Michelle’s teaching practice, as well as all of the teachers’ lack of CSM and CSS. These are elements of PCK that reflect the consideration of “why” teach ELA, a question that is missing in this pattern of PCK production.

**First Year Teachers**

In their first year, TFA teachers produce PCK by learning what and what not to do. In fact, the data suggests that teachers learn more about the latter as they learn
through experience, trial and error, and reflecting on both their failures (of which there is an abundance) and their success (which is more limited). David, Brad, and Chris, who for all intents and purposes is more of a first-year teacher than a second given the change in his teaching assignment, all report making mistakes in their teaching, and learning from those mistakes. While Chris admits to struggling to find success in his routine of trial and error, David goes so far as to say he feels guilty for his lack of success, while Brad flatly refers to himself as a bad teacher.

The first-year teachers in this study produce PCK that anchored by either their cognitive bias\(^\text{14}\) (Kahenman & Tversky, 1972) and apprenticeship of observation (Lortie, 1975), or the materials provided to them by their school district. Both Chris and David discuss creating their courses and building their teaching from a reflection on the education they had, and the education they wished they had. They pull out the elements of their education they felt were successful and use them to create a classroom space that they would have found to be ideal when they were adolescents. David articulates this well when he says, “Mostly, all teachers resort to what did they do, or did not do, or wish had happened to them when they were in middle school, for better or worse,” while Chris explains he plans his social studies course “more along the lines of what I didn’t get when I was in social studies in middle school.” While they reject some of their past schooling experiences, they still retain those elements of school that worked for them. For David this is seen in his

\(^{14}\text{Cognitive bias refers to a person’s tendency to use their own experiences to inform judgments, even when those experiences produce irrational responses to situations. Michelle and Gregory’s quest to reproduce their own educational experiences for their students demonstrates this concept well, as they essentialize and act upon their own experiences, with little consideration for the differences between them and their students that may warrant these judgments irrational.}\)
selection of reading materials that appeal to his interests, while Chris prioritizes teaching those social studies concepts he deems most important to learn.

For Brad, on the other hand, resources provided by his district, and more significantly TFA, act as his life raft. Early in the year, he clung to these resources as he struggled to create lessons that would get him through each day. David and Chris also seek resources to help them survive the challenge of building their course while they teach it. Yet, whether their first steps come from their cognitive bias and apprenticeship of observation or the resources given to them, their survival consists of building a repertoire of RM and IS that helps them get through each day. Although TFA, their school districts, and, in rare cases, their credentialing program provide them with these resources, the teachers are left on their own to make sense and use of the resources in order to plan their course and teach their lessons. The arrangement in their activity system is represented for each teacher in the figures below. These figures depict the confluence of knowledge, personhood and structures, with the different sizes of each element reflecting its direct influence over the practice of the teachers. Larger sized words represent stronger influence, while the inverse is true for smaller sized words. The different components of PCK are captured at the top of the figure, while the different structures and communities for the teacher are on the bottom. Like the size font used for these elements of knowledge and communities, the size of the teachers’ name also reflects the influence of their own individuality on the activity system.
The tools of RM and his own individuality are most influential in Chris’ activity system. The foregrounding of RM requires influence from both TFA and his district. All other parts of PCK are backgrounded, as are other structures. The overall size of the activity system demonstrates the limited reach of his PCK and his teaching practices.

David’s individuality and CSM are foregrounded in this activity system. His CSM influences his activity more than the structures meant to support him, which are all significantly backgrounded. Overall, the size of David’s activity system is much greater than Chris’, given David’s background experiences with language and literacy and advanced CSM.
Brad’s activity system is messier than the other two teachers, but the foregrounding of RM and IS is consistent. TFA’s influence is most dominant, as the organization provides these tools for him. Brad’s own individuality is diminished significantly based on his lack of prior experiences with teaching, language and literacy.

Figure 16. Levels of Influence in first-year teachers’ activity systems

A significant similarity in these activity systems that is much harder to depict is a division of labor where the teachers are given mandates about what to do. Yet, they are not given direction on how to do it, nor are they ultimately held accountable in any meaningfully way to following through on the mandates from their schools, districts, and even TFA. Thus, their division of labor, horizontally, consists of these teachers working and developing PCK on their own. The more experienced teachers in this study also recalled similar experiences in their first year, being left to survive on their own, learning what and what not to do in their respective classrooms.

Second Year Teachers

The data in this study points to the summer between the first and second year teaching as a crucial period of transition. It was during the summer that Gregory determined how to re-build his course from the failures and successes in his first
year. Also, both Diana and Michelle, especially during their respective CoRe and PaP-eR exercises, point to their PCK being based on doing things incorrectly in their first year, reflecting on those failures over the summer, then doing them correctly in their second year. Finally, Chris explained he spent the summer between his first and second year re-imagining and re-planning his reading class with peers in TFA, although that work was ultimately wasted when his teaching assignment changed. Thus, if teachers learn what and what not to do in their first year, in their second they focus on what worked in their first year, while avoiding those things that did not work as well.

In the second year, Michelle, Diana and Gregory all develop a more focused repertoire of RM and IS, based on their development of CSM and CSS. These teachers think they know what they are doing, and run with it. This is certainly similar to Katz’ (1977) stages of consolidation and renewal, but in the minds of the teachers, they have also reached the fourth stage of maturation. Gregory represents this idea well, which can be seen in the depiction of his activity system below.

<table>
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<tr>
<th>Gregory</th>
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<tbody>
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<td>District</td>
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<tr>
<td>Students</td>
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</tbody>
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Gregory’s individuality drives his system more than the first year teachers, with the exception of David. His RM and IS are influenced more by his individuality and his
perception of his students, than by his support structures. The role of his students grows, because he believes he knows what is best for them (more than either the school or district does) and plans his class accordingly.

*Figure 17. Levels of influence in Gregory’s activity system*

Gregory believes that he knows what is best for students, and structures his activity system and production of PCK around this disposition. TFA, the school, the district, and the credentialing program all take a backseat to “Mr. Gregory” in this activity system. With both Chris and Gregory’s case studies, the individual is foregrounded, and the teachers go to the structures for support as needed, on their own terms. Chris highlights this disposition and system of arrangement well. While in terms of content, its easy to cast Chris as a first-year teacher, he certainly carries himself more like Gregory in his disposition towards support structures. Both teachers explain that they only go to structures for support only after they have individually determined what they need. They also prefer to work on their own rather than with their structures, because they feel like they know what their students need more than the structures do.

Michelle and Diana’s experiences demonstrate this part of the pattern as well. Michelle’s Holocaust Unit, the crown jewel of her classroom in year three, was originally conceived of in her first year, but took shape in her second year based on what worked well the year prior. She explains that in the second year, the unit was expanded both in terms of time (the unit took place over two weeks in her first year and six in her second year) and space, as the unit’s prominence in her classroom curriculum grew. Although Diana’s classroom lacks a cornerstone like Michelle’s Holocaust Unit, she explains that after making mistakes in her first year, she first started to effectively sequence standards, structure her lessons, and use materials in
her second year. The production of both of these teachers’ PCK points to the crucial period of the summer between year one and year two as a time when teachers determine what they will do in year two, and year two as a time when they act on that knowledge. Like Gregory and Chris, they define what to do with an authority that speaks to the prominence of their individuality, rather than the influence of their structures.

Ultimately, the authority in their first year experiences results in a production of CSM and CSS, although this production is limited to their own individual experiences. This could be conceived as the creation of a constrained CSM and CSS. Their production of CSM and CSS is limited to their own individual experiences, but more importantly, it is also constrained by the structures that failed to provide them with meaningful support in their first year. Although the teachers think of their second year as the time when they stop experimenting and start teaching, what is happening may not be teaching at all. In terms of both the depth and breadth of middle school language arts, these teachers may not be really teaching, but rather simply responding to their constraints. This is apparent in the narrow teaching practices of each of these teachers.

As an example of the teachers’ work representing a response to their structural constraints rather than sound teacher practice, neither Gregory nor Michelle were observed teaching writing in any meaningful way throughout the study. Two ways to institutionally explain the absence of writing instruction are that either their district does not find writing instruction to be a priority, or their support system does not provide them with any meaningful assistance in teaching writing.
Focusing on the individual, perhaps Gregory and Michelle do not know how to teach writing, or do not value writing as a part of a language arts class. Either way, the teachers have internalized the marginalization of writing instruction and thus structure their teaching based on their response to the structures in which they are situated. Similarly, Diana’s teaching reflects narrow understandings of poetry, not because she has proactively constructed those understandings, but rather because she reactively built those ideas after her structures failed to provide her with broader understandings. Again, her production of knowledge occurs primarily as a response to the constraints created by her structures.

PCK production as reactive rather than proactive leads to the critical question of whether or not these teachers are actually in stages of consolidation, renewal and maturity, or rather have found a balance in their activity system that responds to the constraints of the structures in that system. The stages of consolidation, renewal and maturity suggest a path towards wisdom and expertise, while the experiences of these teachers suggest more of a codification or folk theories, a solidification of recipe knowledge, and an enlightenment that carries strong traces of ignorance. In Gramscian (1971) terms, this could be considered a state of consciousness that never really passed through a praxis of developing “common sense” into “good sense,” but rather passed through a period of survival that consisted of balancing the activity system’s inconsistencies and ruptures, never questioning the “common sense” nor developing the “good sense” of teaching middle school language arts. In yet another way to state this, the teachers are developing knowledge based on “what works” given the constraints of structures.
rather than “what is best” given the background of the students and a professional field’s best thinking about their content area.

While the idea of second year teachers not actually teaching but rather simply responding to their constraints may sound like a tragedy to some and an outrage to others, later in this chapter we can see that this is actually quite remarkable. While we could all probably agree that this arrangement is problematic, for an individual to have a sense of self that is strong enough to balance an incredibly dissonant activity system is a truly remarkable act that speaks volumes about the teachers in this study, as well as the structures that employ them.

