Turning Teacher Education Upside Down: Enacting the Inversion of Teacher Preparation through the Symbiotic Relationship of Theory and Practice

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Abstract

Recent calls for a shift to clinically-based models of teacher preparation prompt a research focus on the quality of classroom experiences in which pre-service teachers engage and the level to which theory and practice connect to inform those experiences. Developing a theoretical framework to conceptualize an approach to this work is an essential step in teacher preparation reform. Linking Dewey's (1933, 1938) work on reflection with empirical studies on pre-service teachers' reflection practices, and with Vygotsky's notion of a "knowledgeable other," we propose an approach to conducting clinical practice through a theoretical framework. Based on these frames, we argue that the role of the university "supervisor" must shift from one of observation and immediate feedback to one of deep analysis and coaching within the frame of the content being taught. From this, we offer insight on how to further develop both theory and practice within the teacher preparation reform movement and support pre-service teachers as they develop "warranted assertabilities" from their practice.

> "What does having an experience amount to unless, as it ceases to exist, it leaves behind an increment of meaning, a better understanding of something, a clearer future plan and purpose of action: in short, an idea?" (Dewey, 1933, p. 154)

Teacher education is in the midst of a monumental pedagogical shift that disconnects teacher preparation from its history of isolated instruction of theory and pedagogy to embedded preparation for use of theory in real-world contexts (NCATE, 2010). This shift is essential given the increasingly complex and diverse nature of K–12 classrooms and is due in part to the recent release of the National Council for Accreditation of Teacher Education (NCATE) Report of the Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Learning (2010). In it, teacher educators are urged to turn teacher preparation "upside down and shift away from a norm which emphasizes academic preparation and course work loosely linked to school based experiences…[and] move to programs that are fully grown in clinical practice and interwoven with academic content and professional courses" (p. ii). The emphasis on increasing opportunities for high-quality clinical preparation is tied to educators' attempts to parallel the field of medicine, thus recognizing teaching as an academically taught clinical practice profession requiring the same theory to practice connections needed in preparing doctors (AACTE, 2010). It is

suggested that a focus on clinical preparation for pre-service teachers increases their access to practitioner knowledge, improves their preparation for employment in the districts within which they have worked, enhances K–12 student learning, and increases attention to developing inquiry and analytical skills in context (NCATE, 2010).

Teacher education programs include field experiences that provide a critical context for pre-service teachers to apply their theoretical and pedagogical university learning to practical K–12 settings (Zeichner, 2010). Field experiences are more than opportunities for pre-service teachers to demonstrate their theoretical course learning, but rather are real-world contexts that provide in-context learning opportunities (Zeichner, 1996, 2010). Darling-Hammond (2000) described exemplar teacher education programs as having four key features, all of which must be in practice in field settings: (a) a clear, shared vision of what good teaching looks like across all aspects of the program, (b) clear standards, (c) a curriculum centered on child development, and (d) learning theories, pedagogy, content knowledge, and applied practice. These powerful programs have both a clinical component and a didactic curriculum. They teach candidates to turn analysis into action by applying what they are learning (Darling-Hammond, 2010, p. 40).

Inherent in the shift to a clinical preparation model is increased attention to the quality and quantity of field experiences. Findings from several studies suggest that well-supervised field experiences enable students to connect theory to practice and enact theory in practice (Hammerness et al., 2010). However, field experiences vary greatly in terms of frequency, expectations, duration, depth, context, connection to teacher education program mission, and quality (Zeichner & Conklin, 2005). In addition, both the location of the placement itself (school site and timing within the program of study) and the subsequent supervision by both classroom teachers and university "supervisors" leads to added variability (Zeichner & Conklin, 2005). Historically, the field experience component of teacher education has been haphazardly planned, loosely organized and rarely connected systematically to coursework (Darling-Hammond, 2010). As a result, opportunities for rich theory to practice connections are often limited (Zeichner, 2010). Not surprisingly, research on field experiences suggests inconsistent findings largely resulting from the highly contextualized nature of individual experiences (Clift & Brady, 2006), and a pervasive notion that "more" does not automatically result in beneficial outcomes for pre-service teachers (Allsopp, DeMarie, Alvarez-McHatton, & Doone, 2006). Despite these challenges and inconsistencies, pre-service teachers place significant value in field experiences and overwhelmingly identify them as the most influential and powerful component of their teacher preparation program (Darling-Hammond, Pacheco, Michelli, LePage & Hammerness, 2005; Valencia, Martin, Place, & Grossman, 2009).