**TFA Alumni**

If TFA teachers learn what and what not to do in their first year, and in their second year solidify what to do by avoiding those things they should not do, in subsequent years they simply learn how to do things better. The data in this study does not point to any significant change in the content of Michelle and Diana’s courses taking place between their second and subsequent years in the classroom. They still teach the same things they have in years past, and mostly teach it in the same way. Yet, they continually find ways to make it better, leading them to more deeply consider those aspects of PCK that relate to cognitively appropriate practices, variations in student learning, the integration of new learning with student prior knowledge, and proactively addressing common difficulties students experience when learning certain concepts. The figures below depict their activity systems.
Aspects of PCK typically backgrounded in years past rise in prominence as Michelle’s individuality is also solidified. While TFA is no longer part of her support system, her teaching in year three is still influenced significantly by her interactions with TFA in past years. The structures of the school, district and administration, though, shrink compared to some of the first- and second-year teachers. The overall size and reach of this activity system is also far greater than it is for the first- and second-year teachers.

“Colleagues” refers to her relationship with like-minded colleagues, not her colleagues more broadly in TFA, the Blue River School District, or her school. The prominence of colleagues is based on their shared background with Diana, not their positionality as colleagues. The district and school fall in prominence as Diana’s individuality becomes more solidified.
Figure 18. Levels of influence in TFA alumni’s activity systems

The prominence of “students” increases dramatically in years three and four for Michelle and Diana, as their students’ needs dictate more of their teaching activity. It is important to note, though, that those needs are ultimately perceived by the individuality of the teacher, and not from any influence from structures. It therefore becomes debatable as to whether or not the teaching practice of Diana and Michelle is actually influenced by student needs and experiences, rather than their perception of student needs and experiences. This was seen in their lessons when their integration of student prior knowledge always happened in a determined, and not inquisitive manner. Open-ended questions were never used to gauge student prior knowledge, but rather the teachers made assumptions about prior knowledge that were relayed to students. For instance, Diana did not ask her students how they have been influenced by the actions of others, but rather created a story based on how she perceived them to be influenced by others. This is not meant to suggest that their assumptions and perceptions are incorrect or misguided, though. It needs to remain clear that Diana and Michelle are among the very best teachers in their school, based on their results on AIMS in previous years, the quarterly benchmark students took during this study, and their observed teaching practices.

During this study, I was able to observe Michelle improve the Holocaust unit from last year by better connecting it to the district curriculum map. While she was seeking to improve her instruction, she was certainly not doing anything fundamentally different than what she did the year before. The same could be seen in Diana better integrating district-provided materials in her teaching. She did not
fundamentally teach new concepts, or the same concepts in fundamentally different ways than she did in years past. Rather, she found ways to make her teaching better, based on the needs of her district. With this integration, it becomes no surprise that both Diana and Michelle are among the most effective teachers in their district. Yet, given their experiences in years past, it is also not shocking that their PCK production is uneven and underdeveloped in some areas.

**A Predictable Pattern**

In their first year, teachers learn what and what not to do. In their second they learn how to do the things that work and avoid the things that do not. In subsequent years, they learn how to do those things better. While this pattern is predictable given other research on stages of teacher learning, this study points to several problematic aspects to this pattern.

In each teachers’ activity system, CSM and CSS are seriously missing in these teachers’ practices and reflections. With the exception of David, who came into TFA with a strong CSM based on his experiences in theological seminary, there is very minimal production of CSM and CSS throughout these teachers’ experiences. In the CoRe and PaP-eR activity, Diana and Michelle’s CSM and CSS are based on their experiences in years one and two. Additionally, Michelle significantly struggled with questions on the CoRe and PaP-eR activity that related to CSS. When asked about this pattern, Michelle and Diana both pointed to being left alone to develop their knowledge in years one and two. They also indicate the scant support they now receive as TFA alums. They no longer receive support from TFA, and their district support has diminished as their effectiveness has grown. Considered strong teachers
by their schools, they report that the school and district ask them to support other teachers in the school, while the school and district do nothing to consider their current development needs.

Ultimately, PCK and other salient aspects of teacher knowledge are crystallized and codified over time, but are born from folk theories and cognitive biases that do not reflect a “good sense” about teaching middle school language arts. The result is an uneven production of PCK that is personal and practice-based, rather than professional-based. Interestingly, all teachers in this study felt there was no other alternative to this system of arrangements. While the harshest critics of TFA might say that the findings in this study confirm a “know-it-all” smugness to corps members who prefer to go-it-alone, the teachers all said they had no choice but relying on themselves and working on their own due to a lack of coherent and meaningful support from their school and district.

The pattern of PCK production over time points to a dissonant activity system that lacks coherence. The communities in which the teachers most prominently belong, TFA and their school/district, are certainly not in synch with each other about how to support these teachers. The result is a set of rules with no assistance and no accountability, and a division of labor where teachers are left to work on their own while feeling considerable pressure from both TFA and their school/district to become a “good” teacher. This dissonance points toward an eventual disruption in the activity system that will ultimately result in the “death” of the subject of the activity system. Brad stated this well, when he explained, “I wish I could implement everything I would like to immediately, but I would probably die.”
With the subject constantly having to negotiate and bring coherence to the system, the subject is under considerable pressure to hold together the inconsistencies between communities, rules, tools and divisions of labor. These teachers are forced to make it work, and it is doubtful that they will be able to hold together the activity system for too long. Using Wenger’s (1998) concept of identities in practice, the subject ultimately is forced to negotiate an ownership of meanings, while being denied forms of membership with structures due to the constraints of the structure. This point will be expanded on later in this chapter.

Over time, the subject is only able to take so much before deciding to disengage from the activity system. This explains why Michelle, Diana, and Gregory were pursing other career opportunities at the end of this study. Not only were they looking to work for a different employer, they were also looking for roles other than being a full-time classroom teacher. It appears that Brad would be doing the same at the end of his two-year commitment. The pattern and arrangement has caused them to not only disengage from the activity system of teaching at their particular school and district, but teaching altogether. Again, this is unsurprising given both prior research on teacher learning, the patterns of their experiences, and these teachers’ overwhelming sense of authoring self and agency. As Michelle’s colleagues puts it, these teachers can easily conclude they simply “better than this” when thinking about continuing to work in her district, and this conclusion seems to be justified.

While the ultimate exit of TFA teachers from the activity system can be seen as predictable, the most vociferous critics of TFA might also call it wicked, while the most forgiving supporters of TFA would call it tragic. This study has purposefully
chosen to avoid these two extremes, and rather sees this pattern of PCK production and the ultimate exit from the activity system as remarkable, as will be discussed in the next section.

The Remarkable: A Social Ecology of Identities in Practice

Although there is a clear pattern in PCK production over time, there are still individual idiosyncracies both in the process and product of PCK production and teacher learning. For instance, the teachers in this study all similarly attributed their knowledge, captured in the CoRe and PaP-eR activity, to their own teaching experiences and were quick to reject the notion that this knowledge came from their school or district. Yet, teachers who completed the CoRe and PaP-eR activity with the same concept often gave different responses to the questions on the document. David and Diana’s reflections on teaching poetry stand as an example of this arrangement, where they both said the district and school had done nothing to prepare them for teaching poetry, yet they both had vastly different conceptions of teaching poetry. Even Michelle and Gregory, who use the same tools to teach characterization, held different conceptions of teaching characterization based on their responses to the CoRe and PaP-eR activity. Thus, while PCK production is patterned, it is also particular to the individualities of the teachers who are producing that knowledge.

The teachers in this study formulate different responses to the same structures. These responses are influenced by their own individuality, but are
ultimately constrained by the structures and communities they are a part of. Districts and schools constrain them by failing to provide meaningful support and professional development, while simultaneously mandating that teachers follow curriculum maps and use prescribed materials. At the same time, the structure of TFA provides a significant constraint on these teachers as well, as the organization idealizes a “teacher leader” who can navigate the rough terrain of teaching in an underperforming school, doing whatever it takes to be successful with their students (Farr, 2009). Through their notions of “Teaching As Leadership,” TFA creates a figured world for these teachers where they are the ultimate leader of their own classroom, and they not only have the capability but the responsibility to lead students to academic success in spite of whatever structural challenges may exist in a school, district, or a community. By casting teachers as leaders of their own classroom, TFA thus renders the constraints of a district or the shortcomings of a structure invisible and insignificant. Therefore, the best these teachers can ever do is respond to constraints of district structures while seeking to fulfill TFA’s mission and notions of good teaching as “Teaching As Leadership.” This is certainly no easy task, and leads to the conclusion that the PCK production of these teachers is nothing short of remarkable.

Through their own individuality, the teachers in this study bring balance to their activity systems by producing PCK, in spite of historical, social, and cultural constraints that increase the odds that they will never be an effective teacher. One could imagine that if untrained teachers were dropped into school and district systems that did not provide these teachers with any meaningful professional
development, these teachers would not last very long before they quit, out of frustration, or would have poor results with their students. Using district benchmark results as a measure of effectiveness, the least effective teachers in this study (David, Brad, and Chris) are on par with the average results of other teachers in their district, while the top teachers (Diana, Michelle, and Gregory) stand head and shoulders above their district colleagues. These teachers, who one could predict may not even finish the school year given the challenges they face, do not only endure through their first year; they actually find success with their students over time.