Currently there is a groundswell of support to clearly define what high-quality clinical teacher preparation looks like. These current reform efforts acknowledge, like Dewey (1933), that not all experience leads to educative experience, (AACTE, 2010; NCATE, 2010; NRC, 2010) and focus on addressing the previously described challenges in teacher education generally, and more specifically with field experiences. Intensive clinical preparation distinguishes itself from field experiences of the past by recognizing teaching as a profession of practice while simultaneously preparing teachers who can integrate knowledge of their students, their content, and their pedagogy. Intensive clinical preparation is centered on preparing pre-service teachers largely "through robust opportunities to develop as practitioners via expertly mentored experiences in the field and through pedagogically designed approximations of practice" (NCATE, 2010, p. 27). Darling Hammond (2010) refers to this as

"practice in practice" that occurs with expert guidance, often in professional development schools via yearlong residencies.

While we fully support current calls to re-envision teacher education via intensive clinical preparation, we are increasingly aware of emerging challenges from our engagement in this work. One such challenge is that we recognize that in the call for intensive clinical preparation, we are placing pre-service teachers in classrooms with in-service teachers who were largely prepared in the traditional way and as such may never have experienced their own expert guidance as developing teachers. Classroom teachers may be in the midst of developing their own theoretical knowledge and pedagogy in ways that make mentoring pre-service teachers in this new context of teacher preparation challenging. Indeed, field experiences that are not expertly mentored could lead to grave misunderstandings about teaching and learning. These challenges highlight the dangers inherent in increasing the quantity of field experiences alone without seriously considering the difficulty of changing the quality of those experiences. We believe this makes the in-service teacher, pre-service teacher, and university "supervisor" relationship one that deserves careful consideration.

Below we explore our growing concerns that calls for clinically based teacher preparation may intensify the silo effect in which theory is seen as something separate from, and perhaps even lesser in value than, practice. In other words, if the calls for clinically based teacher preparation are interpreted by teacher educators as a focus on the quantity of field experiences versus drastically changing practices to increase the quality of those experiences, we risk further solidifying the separation of theory and practice. This has been demonstrated by prior research (Darling-Hammond et al., 2005; Valencia et al., 2009). Pre-service teachers tend to privilege their field experiences as the model of teaching. We believe by increasing the amount of time pre-service teachers spend in field experiences without drastically changing those experiences, we are perpetuating the theory practice divide. What we offer in this paper is a suggestion for enacting the recommendations for quality in field experiences.

In this paper, we focus specifically on pre-service teacher–university "supervisor" interactions. Because this paper represents our initial studies into our work and our work with students, we are not focused on the collaborating teachers' roles but our own roles in the development of pre-service teachers. Although we recognize the important role the classroom teacher has in developing the pre-service teachers' understanding of teaching and learning, we believe it is a relationship that warrants thorough treatment in a separate paper.

We begin this paper by sharing the context of our work. Then we propose a framework for conceptualizing theory and practice as a symbiotic relationship amid the movement to reform teacher education. Finally, we offer hypotheses for developing a symbiotic relationship between theory and practice while in the practice of teacher education.