The theoretical frames of identities-in-practice (Holland et. al., 1998) and social ecologies of identity (Wenger, 1999) help to explain how the teachers in this study pull the remarkable trick of spinning straw into gold as they produce PCK almost exclusively out of their own failures. The teachers in this study create a figured world about teaching from their individual trajectory of participation and experiences prior to becoming a teacher (Drier, 2003). This trajectory is mostly based on their past experiences in schools, and their perspective on education, teaching and learning. Some teachers’ figured worlds are more developed than others, based on their cultural background, prior experiences teaching, or previous work with youth growing up in poor and working-class communities. Diana’s figured world is based on her own experiences attending schools on opposite ends of effectiveness, and her quest to ensure her students do not feel the social “embarrassment” she has experienced based on the quality of her education. Michelle’s figured world is based on her own enjoyment of literature, in particular Night, and her own passion for learning about the Holocaust. Gregory and David’s figured worlds stand as clear
examples of teachers coming into their teaching experience with a figured world already in place. The character of “Mr. Gregory” existed prior to his actual teaching experiences, while David’s spiritual world was already firmly constructed before he joined TFA. On the other hand, both Chris and Brad struggle most in this study, conceivably because they have little understanding of their figured world. The limitations of their experiences (Chris has never had a writing course, while Brad came into teaching after studying accounting) explain the lack of development in their figured world of teaching. If Diana, Michelle, Gregory, and David came into their teaching experience with a rock to stand on, neither Chris nor Grad had any meaningful personal foundation for their learning to teach.

Following the theory of identities-in-practice (Holland et al., 1998), the teachers in this study experience a positioning by the structures of their school and district. In their positionality, they are provided with mandates, curricular tools and support structures that mostly tell the teachers what to do, but not how to do it. Feeling the constraints of this positionality, all teachers report dissatisfaction with the district, although some of the teachers say they enjoy working in their schools because of the personal relationships they develop with their co-workers. Professionally, though, the teachers reject the support of the school and district in year one and two, and curiously move back towards it in years three and four. With Michelle and Diana, we can imagine that they have arrived at an established level of experience, knowledge, and success, and now feel comfortable enough to work with their school district and use more of the tools provided by the school district. Even
still, for these teachers and the others in the study, teachers are positioned to work, produce knowledge, and ultimately professionally survive on their own.

It is then these teachers’ sense of authoring self that drives their way out of the corner that the district puts them in. Diana, Michelle, and Gregory all actively reject and re-write, or modify, the scripts given to them by their district by rejecting, revising, and modifying the tools the district gives to them. They do this based on their own belief that they know both what is best for their students and the most effective way to teach particular concepts to their students. For David, Chris and Brad, their struggle can thus be based on the limitations of their sense of authoring selves, either because they cannot write new scripts, or they do not know what to write. They lack the confidence in knowledge the other teachers in this study possess, as well as the experiences necessary for responding to district structures.

One of the things written by the authoring self is PCK, and the teachers in this study with the strongest sense of authoring self, predictably, hold the deepest amount of PCK.

This study, thus, hints at a correlation between the development of authoring self, the production of PCK and effective teaching. This speaks volumes about both the potential power of these teachers, and the insignificance of schools and districts in developing master teachers. The remarkable aspect of the production of these teachers’ PCK is that they do all this production on their own, in spite of constraints from their structures, and based on their own identities in practice. It is remarkable that they survive, and in some cases thrive, when the social, cultural and historical underpinnings of educational inequity have generated district and school structures.
that are not equipped to, or perhaps not interested in, developing great teachers who will achieve success with their students.

Looking more deeply at teachers’ individuality, using the framework of social ecologies of identity (Wenger, 1998), we see that these teachers engage in both a negotiation of ownership of meanings as well as forms of membership with the communities they interact with. In the negotiation of ownership of meanings, the teachers constantly reach for advanced ownership of and control over meanings. Each teacher in this study seeks to be the master of his or her own domain, the dominant player in the activity system of becoming an effective teacher. The teachers in this study discussed approaching tools through a disposition of wanting to make it their own and, as Chris said eloquently, adjusting tools and support to their own ideas about their classroom, rather than the other way around.

Yet, while the teachers seek advanced ownership of meanings, they are simultaneously denied advanced forms of membership with their structures. They are forced to work on their own, and take advantage of this by doing the best that they can on their own. While that certainly will increase their ownership of meanings, it also stunts their interaction with forms of membership, as they reinforce the structure that leaves them on their own by being successful in that space. Diana and Michelle, who have the most experience with their district, do not feel any stronger about being a member of their district community, nor do they feel any closer to their district communities, than they did in their first year. In fact, over time, they feel even more distant and isolated from the district and school, leading both of them to look for another job at the time this study is being written. It is conceivable
that the less experienced teachers in this study are on a similar trajectory, where their experiences grant them increased ownership of meanings, but drive them even further from any meaningful forms of membership with their district communities. This dualism can create a “chicken or the egg” debate in what happens first: do teachers choose to work on their own in order to have increased ownership of meanings? Or are they forced to seek increased ownership because they were left on their own? The teachers in this study seem to think there was no alternative to the latter. They had no choice but to work on their own, and negotiate increased ownership of meanings by themselves. Therefore, their individuality and agency, while remarkable, is ultimately a response to the constraints of the structure. Their individuality and agency are ultimately not strong enough to do anything more than negotiate responses to the structure, that is, it is not strong enough to actually shift the structures they are a part of in any meaningful way.

PCK is certainly a part of the economies of meaning, and in this study, teachers produce it via a conversation between their authoring selves and their school and district structures. PCK production in these teachers is thus remarkable, as their authoring selves, figured worlds and increased ownership of meanings remains strong over time, in spite of being denied any meaningful positionality or form of membership from their school districts. Two other remarkable aspects of these teachers’ professional learning lies in their ability to learn from their experiences with students, as well as their practice of using results with their students to mask the difficulties they experience in their professional learning.
Students stand as an incredibly influential aspect of teachers’ activity systems in this study. Ultimately, teacher professional learning is based more on teachers’ interactions with students than their interaction with their content, their support structures, or their professional community. The teachers in this study report learning from their students and their reflections on students’ knowledge. This certainly varied from teacher to teacher, with Michelle, Diana, and Gregory standing as the most powerful examples of learning from students and their experiences with their students. There is a certain remarkableness in their ability to turn their interactions with students into professional learning, not because teachers who are able to do this are rare, but rather because these interactions are the primary source of professional learning. Ultimately, the teachers in this study are concerned less for themselves and more for their students, altering the object in their activity system of professional learning and teacher practice in remarkable ways.

On the other hand, the teachers’ ability to learn from students, bring balance to their activity systems, and ultimately achieve strong results with their students masks the struggles these teachers experience in their professional learning and teaching practice. The victory of producing PCK and achieving effective teaching is short lived. The teachers’ activity systems, identities-in-practice, and ecologies of identity all feature their agency, yet their agency is not strong enough to make any meaningful impact on the structures they are a part of. An ecology of identity can only exist in this dissonance for so long, just as an activity system can only be unbalanced for so long, before the individual leaves the system or ecology altogether. As three of the six teachers in this study prepare to do so, we can now see that,
ultimately, PCK production is not just predictable and remarkable, but also lamentable. Their production of PCK is just part of a larger effort to redeem a structure that socially, historically and culturally has not been designed to serve the needs of poor and working-class communities, nor operate as sites of social transformation, no matter how much TFA and these teachers will it to do so.

The Lamentable: Narratives of Redemption in TFA

A grand narrative of redemption (Hass & Fischman, 2010) ultimately brings coherence to the teachers’ production of PCK over time, their identity-in-practice and ecologies of identity, their activity system, and the structures these teachers belong to. The narrative of redemption is based on meritocratic and neo-liberal notions of schooling that assume that schools can “redeem” the shortcomings of a society, as well as rescue individuals by adjusting their moral and ethical compasses for the better.

Three central aspects of the narrative of redemption exist in these teachers’ PCK production and activity system. First, with little support from their structures and a lack of individual agency that allows them to do anything more than respond to their structures, there is no alternative to these teachers redeeming those structures. They cannot change or shift the structure; they can only respond to it in the hopes of making it better. Second, teachers in the narrative of redemption teach without knowing, and in the PCK production of these teachers, it is clear to see times when these teachers produce and depend on a limited knowledge about their subject area. Third, the narrative of redemption creates the need for super individuals
to redeem structures, and in this case, super-teachers who will “save” public education as well as the lives of their poor and working-class students.

It can be argued that TFA has always held fast to the conception of a super-teacher who can bring coherence to school and social systems. In fact, Popkewitz’ (1998) study on the origins of TFA demonstrates the roots of the organization as “struggling for the soul” of both the individuals who join the program and the institutions in which they work. Popkewitz argued that the work of TFA was meant to heal the guilt and anguish experienced by privileged members of society who confront the injustices of American society. It is also meant to heal the broken social and educational systems of the county, in order to provide pastoral care to poor and working-class students, ultimately resulting in the saving of both poor and working-class youth and the adults who serve them. While this role of TFA remains strong, other roles have been attributed to the organization over time.

In its first ten years, TFA conceptualized its success as providing a pastoral care to students in poor and working-class communities. In her first book, Wendy Kopp (2001) reflects on this time as one in which the success of teachers was measured by how many extra-curricular programs they started, or the field trips they took their students on. At the turn of the century, it was seen that traditionally credentialed and trained beginning teachers outperformed TFA teachers in several studies (Laczo-Kerr & Berliner 2002; Darling-Hammond, Holtzman, Gatlin & Heilig, 2005) and it was thus argued that TFA was not meeting its objective of closing the achievement gap. Responding to these studies, TFA moved towards better conceptualizing a pedagogy for increasing student achievement as measured
on high-stakes and other official assessments of student learning. This shift away from pastoral care and towards academic redemption was crystallized in the development of the “Teaching As Leadership” model (Farr, 2009). This model captured a competency-based approach to teaching that was focused on increasing student achievement and students’ academic success.