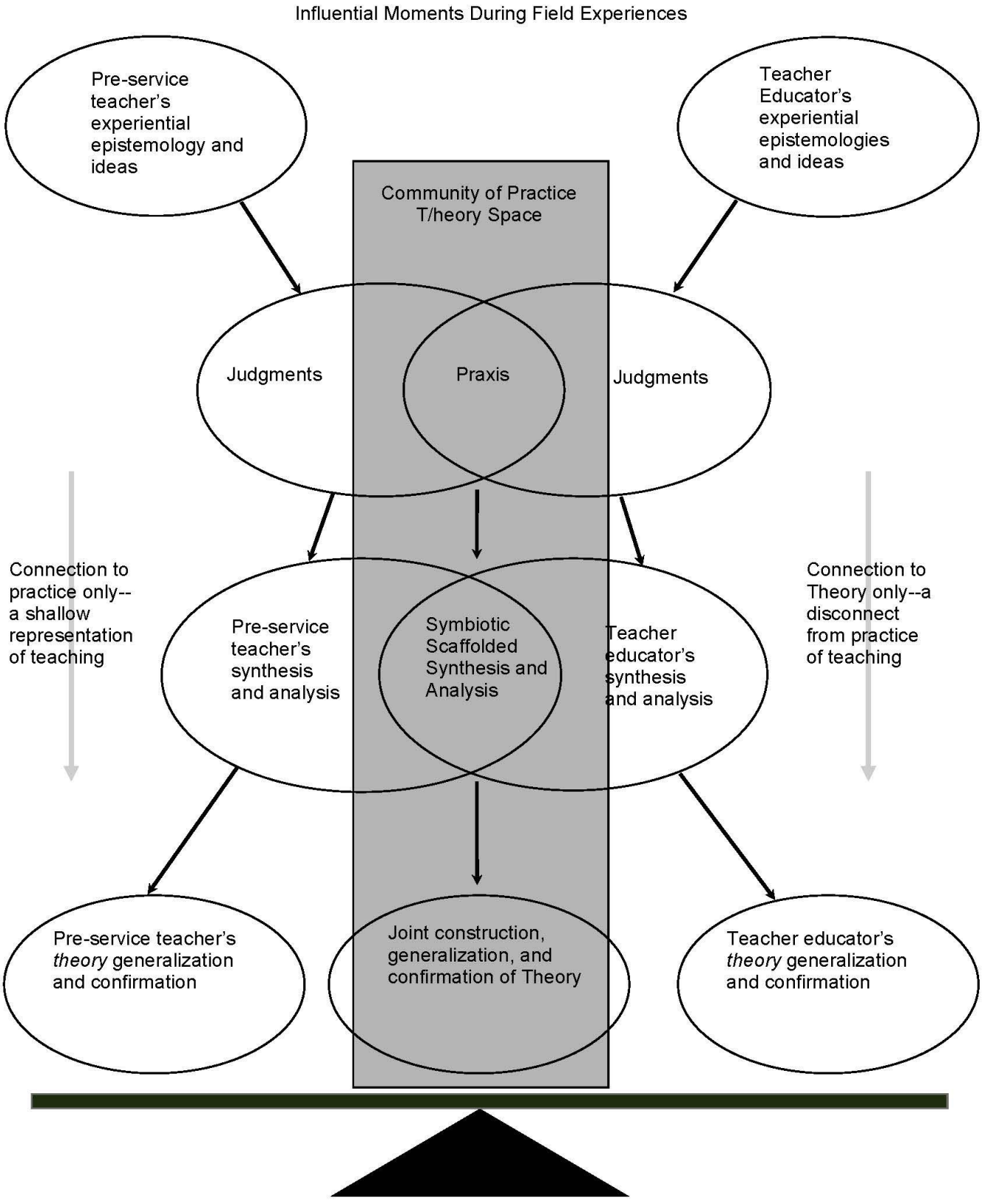
Context

In response to the calls for increased clinical practice, we developed the Urban Teacher Residency Partnership Program (UTRPP) in conjunction with our partnership schools and local school district. This program is designed to significantly increase pre-service teachers' opportunities to engage in classroom practice. In the first year of their program, pre-service teachers are in K–5 classrooms four days per week for 3–6 hours per day. In the second year of the program, pre-service teachers enter their year-long residency and are in K–5 classrooms five days a week for 6 hours per day.

In an effort to consider not only the quantity but also the quality of these experiences, we felt it essential that university coursework be closely connected to their experiences in elementary classrooms. As such, we redesigned our coursework to follow a Gradual Release of Responsibility Model (Pearson & Gallagher, 1983). During time designated for coursework, university faculty modeled for pre-service teachers specific ideas from their courses. For example, in an integrated course about linking literacy assessments to literacy instruction, we modeled how to administer a running record. After the pre-service teachers administered running records to a small group of elementary students, they returned to class and we modeled how a teacher thinks about the data collected and makes decisions about what type of literacy instruction the students appear to need. Then we modeled, by thinking aloud, how we design such instruction. Additionally, some university "supervisors" modeled by facilitating example lessons with elementary students.