Yet, by the mid-late 2000’s, the limitations of this academic-focused conception of teaching were seen in the performance of corps members. While corps members were more focused than ever on student academic achievement, and more effective than ever at fostering such achievement (Hannaway, Xu & Taylor, 2009; Noelle and Gansle, 2009), the broader purposes of education were lost in this model. To recapture this “soul” of teaching, the organization has recently moved to a conception of effective teaching that captures both academic and personal growth experienced by students in TFA classrooms. In this model, competency-based teaching takes a backseat to value-based conceptions of effective teachers. The most important values are the teachers’ creation of a true connection with students’ and communities, the teachers’ conception of themselves as a leader who will do whatever it takes to lead students to personal and academic growth, and a commitment to holding high behavioral and academic expectations for students.\(^\text{15}\)

Moving from pastoral care, to academic achievement, to personal and academic growth as the ultimate aim of the program, one has to wonder what the role of TFA and the purpose of the program really are. Many would argue that the program is meant to provide an alternative in public education: an alternative

\(^{15}\) This model is captured in TFA’s “Teaching As Leadership Impact Model,” authored in 2010 and first used with 2011 corps members. It is yet to be published externally.
pathway to teacher credentialing, an alternative model of teacher development, an alternative conception of the purpose of schools, an alternative mindset about the potential of poor and working-class youth. Yet, it is important to note that the organization, at least in the experiences of the teachers in this study, has not actually offered an alternative to current models of education and schooling, but rather merely responded to the constraints of the systems they are a part of. In this sense, TFA offers an alternative that really is not much of an alternative; it is more like a variation on a theme.

The support of the teachers in this study from TFA is not housed within teachers’ development of curriculum or their production of PCK and content knowledge. Popkewitz (1998) found this in his original study of TFA, where he argued that curriculum and content are not the technologies most appropriate for pastoral care, and thus are backgrounded by TFA. Little seems to have changed from that original arrangement, as overwhelmingly, the support of the TFA teachers in this study is not located in their CSM, CSS, and other important aspects of their PCK. Rather, support is offered in the forms of recipe knowledge and “what works,” which was also seen in Popkewitz’ study. Furthermore, in both his study and this one, lesson plans are based on the organization of time and activities, rather than on content knowledge.

Thus, in terms of curriculum and content, TFA does not offer any meaningful alternative to the structures of schools and districts. Rather, the only “alternative” TFA offers is to carry out the same practices of schools and districts faster, cheaper, and better. TFA teachers are trained in a fraction of the time it takes
to train traditionally certified teachers. In addition, with high turnover comes less experienced teachers who warrant lower salaries than experienced, veteran teachers who stay in a school or district for a number of years. Perhaps more importantly, TFA relies on private as well as public funding, leading to an overall lower burden on taxpayers to provide training to teachers who become certified by public institutions.

The goal of the TFA teacher is to do the same thing that other teachers in their schools and districts do: teach students and develop student achievement on official assessments of knowledge and skills. Yet, they are expected to do it better, faster, and with less money. TFA thus becomes education reform on the cheap, where structures ultimately do not need to change. This leaves education and schools with simply more of the same: the same aims, the same goals, and the same persistence needed by the individual teacher to overcome the odds of success created by the social, cultural and historical context of their work in schools.

Ultimately, the goal of the teachers in this study is to redeem the structures by being successful within them. This success is conceptualized as achieving the same aims and the same goals, only faster, cheaper, and more effectively. PCK is certainly one of many tools teachers use to redeem these systems through their effective teaching. In fact, PCK can be seen as a tool for redemption in and of itself, as it seeks to better define excellent teaching while not offering any true alternative to structural conceptions of effective teaching. Originally conceived of and continually studied by academics in university-based teacher preparation programs, the insistence on PCK as an important knowledge base codifies and legitimizes the knowledge developed by those very programs. PCK was also originally conceived of
in a time of crisis, when university-based teacher preparation programs were under attack from a neo-liberal paradigm that sought to dismantle the public education system by rendering both the system and those that fuel it, including teacher preparation programs, broken and irreparable (see Berliner & Biddle, 1995). PCK, thus, was developed as a response to a crisis and a structure, and does not offer any alternative to the arrangement of universities as sites of wisdom that will ultimately “save” students from a teaching crisis. In fact, PCK only strengthens the narrative of the university-based teacher preparation programs as the true savior of public education.

Therefore, with both PCK production and their participation in TFA, the teachers in this study are ultimately swept up by a neo-liberal model of redemption that will ultimately prove that there is no redemption in failing institutions of schools, districts, and university-based teacher preparation programs. This is the lamentable aspect of these teachers’ production of PCK. This is not meant to suggest that there are no alternatives to a neo-liberal narrative of redemption, but rather that the teachers in this study and their production of PCK do not offer a meaningful alternative to the grand narratives of neo-liberalism and redemption. In fact, these teachers’ production of PCK and teaching practice only strengthens that narrative, based on the findings of this study.

Contradictions and Tensions as Spaces for Professional Learning

The predictable, remarkable and lamentable findings of this study highlight several critical contradictions and tensions in these teachers’ activity systems. In and of themselves, these contradictions and tensions become potential, powerful spaces
for reflection and professional learning. This section expands on a few of the more salient contradictions and tensions found in this study, and discusses the impact these contradictions and tensions have on teachers’ professional learning.

**The Object of the Activity System**

At a basic level, the very object of the activity systems of these teachers is a contested, negotiated space. As was seen in the case studies, the individual teachers and each of the structures and communities to which they belong all have their own conception of the object of the activity system of teaching. David’s case provides the most noticeable demonstration of this tension, and unsurprisingly, this tension provides fertile ground for his most productive reflections on his teaching practices. David’s conception of teaching on a spiritual plane is in direct tension with his credentialing program’s conception of teaching as a humanistic action and TFA and his district’s conception of teaching as a technical practice geared towards increasing student performance on assessments. The different objects derived from each structure cause a fundamental shift in all parts of the activity system: the tools, the rules, the division of labor, and the community of participants. While the tension between David’s ideas and the ideas of his support communities is a source of frustration for him, it also provides a space for David to deeply reflect on his own ideas about teaching in a way in which would not be possible if a perfect alignment between these objects existed.

A source of the tension in objects that is most interesting comes from TFA’s notion of “Teaching As Leadership.” The object in the TFA teacher’s activity system is to manifest and exert their leadership as leading students to significant academic
gains, as measured on standardized tests. This object most dominates the reflective
space for the teachers in this study. Alums Diana and Michelle are critical of this
object now that they have left the program, yet remained in the classroom and thus
learned more about their practice. Second year corps members Gregory and Chris
also engage critically with this notion of teaching as they find themselves asking for
less and less support from TFA, particular with regards to any form of support that
is not based on strictly providing resources they believe they need. First year corps
members David and Brad both say they feel guilty for not living up to the
expectations made by TFA, yet do not feel capable of reaching this object.

The object of “Teaching As Leadership” also best captures the powerful
grasp of the narrative of redemption on the sociocultural context that surrounds the
teachers’ professional learning. Although the narrative of redemption’s influence
exists in other elements of the activity system, it is arguably most clearly seen in the
notion of teacher leadership posited by TFA, and explained previously in this
chapter. Additionally, the power of “Teaching As Leadership” may also demonstrate
school district’s inability to coherently create an object that is well understood,
communicated, explained and organized around. The same could be said for the
credentialing programs that are largely absent in understanding the sources of teacher
learning in this study. TFA clearly has the most well-articulated and developed
object, so it stands to reason that this object would also have the most influence over
the teachers in the study.

The only objects that have the power to exist in negotiation with TFA’s ideal
of “Teaching As Leadership” come from the individual teachers themselves. Once
again, those teachers with the strongest identities-in-practice and the most developed sense of authoring self also had the most well understood self-positied objects, and were the most effective teachers in the study. This suggests a site for powerful professional learning to be in creating dialogue and facilitating reflection about the competing objects in an activity system, and the ways in which the tensions and contradictions in the object impact the other parts of a teacher’s activity system. In fact, during the member checking phase of data analysis, this often became a source of discussion between the teachers and myself, as they read their case studies and saw the “different directions they were being pulled in,” as David explained.

**Tools without Support and Support without Tools**

A second contradiction and tension seen in this study was that, often, teachers reported sites of support that did not provide tools, or sources of tools that provided no support in how to use the tool. TFA’s support is a strong example of the former, while each teacher’s use of their district provided textbook stands as a strong demonstration of the latter. As teachers grow in their experience and experiential learning, they tended to seek support from TFA less and less because they did not feel TFA focused on giving them the resources they felt they needed to be successful. Brad demonstrated this by asking TFA for less support as his first semester rolled on, while Chris and Gregory both said they do not like the way TFA engages them in reflection and discussion, rather than simply giving them resources.

On the other hand, each teacher reported having little to no training on their textbook, as well as guidance on how to teach the concepts, objectives, and concepts scripted in their district curriculum map. As was discussed earlier, teachers were
often told what to do, but not how to do it. At the same time, when they were simply
given resources, such as vocabulary lists, graphic organizers, and texts to read, they
were not supported in actually implementing these tools, and therefore struggled to
use the resources in the best way. Gregory’s struggle to offer students coherent
vocabulary instruction, and each of the Blue River teachers’ struggles with writing
instruction are both examples of this contradiction and tension in their activity
system.

Therefore, coupling support from communities with tools from
communities, where teachers are guided through understanding and negotiating the
rules and division of labor inherent in the tool, is an obvious yet necessary
component of teacher professional learning. While it should go without saying that
tools with support, or support with tools, should be present in a teacher’s
professional learning, this was mostly not the case in these teachers’ experience and
is thus another important implication of the findings of this study.

Forms of Membership and Ownership of Meanings

As was detailed earlier in the chapter, the contradiction between teachers’
lack of forms of membership in their teaching communities, yet growth in ownership
of meanings in their classroom space, stands as a powerful contradiction in this
study. Once again, this contradiction can provide space for productive dialogue and
reflection about a teacher’s practice. In the member checking phase of data analysis,
this again became apparent, as the participants reflected on statements they had
made that were critical of their districts, schools, colleagues, and TFA.
Reflecting on, understanding, and building forms of membership should be an important part of teacher professional learning, especially at the induction phase experienced by beginning teachers. It makes sense that if these teachers felt a stronger form of membership with their schools and districts, they would probably more deeply consider staying in their school districts beyond a two- to four-year commitment.

At the same time, though, it needs to be questioned whether or not deeper forms of membership may actually grant teachers less ownership over their classroom than they desired. This again reflects the competing objects in these teachers’ activity systems. It is likely that if the teachers felt a stronger affiliation with their school district, their teaching practices would be compromised by the objects offered by those districts. This, perhaps, is what Diana means when she distinguishes herself from the “cutesy teachers” in her district, or when Gregory consciously avoids discussing his teaching practices with his cynical colleagues.

While it is tempting to jump to the conclusion that, based on this study, teachers should feel more “at home” in their work environments, and thus forms of membership should take on a central focus in their professional learning, it could be understood that this might actually further limit the potential for teachers to engage in effective practice. On the other hand, it could be equally tantalizing to say that teachers should only focus on their ownership of meanings, manifested in the famous advice to young teachers of “ask for forgiveness instead of permission.” Yet, this study also demonstrates the problems with this arrangement. Therefore, it becomes important to understand the distinction, contradiction and tension between
forms of membership and ownership of meanings as a powerful site of teacher professional learning.

**Professional Learning for the Subject, or for The Students?**

Ultimately, this study highlights a potential game-changer for thinking about teacher professional learning. Often it is assumed that professional learning is meant to benefit the teacher the most, by making him or her more effective in performing the role of the teacher in a particular context. Yet, in this study, the most effective teachers seemed to be driven to learn not for their own professional benefit, but rather for the benefit of their students.

The teachers in this study did not seem to be concerned with becoming master teachers over time. Rather, their primary concern was with teaching their students *right now*. This distinction played out in problematic ways with the teachers in this study, but also in ways that cause one to wonder the extent to which the benefits of professional learning in a temporary, immediate, and responsive manner may outweigh the motivation by most in teacher education to develop teachers towards becoming masters and strong professionals over the span of several years.

Perhaps a form of professional learning that is less focused on the profession, or even the learning for that matter, and more focused on the immediate benefit of the student is sorely missing in most teacher support and development structures. Certainly a support and development structure that is only focused on the immediate would have its own shortcomings, but the tension between professional learning for the profession or the subject, versus professional learning for the students, creates another space of negotiation that could lead to powerful reflection
and discussion for teachers in their early years. The question essentially asked is whether or not is better for students and communities, particularly those who have suffered historically from generations of social and educational inequity, to have good teachers right now, or the potential for great teachers in the future? Is burn out perhaps not all that bad? The answer to these questions are certainly complex and continually negotiated, but this tension in teacher professional learning provides a way to discuss and reflect on this question with beginning teachers in a way that could greatly benefit new teachers.

**Policy Implications**

The findings of this study of professional learning carry several different implications for policies surrounding the induction period of teaching, as well as for supporting beginning teachers in the production of PCK. While the generalizability of this study is surely limited, the results certainly offer a window into better understanding how to support beginning teacher’s professional learning and their production of valuable PCK.

First, the role of identity in learning cannot be understated. Each teacher in this study brought an identity into teaching independent of his or her future teaching practice, and there is no indication that this identity was ever engaged with in the learning of these teachers. Rather, each teacher carried the burden of negotiating his or her identity, individuality, and background on his or her own. Neither TFA nor the school district, the two strongest sources of support, actively recognized and engaged with the backgrounds of teachers. This perhaps relates to the teachers in this study rarely feeling strong forms of membership with these structures. In
addition, it leads to a situation where teachers themselves are the strongest source of their learning, which lead to the limited PCK production seen in the teachers in this study. In order to better incorporate and accommodate teacher identity in their learning, it would be important to have teachers reflect on their past educational experiences, their assumptions and common sense regarding teaching, and their conceptions of subject matter as they engage in new learning about their practice.

A second policy implication for the induction period of professional learning discussed earlier in the chapter is the need to couple tools with support, and vice versa. The teachers in this study took spare parts from TFA, their district, and their credentialing program to build their teaching practice, rather than developing a coherent practice that was rooted in strong levels of PCK. On that note, it is important to recognize the need for these institutions to make visible their goals and assumptions to one another as well, as the teachers in this study were the people charged with bringing coherence to the contradictions and tensions between these structures. Rather, the structures could do more to bring coherence to themselves, before they even engage with new teachers. This would have greatly changed the practices of the teachers in this study.

In terms of policy related to supporting PCK production, the most important implication from this study is the need to understand the sociocultural context around teacher learning, as well as the influential role of students in the production of PCK. Each teacher in this study had experienced a different sociocultural context, or experienced similar contexts differently, leading to individual idiosyncrasies in their learning and working style, as well as their overall disposition towards
professional learning and practice. When most induction structures are created as one-size-fits-all, such structures are bound to find limitations in their ability to positively influence the practice of teachers. On the other hand, when induction programs simply assume that the simple matching of an experienced teacher with a rookie teacher will lead to powerful learning, it renders the contexts of these teachers invisible. It is very important to note that each teacher in this study had multiple assigned mentors and support providers with ranging levels of experience, yet due to different contextual backgrounds, they all found reasons to not work closely with these mentors and support providers. Therefore induction programs and PCK production supports must walk a road that understand teachers as both individuals, as mentoring programs do, as well as members of a structure, as one-size-fits-all development does.

As has been stated several times in this study, learning must be understood as a braiding between individuals, structures, and knowledge, each of which carry their own sociocultural contexts. The support of beginning teachers in the induction phase must carry this approach to beginning teacher professional learning, making visible the multiple contexts of teacher learning and the contradictions and tensions that exist amongst those contexts.

Summary

The TFA teachers in this study follow a predictable, patterned production of PCK that is practice-based rather than professional-based. This is due to the structures and communities in these teachers’ activity systems providing neither space nor tools for collaborative PCK production. Teachers are left on their own to
produce PCK, resulting in an uneven underdevelopment of PCK that has several consequences on their instructional practices and their ultimate effectiveness. Yet, their production of PCK highlights a remarkable ability for TFA teachers to navigate a dissonant and unbalanced activity system, relying on their sense of authoring self, their ownership of meanings, and their agency. While that agency is remarkable, it ultimately only fortifies the structures that create an arrangement in schools that relies on super-teachers who can redeem structures from their socially, culturally and historically unjust past and present context. These teachers' alternative mode of preparation and support, and their alternative form of PCK production, then, are not really alternatives at all. They simply seek to carry out the original goals and aims of the system, just faster, cheaper and better.

The narrative of redemption does not make TFA, schools, districts, or the teachers in this study “wrong.” Rather, the narrative of redemption in PCK production only reaffirms that understanding TFA and their teachers is complicated. The only way to untangle this complication, and generate true alternatives to current educational practices is to create a reconceptualized theory of social change through education, and reflexively turn that theory into strong pedagogical practices. For both the field of PCK and the community of TFA supporters, it is doubtful that they do not know how to turn theory into practice. PCK stands as a wonderful example of developing theory based on practice, while TFA’s transformation from an intriguing idea into an educational powerhouse has been well documented as nothing less than phenomenal. On the other hand, it is plausible that these communities operate under ultimately limited theories that require revisions to move through and
beyond the grasp of neo-liberal narratives of redemption. The following and final chapter offers some directions for a reconceptualization of schools, education, teaching, PCK, and social change that aligns to a more sophisticated understanding of education and social change.
Chapter 6

CONCLUSION

In this study, I sought to characterize the ways in which TFA teachers’ production of PCK was affected by their activity systems, using sociocultural theory. In that space of knowledge production, I also attempted to characterize how an individual teacher’s identity and sense of agency impact knowledge production, and how that production changes over time. Finally, this study captured the social, cultural and historical context around these teachers’ learning how to teach, focusing in particular on influential neo-liberal narratives of redemption.

Chapter Four shared the finding that the teachers produce PCK on their own, based on their own experiences and devoid of support from the structures intended to support their teaching. This leads to PCK that is unevenly produced, and underdeveloped in regards to certain me aspects of PCK. While all of the teachers in this study actively produce knowledge related to representations and materials and instructional strategies, conceptions of subject matter and knowledge of curriculum scope and sequence was missing in the characterizing of each teachers’ PCK. Production and use of PCK related to students’ prior knowledge and most common difficulties with particular concepts seemed to develop over time, while considerations for variations in student learning was not apparent in any of teachers’ PCK or teaching practices. PCK production was ultimately impacted by a dissonant, unbalanced activity system that led teachers to rely on their own agency than on the structures intended to support them. The foregrounding of agency over participation in structures led the activity system to only become more dissonant, as teachers
found more ownership over their teaching at the cost of forgoing meaningful participation with the communities of their school and district.

Chapter Five discussed the implications of these findings, pointing to a predictable tale of knowledge production occurring in different phases of teacher development. In these phases, codified PCK was mostly based on the survival and consolidation stages of teacher development, and PCK was mostly produced through first-year teaching experiences, and reflections on these experiences. The chapter also discussed the ways in which teachers’ remarkable sense of authoring self and identities-in-practice bring balance to activity systems made dissonant by the structures and communities these teachers belong to. However, this balance proved to be short-lived, as the chapter later discussed two lamentable findings. The eventual “death” of the subjects in activity systems occurs due to the dissonance of the activity systems. Also, the grasp of neo-liberal narratives of redemption constrain these teachers and their structures from offering true alternatives to current educational practices and education reform that is more than just doing the same things faster and cheaper. The tensions and contradictions in the teachers’ activity systems made possible spaces for powerful reflection and discussion, and illuminated implications for policies related to the induction period of teachers’ professional learning.