In addition to integrated coursework and meaningful field-based assignments, we felt it necessary to provide support for our pre-service teachers as they made meaning from those experiences. We conceptualized this support as reflective conversations with university "supervisors"—largely faculty and graduate assistants with specialized expertise in teaching and learning. The university "supervisors" operate in the position of knowledgeable other (Vygotsky, 1978) rather than the traditional role of expert other. We provide examples of and distinguish between these roles throughout the paper.

In these examples, we adapt two central ideas of Vygotsky's work: the zone of proximal development and the more knowledgeable other. The zone of proximal development is the space between what the child can do on his or her own and what the child can do with support. We adapt this idea for use with young adults. Vygotsky points to the zone of proximal development as a space in which collaborative dialogue centered on problem-solving promotes cognitive development. In line with Vygotsky's thinking, we believe it is a knowledgeable other who engages in collaborative dialogue with the learner. Although we believe collaborating teachers can be possible knowledgeable others, this paper, as an early work, is devoted to the university "supervisor" as knowledgeable other. It is the transaction between the knowledgeable other, the pre-service teacher, the theory, and the practice that we explore in our theoretical framework made visual by Figure 1.


Influential Moments During Field Experiences
Pre-service teacher's experiential epistemology and ideas
Teacher Educator's experiential epistemologies and ideas
Community of Practice T/heory Space
Judgments
Praxis
Judgments
Connection to practice only--a shallow representation of teaching
Pre-service teacher's synthesis and analysis
Symbiotic Scaffolded Synthesis and Analysis
Teacher educator's synthesis and analysis
Connection to Theory only--a disconnect from practice of teaching
Pre-service teacher's *theory* generalization and confirmation
Joint construction, generalization, and confirmation of Theory
Teacher educator's *theory* generalization and confirmation

The reflective conversations between pre-service teachers and university "supervisors" take place during scaffolded teaching cycles (Gelfuso & Dennis, 2014). The scaffolded teaching cycles require pre-service teachers to plan a lesson, or series of lessons that follow the Gradual Release of Responsibility Model (Pearson & Gallagher, 1983) and connects content modeled in coursework with the needs of the K–5 students in their classrooms. It is during the scaffolded teaching cycles that our students engage in guided and independent practice. During the teaching cycles, pre-service teachers generate a hypothesis they intend to test during the lesson. The hypothesis is an if/then statement designed to focus on an idea presented in university coursework and developing theory based on approximating the idea in practice. We chose to use a hypothesis to guide the pre-service teachers' thinking based on Dewey's (1933) writings about the role it plays in reflective thought.

An example hypothesis is: If I create high-order questions around a piece of quality children's literature, then kindergarten students will engage in literate discussion. It is the hypothesis that provides an initial bridge across content learned in coursework (high-order questions, quality children's literature, literate conversations, developmentally appropriate possibilities for children) and experience. We recognize the importance for pre-service teachers to develop into reflective practitioners (Schon, 1983) who approach their work from an inquiry stance (Cochran-Smith & Lytle, 2009). However, we believe that Schon's work about how practitioner knowledge is generated (reflection for, in and on action) is sophisticated and nuanced in ways that are beyond the pre-service teachers' zone of proximal development (Vygotsky, 1978). As such, we offer thoughtful scaffolds, namely the use of hypotheses (Dewey, 1933), collaborative dialogue with a knowledgeable other (Vygotsky, 1978), and the Gradual Release of Responsibility (Pearson & Gallagher, 1983), to develop an inquiry stance in the pre-service teachers with whom we work.

Once planned, pre-service teachers meet with one of the university "supervisors" in a pre-conference. There, the pre-service teacher shares the plan she has developed with the "supervisor," and the "supervisor" supports the lesson development through questioning and continued development of course ideas. Following the pre-conference, the pre-service teacher videotapes the lesson as she teaches and uploads it to an online repository. Both the pre-service teacher and university "supervisor" watch the video separately and code the video using the hypothesis as a lens. Then, the pre-service teacher and university "supervisor" meet to share their coding and discuss, in reflective conversation, the testing of the hypothesis. When pre-service teachers are able to generalize theory based on their approximations of ideas into practice, they then focus on a new hypothesis within a new, scaffolded teaching cycle. The pre-service teachers typically engage in three of these scaffolded teaching cycles each semester of the program.