The intrigue of this study lies in its examination of the knowledge production, teaching practices, and the professional learning of teachers in an alternative certification program that is also one of the most prominent education reform organizations in the nation. Studying TFA teachers requires two fascinating
analyses. Thinking broadly, studies of TFA teachers require an analysis of TFA and these teachers’ commitment to fighting educational inequity, and how this commitment sets them apart from many other teachers and teacher preparation organizations (traditional and alternative) that do not conceptualize a commitment to equity as prominently as TFA does. In addition, looking closely at the program requires an analysis into this organization’s practices and policies in regards to preparing teachers and supporting them when they are in the classroom. This study of TFA teachers’ PCK production looks at the practices and policies related to TFA’s preparation and support of teachers, but the theoretical frameworks also make possible broader analysis of the TFA’s conception of education reform, as well as the ideas of the organizations that work with TFA, in particular school districts. In essence, this study examines the links between teacher practices and teacher support and development, as well as broader notions of education reform and conceptions of social change.

In this final chapter, I wish to pay close attention to both those broader considerations of education reform as well as the more narrow considerations about teacher support and development. The findings and conclusions of this study point to three implications for teacher preparation and support, education policy, and future research in teacher education. First, it must be firmly stated that the narrative of redemption has a strong grip on the individuals, structures, and knowledge bases that were investigated in this study. The narrative of redemption limits the ability for any of these participants to offer true alternatives that constitute education reform. Second, efforts aimed at education reform oriented towards educational equity and
alleviation of social injustice must move beyond narratives of redemption. Sociocultural theory makes possible paradigm shifts that reject the redemptive narrative, replacing it with contextually-bound conceptions of educational equity, education reform, and the support and development of teachers. Third, sociocultural analysis and this study point towards a conception of teacher support and development that requires an understanding of the relationships between a teacher’s identity, ideology, instructional practices, and the institutions in which they belong. It is hypothesized that a harmony between the concepts of identity, ideology, instruction, and institutions can create effective practices in teachers who seek to address issues of educational inequity in their teaching.

The Grasp of The Narrative of Redemption

Ultimately, this study reaffirms the idea that context matters. Yet, in the narrative or redemption that exists within public education, teacher education, and teacher practice, space is not afforded to the investigation and consideration of that context. Rather, the narrative of redemption assumes that great individuals and super-teachers can rise above the contextual challenges they face in order to redeem the guilt they experience from knowledge of their privilege, their students’ lack of social opportunities, and the broader society’s failed commitment to equity and social justice. In this narrative, context does not matter, because if it did, the fable of the super-teacher would simply not function. What makes the super teacher heroic is their ability to “conquer” the context in their pursuit of redemption. Hence, in the narrative of redemption, true intellectual curiosity about the nature of educational
inequity is stamped out in favor of recipe-knowledge, “what works” pedagogies, and context-less collections of best practices.

Yet, what becomes apparent in this study, as well as other studies of TFA teachers’ sense of redemption (see Fischman & Diaz, 2012), is that the narrative of redemption holds teachers’ imaginations and consciousness with a firm, unchallenged grasp. The narrative of redemption does the same with structures and communities in education reform, from schools and districts, to teacher preparation programs, to programs like TFA. In a neo-liberal society like the United States, the narrative of redemption is comfortable and offers an opportunity to have social situations exist with maximum predictability and, thus, the chance for maximum control. The link between improving teacher quality, raising student achievement, closing achievement gaps, and healing social injustices is an example of this attempt at predictability and control. The narrative also has a “feel good” element to it, as evidenced in countless portrayals of super-teachers in both popular culture and education research that seek to provide people with hope that redemption can actually occur (see Dalton, 2004). Perhaps more importantly, the narrative reflects the insistence on rugged individuals who capture the pioneering spirit of America, or as they are referred to today, social entrepreneurs who “use entrepreneurship as a means to solve local and global challenges” (Arizona State University, 2012). These individuals, who almost always work on their own and are outsiders, turn social injustice and inequity into markets for entrepreneurial opportunity. In doing so, they commodify equity and justice, rendering the nature and context of injustice invisible, as the entrepreneur sets up shop.
The narrative of redemption in the practices of the teachers in this study most evidently is rooted in their participation in TFA, an organization that captures the ideals of social entrepreneurialism, the narrative of redemption, and neo-liberal education reform efforts well (Fischman & Diaz, 2012; Kretchmar & Sondel, 2012). Yet, the narrative of redemption also comes from other structures in these teachers’ activity systems, offering insights into practical implications of these structures’ actions.

**Implications for School Districts and School Structures**

It is clear in this study that school districts and school structures fail to provide teachers with opportunities to produce PCK and, more broadly, develop effective teaching practices. These structures seem to also rely on a narrative of a rugged individual who can accomplish great things on their own. Perhaps more importantly, they employ several policies that are found to be problematic in fostering PCK production in beginning teachers.

All of the teachers in this study worked at K-8 schools, rather than middle schools that might focus only on grades 6-8. The consequence of this form of school organization is that teachers in the middle grades are left to teach an entire grade level on their own. Each teacher in this study was the only grade-level reading, writing, or language teacher at their respective school, and did not have colleagues to collaborate with who teach both the same content and grade level. Organizing schools in this way creates an either/or situation for teachers who can choose to collaborate with other literacy teachers in different grade levels, probably producing only content knowledge, or collaborate with other teachers in their grade level who
teach different subjects and thus only produce pedagogical knowledge. Producing PCK would demand collaborating with teachers in the same content and grade level. This could be accomplished with having teachers at different school sites collaborate with one another, but PCK production also requires all-important contextual knowledge, which is lost in collaborating with teachers at different school sites. With K-8 schools, it is doubtful that school districts and school structures will ever be able to provide the means for teachers to produce deep, rich sources of PCK that reflect their own personal repertoire of practices as well as broader professional understandings of the content area.

In addition, school districts’ hiring and placement of TFA corps members is done in such a manner that compounds the difficulty of creating fertile grounds for producing PCK. It is likely that the districts will replace the exiting teachers in this study with other TFA corps members, as each teacher in this study did at the beginning of their time in TFA. It is highly doubtful that this new crop of teachers’ experiences will be much different than their predecessors, resulting in the same stunted production of PCK and the same dissonance in activity systems. Furthermore, the placement of TFA corps members highlights problematic practices in the case of a few of the teachers in this study. At Michelle, Chris and Brad’s schools, TFA corps members comprise entire grade levels or entire content teams. While the organization and TFA try to cluster CMs to increase the level of support they can receive from each other, this practice results in situations where there are no experienced teachers in certain parts of school buildings, and little professional support that can be offered to beginning teachers. While this certainly begs the
question of whether or not this practice reflects the district’s inability to retain
teachers long enough to have experienced teachers at all grade levels and content
areas, the situation is problematic nonetheless.

School districts and school structures cannot be a redeemer in their own
pursuit of the narrative of redemption. They lack the resources, policies, and human
capital to do so. They also fail to accommodate teachers in their own pursuit of
redemption. It is important to note that the two most experienced and effective
teachers in this study hold the harshest and sharpest criticisms of their districts and
school structures. Certainly, policy changes could alleviate some of those concerns,
but in shifting focus away from narratives of redemption and towards contextual
conceptions of teacher and learning, districts and school structures would know they
can not operate on their own any better than their teachers can. Not only do these
structures need to find harmony with other structures, such as TFA and university
credentialing programs, they must also find harmony with their own teachers and the
individuals who interact with that structure. Engaging in a negotiation of meanings as
well as membership is needed by these districts in order to offer more than a simple
narrative of redemption through heroic, individual actions.

**Implications for PCK**

In the same way that school districts and structures will not redeem
education, PCK cannot save education on its own either. Literature on PCK seems
to point to its redemptive qualities, depicting PCK as the Excalibur of teacher
education, a commodified bundle of knowledge that can be wielded by all teachers.
Furthermore, while conceptual literature on PCK voices a need to consider PCK as
both practice and professional based (Loughran, et. al. 2004), and as contextually bound (Barnett & Hodson, 2001), it is unclear whether or not the field actually holds these complex dispositions towards PCK, or rather view it as context-less and professionally produced. Original conceptions of PCK held the latter view of PCK (see Grossman, 1990), which stands to reason in a time when the teacher education community was under relentless attack from outside. If the national disposition towards education says that traditional teacher education is a useless enterprise (which was said in the mid-1980s and is still said in many places today), it makes sense that a concept like PCK would be developed as teacher education sought to legitimize their place at the table of education reform. Yet, the field needs to move away from limited conceptions of PCK and towards more contextually rich conceptions of PCK.

A central distinction in this study and others of PCK is in the insistence that, as knowledge, PCK is produced, rather than developed. In addition, this study’s attempt to capture the situated nature of PCK by focusing more on its production, rather than the product itself, sets this study apart from many others on PCK. When PCK is seen as a pre-determined context-less bundle of facts, it also seeks to become a redeemer in the world of education reform. While school districts and structures rely on structures too much to explain the possibility of education reform, the field of PCK relies too much on knowledge, devoid of structures as well as the potential of individuals. In this sense, the knowledge becomes the hero in the tale of educational equity and quality, once again falling into the grasp of the narrative of redemption.
Implications for Teacher Identity Development

If school districts and structures and PCK cannot be the redeemers who will “save” public education, neither can the individual teachers in this study. Thus, a focus on identity development alone also proves to be a limited effort in offering education reforms that offer true alternatives to the narrative of redemption. Culturally responsive teaching and multicultural education capture the insistence on identity development in creating educational reform, both in developing awareness of the identity of students as well as teachers (see Ladson-Billings 1994; Villegas & Lucas, 2002; Nieto, 2000). While it seems that the teachers in this study have received scant support in these areas, it is also doubtful that efforts to develop identity awareness in these teachers would offer any meaningful support for these teachers. The teachers in this study who have the strongest sense of self, the most prolific authoring self, and most concerted efforts to engage in an identity-in-practice still ultimately find themselves crushed by the structural challenges they experience. It is possible that their identity development occurs in a space that foregrounds the individual so much that structures as well as knowledge become invisible. These teachers’ limited production of PCK stands as evidence of this phenomenon, as does their efforts to leave their schools, districts, and the teaching profession in general.

Although identity development is an important part of developing effective teachers, often these efforts are done devoid of content, pedagogy, and pedagogical content knowledge. Identity development efforts are often too general for teachers to put into meaningful practice, and thus create a connection between their individual identity and their teacher practices. Content areas, pedagogical practices,
and PCK all highlight structural elements of teaching that are often missing in identity development efforts. It needs to be clear that efforts in identity development devoid of considerations of structural context and knowledge production will also play into the hands of the narrative of redemption. Rather than the structure or knowledge bundle being the redeemer, though, the individual super-teacher becomes the redeemer, as is seen in this study.

**Beyond Narratives of Redemption**

Sociocultural theory offers the best opportunity to move beyond narratives of redemption that rely on simplistic understandings of reality and the insistence of super-teachers, super-structures, super-systems and super-knowledge. It is in sociocultural theory that we see the interplay between structures, individuals, and knowledge, and it is with these theories that we can begin to untangle the complex knot of teacher learning and education reform that arises from the “braiding” of mind, body, world, and structural relations (Putnam, 1998; Popkewitz, 1991). In this sense, sociocultural theory is not a redeemer, but rather an insistence on a different paradigm with which to view teacher practice, teacher learning, teacher development and education reform.

In teacher learning and teacher development, sociocultural theory demands that we recognize the interplay and constant negotiation of relationships between individuals, structures, knowledge, and human activity and action. It also insists that we investigate the historical and cultural contexts of teacher learning and development. The case studies of Diana and David’s PCK production most highlight the importance of understanding these contexts in the development of these
beginning teachers, yet each teacher’s story demands that cultural, historical, and structural context be taken into consideration in teacher education. It needs to be made clear, though, that this context should not be foregrounded so much that it mutes out the individual, structural, and knowledge-based elements of teachers’ activity systems.

Looking more broadly at education reform, sociocultural theory begs the ontological demand to deeply understand the problem we are seeking to address in reform efforts. Inequity is not a natural phenomenon, so its nature must be understood and not assumed (see Duncan-Andrade, 2009). This requires social, cultural and historical investigation into the nature of educational inequity that seems to be missing in the activities of school districts and structures, the PCK community, and in TFA. Once again, though, looking at these social, cultural and historical foundations must not silence the all-important interplay between these contexts and structures, individuals, and knowledge-based.

Ultimately, a conception of teacher learning and development that stands as an alternative to narratives of redemption and context-less conceptions of education must focus on all parts of a teachers’ activity system, as well as the interplay between those respective components. I propose, then, a model of teacher learning that seeks to understand the harmony (or lack thereof) between identity, institutions, ideology, and instruction.
Figure 19. The interplay between identity, institutions, ideology, and instruction

Figure 20. Potential alignment between identity, institutions, ideology, and instruction

It is in this model that sociocultural theory could be used to illuminate relationships and create harmony and alignment between these elements of a teachers’ practice and learning. Briefly, I describe each below:
“Identity” refers to the identity-in-practice of individuals, as well as their sociocultural sense of self. Examples of this include Villegas and Lucas’ (2001) concept of sociocultural consciousness. For the teachers in this study, this would include their sense of authoring self, figured world, as well as racial and cultural identities.

“Institutions” refers to the structures teachers belong to, including their school, district, community, and preparation and support programs. This would include structures that provide forms of membership in a social ecology of identity as well as communities in an activity system. For the teachers in this study, this would include their school, district, TFA, and credentialing program.

“Ideology” refers to the beliefs and dispositions of teachers, capturing what they believe about their work as teachers, and broader concepts of teaching, learning, and education. For the teachers in this study, this would include their CSM, their underlying assumptions about teaching, learning, and the relationship between education, social change, and social opportunity.

“Instruction” refers to the teaching practices of teachers. This includes, but is not limited to, their pedagogical practices, content knowledge, PCK, and the tools they use for instruction and assessment. For the teachers in this study, this would include their actual teacher practice, both in their curricular planning and execution of lessons.
For the most part, the teachers in this study demonstrate a misalignment between identity, institutions, ideology and instruction. Gregory struggles to “be himself” (identity) within his school and district structures (institutions) and his actual teaching practice (instruction). Additionally, his ideas about education (ideology) are different than what the district and school expect him to do with his class, as he prefers an experiential education to the rote learning his district prioritizes. In spite of this misalignment, he has found some success with his students and satisfaction in his second year of teaching, but ultimately will be leaving the teaching profession at the end of the year. It is also doubtful he will leave his students making a very significant, lasting impact on either their academic or social trajectories. Another example of a teacher in this study who struggles in a misalignment between these categories is David. While he has a sharp sense of what he believes (ideology) and how his own background (identity) relates to his ideas about education, he does not know how to engage in a teaching practice (instruction) that reflects his beliefs. Furthermore, he has not found structural support (institutions) for his ideas and idealized teaching practice.

On the other hand, Diana’s activity system represents a closer alignment and harmony between identity, institutions, ideology, and instruction. Her cultural background, experiences, and social participation (identity) all played a major role in her decision to become a teacher in TFA (institutions). She gravitates towards colleagues who share her perspective about education (ideology) and collaborates closely with them, while ignoring those who hold different conceptions. In her poetry lessons, it was seen that her teaching practices (instruction) align closely to her...
own experiences in society and her social and cultural connection with students. She loves her students and enjoys teaching, but ultimately is seeking a different job due to her incompatibility with her district (institutions). It is no surprise that Diana is seeking a position on TFA staff, then, as this institution most aligns to her identity, ideology, and instructional practices. Michelle is also seeking to join TFA staff for very similar reasons. While her activity system features near alignment between her identity, ideology, instructional practices and the community in which she teaches, her experiences with the district she works for is driving her away from continuing as a teacher in that community.

While more investigation into this model, and more work in understanding how the interplay between identity, institutions, ideology and instruction can be used to prepare, develop and support teachers is needed, it offers a promising direction in using sociocultural theory to more deeply understand the interplay of mind, body, and structural relations in teacher learning. In addition, it offers an opportunity to assist teachers’ production of PCK, contextual knowledge, and knowledge of themselves in ways that brings together mind, body, the world and structural relations. Future research, then, is needed in understanding the interplay between identity, ideology, instruction, and institutions for beginning teachers who seek to address educational inequity. Alignment of these categories would conceivably result in increased effectiveness, as well as increased professional satisfaction and more meaningful participation in a teachers’ activity system.
REFERENCES


Cope, B. & Kalantzis, M. (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 3-8). London: Routledge.


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APPENDIX A

COPY OF INFORMED CONSENT LETTER
CONSENT FORM
UNDERSTANDING PCK PRODUCTION USING CHAT

INTRODUCTION
The purposes of this form are to provide you (as a prospective research study participant) information that may affect your decision as to whether or not to participate in this research and to record the consent of those who agree to be involved in the study.

RESEARCHERS
Dr. Gustavo Fischman, and Victor Diaz of Arizona State University have invited your participation in a research study.

STUDY PURPOSE
The purpose of the research is to gain more information regarding the ways in which Teach For America Corps Members’ self-concept and identity is developed during the summer training institute.

DESCRIPTION OF RESEARCH STUDY
If you decide to participate, then you will agree to participate in a case study for the Fall 2011 semester. Participants will engage with the researcher in three data collection cycles during the semester, which include a pre-observation interview, a classroom observation, and a post-observation interview.

If you say YES, then your participation will last for one semester. No more than six people will participate in this study.

RISKS
There are no known risks from taking part in this study, but in any research, there is some possibility that you may be subject to risks that have not yet been identified.

BENEFITS
Although there may be no direct benefits to you, the possible benefits of your participation in the research are helping the researchers gain insight into the ways teachers’ identity is influenced. This information will be very useful with any research in regards to teacher preparation.

CONFIDENTIALITY
All information obtained in this study is strictly confidential. The results of this research study may be used in reports, presentations, and publications, but the researchers will not identify you. In order to maintain confidentiality of your records, Victor Diaz will use a pseudonyms for all identifiers upon release of the study, and will assign you a number that will be used on all materials.

WITHDRAWAL PRIVILEGE
Participation in this study is completely voluntary. It is ok for you to say no. Even if you say yes now, you are free to say no later, and withdraw from the study at any time.

COSTS AND PAYMENTS
There is no payment for your participation in the study.

**VOLUNTARY CONSENT**

Any questions you have concerning the research study or your participation in the study, before or after your consent, will be answered by Victor Diaz (vdiaz@asu.edu; (602) 418-4636).

If you have questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk; you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at 480-965 6788.

This form explains the nature, demands, benefits and any risk of the project. By signing this form you agree knowingly to assume any risks involved. Remember, your participation is voluntary. You may choose not to participate or to withdraw your consent and discontinue participation at any time without penalty or loss of benefit. In signing this consent form, you are not waiving any legal claims, rights, or remedies. A copy of this consent form will be given (offered) to you.

Your signature below indicates that you consent to participate in the above study.

<table>
<thead>
<tr>
<th>Subject's Signature</th>
<th>Printed Name</th>
<th>Date</th>
</tr>
</thead>
</table>

**INVESTIGATOR’S STATEMENT**

"I certify that I have explained to the above individual the nature and purpose, the potential benefits and possible risks associated with participation in this research study, have answered any questions that have been raised, and have witnessed the above signature. These elements of Informed Consent conform to the Assurance given by Arizona State University to the Office for Human Research Protections to protect the rights of human subjects. I have provided (offered) the subject/participant a copy of this signed consent document."