It is important to note that the Gradual Release of Responsibility Model for teaching is central to our own teaching and learning philosophy. We follow this model as we teach—model, provide guided practice, provide independent practice, and assess to determine what, if any, learning occurred—our own students (pre-service teachers), and we expect that they use this model to teach the elementary students with whom they work. In this way, we establish our roles as knowledgeable others who guide student learning as distinguished from expert others who attempt to transfer knowledge. The manner in which we work with the pre-service teachers in the UTRPP provides a model of teacher–student relationships that are conducive to learning. This is a model that we make explicit to our students (pre-service teachers). It is also a model that often runs counter to their apprenticeship of observation (Lortie,

1975), during which their experiences largely reveal the teacher–student relationship to be that of expert other–empty vessel, respectively.

Theoretical Frame

We use Dewey's (1933) work to reframe the traditional "silo" conceptualization of theory to practice (see Figure 1). Theory to practice implies an expert other. It suggests that we, at the university, transfer what we know about theory to pre-service teachers, which will then transfer into practice during field experiences with classroom teachers. This is the tradition of teacher education (Zeichner, 2010). We see the above top-down conception of theory to practice as an oversimplification, and as such, we reframe it as a symbiotic relationship between theory and practice. We build upon Korthagen and Wubbel's (2001) ideas of Theory (with a capital T), theory (with a little t), and T/theory (the space where symbiosis occurs) as a more appropriate representation of the complex, fluid, and organic nature of knowledge construction that informs both the pre-service teachers' and university supervisors' learning about teaching and learning.

Theory With a Little t

Dewey (1933) helps us to conceptualize theory (with a little t) as ideas. Ideas are subject to testing in experience before they become generalized and used regularly in practice. He writes that an idea has doubtful meaning for an individual and is considered a "hypothetical possibility" (Dewey, 1933, p.149). Ideas are supposed rather than accepted. We suggest small t theories are ideas about teaching and learning, derived from a person's epistemological stance and previous experiences as outsiders of a specific community of practice (teaching). The ideas a pre-service teacher has about teaching and learning have not yet been subject to testing in experience within the community of practice (teaching) but rather informed by their experiences in schools as students—their apprenticeships of observation (Lortie, 1975). These ideas include theories encountered in coursework, which have been traditionally viewed as capital T theories (theories that should and will inform the pre-service teacher's instructional decisions and actions merely by being exposed to them). However, we suggest, that the above traditional conception of theories are merely "hypothetical possibilities" for the pre-service teacher.

If indeed, the ideas encountered in coursework are but suggestions, to be believed in or not based upon whim, then it is no wonder that it seems very few of the ideas presented in coursework in many teacher education programs make it into in-service teacher practice. And yet, that seems to be what ideas are: suggestions. We believe, however, that "ideas as suggestions" can be an empowering heuristic approach rather than a self-defeating one. For example, "ideas from coursework as suggestions" can bring forward the image of the pre-service teacher as a thinking agent, a person who chooses to do something with the proposed idea/suggestion.

Pre-service teacher as thinking agent is quite different than the image of pre-service teacher as memorizing ideas presented in coursework, being required to implement the ideas presented in coursework, and then being told how well they implemented those ideas. Pre-service teacher as thinking agent places emphasis on the pre-service teacher's agency. By making explicit to the pre-service teachers that ideas expressed in coursework (or ideas encountered during interactions with their collaborating teacher) are but suggestions, we are making clear the power and responsibility they have to engage with those ideas in practice, to reflect upon the engagement, and to create working Theories about teaching

and learning. And yet, we recognize that pre-service teachers need much support as they practice engaging with ideas in this manner.

The above description of pre-service teacher as thinking agent requires a dramatic shift in perspective. Currently, many teacher educators and pre-service teachers view teaching and learning from a technical-rationality perspective rather than a practitioner-knowledge perspective (Schon, 1983). A technical-rationality perspective embraces the idea that one can learn how to teach by acquiring a discrete set of skills (ideas from coursework or collaborating teacher) and applying them in the classroom. It assumes the idea of expert other (either university "supervisor" or classroom teacher) transferring knowledge to empty vessel (pre-service teacher). What is damaging about this perspective is that when modeled, pre-service teachers may assume the relationship (expert other–empty vessel) with their elementary students.