Signature of Investigator ________________________________
Date __________
Part 1: Biographical Information

1. Tell me about yourself.

2. Where did you go to college and what was your major?

3. Tell me about why you decided to join Teach For America.

4. How have your experiences in TFA been so far?

Part 2: Information about teaching

5. What do you think are your strengths as an ELA teacher?

6. What do you think are your weaknesses as an ELA teacher?

7. Tell me about your most successful lesson.

8. Tell me about your least successful lesson.

9. What do you consider when you plan your lessons?

Note: This protocol includes questions used by Lee (2005) in her initial interviews with mentor teachers who she studied for their conceptions of PCK.
APPENDIX C

POST-OBSERVATION INTERVIEW PROTOCOL
Part 1: Debrief about Lesson Observation (taken from Lee, Brown, Luft & Roehrig, 2007)

1. Tell me about the lesson you taught.

2. What did you consider as you planned the lesson?
   a. Did you consider students’ prior knowledge? If so, how?
   b. Did you consider variations in students’ approaches to learning? If so, how?
   c. Did you consider students’ difficulties with specific concepts? If so, how?

3. What were the goals of this lesson?
   a. Where did these goals come from?
   b. Why did you have these goals?
   c. To what extent do you feel the lesson reached those goals?

4. What were you pleased about from the lesson?

5. What were you dissatisfied about from the lesson?

Part 2: Tool Attribution (used with each tool, modeled after Grossman, et. al., 1999).

6. What was the purpose of this tool?

7. Where did you learn about tool?

8. What was the problem towards which this tool was used?
APPENDIX D

DATA COLLECTION TIMELINE
Blue River Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Event</th>
<th>Date</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Diana</td>
<td>Introductory Interview</td>
<td>8/3/2011</td>
<td>46 min.</td>
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<tr>
<td></td>
<td>Observation #1</td>
<td>8/17/2011</td>
<td>70 min.</td>
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<td>Post-Observation Interview</td>
<td>8/18/2011</td>
<td>71 min.</td>
</tr>
<tr>
<td></td>
<td>Observation #2</td>
<td>9/13/2011</td>
<td>75 min.</td>
</tr>
<tr>
<td></td>
<td>Post-Observation Interview w/ CoRE and PaP-ER</td>
<td>9/13/2011</td>
<td>42 min.</td>
</tr>
<tr>
<td></td>
<td>Observation #3</td>
<td>11/2/2011</td>
<td>45 min.</td>
</tr>
<tr>
<td></td>
<td>Observation #4</td>
<td>11/3/2011</td>
<td>45 min.</td>
</tr>
<tr>
<td></td>
<td>Post-Observation Interview w/ CoRE and PaP-ER</td>
<td>11/3/2011</td>
<td>76 min.</td>
</tr>
<tr>
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<td>Member Checking</td>
<td>1/24/2012</td>
<td>80 min.</td>
</tr>
<tr>
<td>Chris</td>
<td>Introductory Interview</td>
<td>8/5/2011</td>
<td>35 min.</td>
</tr>
<tr>
<td></td>
<td>Observation #1</td>
<td>8/11/2011</td>
<td>75 min.</td>
</tr>
<tr>
<td></td>
<td>Observation #2</td>
<td>8/17/2011</td>
<td>71 min.</td>
</tr>
<tr>
<td></td>
<td>Observation #3</td>
<td>9/13/2011</td>
<td>75 min.</td>
</tr>
<tr>
<td></td>
<td>Post-Observation Interview w/ CoRE and PaP-ER</td>
<td>9/13/2011</td>
<td>42 min.</td>
</tr>
<tr>
<td></td>
<td>Observation #3</td>
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<td>45 min.</td>
</tr>
<tr>
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<td>Observation #4</td>
<td>11/3/2011</td>
<td>45 min.</td>
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<td>76 min.</td>
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<tr>
<td>David</td>
<td>Introductory Interview</td>
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<td>8/11/2011</td>
<td>75 min.</td>
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<td></td>
<td>Observation #2</td>
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<tr>
<td></td>
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<td>61 min.</td>
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<td>Observation #4</td>
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<td>Michelle</td>
<td>Introductory Interview</td>
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<td>Observation #2</td>
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<td>Observation #3</td>
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<tr>
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<td>Observation #1</td>
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<td>Post-Observation Interview</td>
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<td>Observation #2</td>
<td>9/22/2011</td>
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<td>Observation #3</td>
<td>11/14/2011</td>
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<td>Post-Observation Interview w/ CoRE and PaP-ER</td>
<td>11/15/2011</td>
<td>100 min.</td>
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<td>Member Checking</td>
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<tr>
<td>Brad</td>
<td>Introductory Interview</td>
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<td>71 min.</td>
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<tr>
<td></td>
<td>Observation #1</td>
<td>8/31/2011</td>
<td>45 min.</td>
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<td>9/1/2011</td>
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<td>Observation #3</td>
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<td>105 min.</td>
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APPENDIX E

CODES USED IN DATA ANALYSIS
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECT</td>
<td>Object in a teacher’s activity system.</td>
<td>Represents indications of a teacher's conception of good teaching, or explanations of a teacher’s goals in his/her teaching practice. Examples of use included when teachers discussed the goals for their lessons, or their motivations for becoming a teacher.</td>
</tr>
<tr>
<td>COMM</td>
<td>Self</td>
<td>A teacher’s own independent and individual “community.” Represents instances where a teacher reported working or developing ideas on their own, or by themselves. Represents a teacher’s community of one. Examples included when teachers discussed tools they had created on their own, or reported planning lessons by themselves.</td>
</tr>
<tr>
<td>COMM</td>
<td>District</td>
<td>School District Represents the school district for which the participant worked, and that district’s influence on the teacher’s activity system. Examples included when teachers talked about professional development provided by the school district, or curricular resources created by the school district.</td>
</tr>
<tr>
<td>COMM</td>
<td>School</td>
<td>The teacher’s school-based community Represents the school-based community, including the school’s administration and the teacher’s colleagues, and that community’s influence on the activity system. Examples included when teachers discussed their administration, or talked about their colleagues.</td>
</tr>
<tr>
<td>COMM</td>
<td>TFA</td>
<td>Teach For America Represents the Teach For America community, and TFA’s influence over the activity system. Examples include teachers discussing their preparation through TFA, or experiences in TFA led professional development.</td>
</tr>
<tr>
<td>COMM</td>
<td>Home</td>
<td>A teacher’s background, or home community Represents the background or home community of the teacher, and the influence of this community over the activity system. Examples include teachers discussing their experiences prior to teaching, or their upbringing.</td>
</tr>
<tr>
<td>COMM</td>
<td>Comm</td>
<td>The community in which a teacher works. Represents the community in which a teacher works, and the influence that community has over the activity system. Examples include teachers discussing the influence of community members in their practice, or their students’ lived experiences in their community.</td>
</tr>
<tr>
<td>COMM</td>
<td>Students</td>
<td>The teacher’s students Represents the students the teacher works with, and the influence of those students over the activity system. Examples include teachers discussing their students’ strengths and weaknesses, or students’ experiences.</td>
</tr>
<tr>
<td>DOL</td>
<td>Vert</td>
<td>Vertical Division of Labor Represents the vertical division of labor in an activity system. Examples include teachers detailing mandates from their administration or district.</td>
</tr>
<tr>
<td>DOL</td>
<td>Horiz</td>
<td>Horizontal Division of Labor Represents the horizontal division of labor in the activity system. Examples include teachers detailing their labor relationships.</td>
</tr>
<tr>
<td>RULES</td>
<td>Self</td>
<td>Rules created or codified by the teacher Represents the rules created or codified by the teacher, and the impact of those rules over the activity system. Examples include teacher’s own understandings of student needs, or a teacher’s own ideas about teaching.</td>
</tr>
<tr>
<td>RULES</td>
<td>Other</td>
<td>Rules created or codified externally from the teacher Represents the rules created or codified by entities external to the teacher, and the impact of those rules over the activity system. Examples include mandates from structures.</td>
</tr>
<tr>
<td>RULES</td>
<td>Broker</td>
<td>Rules from external forces brokered by the teacher Represents the rules from others that were brokered by the teacher, and the influence of those rules on the activity system. Examples include teacher’s interpretation or avoidance of mandates, or modification of district provided resources.</td>
</tr>
</tbody>
</table>
### Codes from CHAT & PCK

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOOLRM</td>
<td>Representations and Materials</td>
<td>Represents content representations and materials used by the teacher. Examples include curricular resources, or physical materials used by teachers.</td>
</tr>
<tr>
<td>TOOLIS</td>
<td>Instructional Strategies</td>
<td>Represents instructional strategies used by the teacher. Examples include methods used for teaching material.</td>
</tr>
</tbody>
</table>

### Codes from PCK

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSM</td>
<td>Conception of Subject Matter</td>
<td>Represents a teacher’s ideas about their subject matter. Examples include teacher’s explanation of the importance of learning concepts, and teacher’s fundamental notions about teaching their content area.</td>
</tr>
<tr>
<td>CSS</td>
<td>Curricular Scope and Sequence</td>
<td>Represents a teacher’s ideas about the curricular scope and sequence for their content area. Examples include the ordering of lessons over time, or distinguishing different visions of mastery for concepts based on different grade levels.</td>
</tr>
<tr>
<td>SPK</td>
<td>Student Prior Knowledge</td>
<td>Represents a teacher’s use or student prior knowledge in a lesson. Examples include asking students to recall material their previous learned, or attempting to transfer students knowledge from past experiences to new concepts.</td>
</tr>
<tr>
<td>D</td>
<td>Student Difficulties</td>
<td>Represents a teacher’s approach to addressing difficulties most commonly experienced by students. Examples include addressing potential misconceptions, or responding to students’ incorrect responses to questions.</td>
</tr>
<tr>
<td>V</td>
<td>Variations in Student Approaches to Learning</td>
<td>Represents a teacher’s accommodation of variations in student approaches to learning. Examples include teachers using differentiation strategies in their lessons.</td>
</tr>
</tbody>
</table>