Therefore, we suggest that a shift from a technical-rationality perspective to a constructionist-perspective is necessary to improve the quality of field experiences. Although we think many teacher educators would self-identify with taking a constructionist approach to their work with pre-service teachers, a close examination of their practice may reveal otherwise. For example, the common supervision practice of observing a pre-service teacher as she or he implements an idea from coursework and then engaging in a conversation with the teacher about what went well, what didn't go well, and what he or she could do differently next time, is imbued with technical-rationality undertones. Even the title "supervisor" is problematic within a constructionist framework, hence our use of quotation marks around the word. Therefore, we believe the shift we are referring to is a substantial one. At this point, we would like to propose a new term (rather than supervisor) that we will use throughout the remainder of the paper. The term we will use is content coach. The content coach serves as a knowledgeable other who supports the reflective process. The content coach has nuanced, sophisticated understanding of a content area (literacy, mathematics, science, or social studies, for instance) as well as pedagogical understandings about teaching and learning.

The shift in perspective for teacher educators and pre-service teachers that we are speaking of would allow for the development of new relationships and dispositions. The relationship between content coach and pre-service teacher can be that of knowledgeable other and novice, respectively. During which the knowledgeable other facilitates the thinking and learning of the novice while simultaneously learning herself. Additionally, the dispositions of whole-heartedness, open-mindedness, and responsibility that Dewey (1933) writes so profoundly about, can be nurtured. We assert that this shift in perspective is needed to facilitate pre-service teachers' learning as they encounter ideas (little t theories) from coursework and interactions with in-service teachers and go about the work of testing them in experience.

Theory With a Capital T

We propose that Theories, with a capital T, are ideas that have been tested in experience and have become personal "warranted assertabilities" (Dewey, 1938, p. 15). Theories (with a capital T) inform future action within a specific community of practice. Theories about teaching and learning are socially constructed when pre-service teachers have multiple experiences with theory (with a small t) through their coursework learning, the development of ideas, and their work with a content coach. Dewey (1933) writes that, "an idea, after it has been used as a guide to observation and action, may be confirmed and so acquire an accepted status on its own behalf" (p. 149). In the repeated testing of ideas in their field

experiences, and constructing meaning from those experiences with a content coach who is a knowledgeable other during reflective conversations, pre-service teachers form Theories with a capital T, which will inform their future action within the community of practice (teaching). A theory presented in class is only an idea, a suggestion for pre-service teachers. The pre-service teacher must subject the idea to multiple experiences and reflect upon those experiences with a knowledgeable other to construct the meaning of the consequences that result from using a particular idea. The idea becomes Theory for the pre-service teacher, which she will then use to guide further action.

We assert that without the roles of coursework, repeated practice, and knowledgeable others (content coaches), pre-service teachers transition into teaching informed by their apprenticeship of observation and with a technical rationality view of teaching in which they replicate the actions of the in-service teachers with whom they worked with during their field experiences. Teaching informed by apprenticeship of observation theories is tragic because these theories often relegate teaching and learning to imitation rather than understanding teaching and learning to be a generative, creative, and cooperative endeavor. Imitation is the power of apprenticeship of observation, which is why teaching has stayed the same for generations. It is difficult to break the cycle of imitation, but it is precisely this break that is needed if quality, clinically based preparation is a goal to which teacher educators should strive.

Role of Field Experiences in Theory Construction

A critical component of the transition from theory (ideas and suggestions) to Theory occurs in the context of making meaning from field experiences. For Dewey (1933), experience alone does not result in understanding that will inform future action. It is through reflection that meaning making occurs. He writes, "We reflect in order that we may get hold of the full and adequate significance of what happens" (p. 139). In Experience and Education, Dewey (1938, p.110), defines reflection in this way: "To reflect is to look back over what has been done so as to extract the net meanings which are the capital stock for intelligent dealing with future experiences." During reflection, we think about our past experiences to make meaning from them in a way that informs our future experiences. But Dewey points out that we make meaning from our experiences using theories (ideas/suggestions) that come from prior experience (p.139).

We assert that pre-service teachers make meaning from their field experiences on their own by using what they understand about teaching and learning, their small t theories. For pre-service teachers, the prior experiences that form their theories about teaching and learning come from their apprenticeship of observation (being a student themselves), their interpretation of ideas presented in coursework, and the ideas present in the collaborating teacher's classroom. If left alone to make meaning of their field experiences, they will draw from these theories that may not be "warranted assertabilities" within the community of practice (teaching). We maintain that the role of the content coach, who has formed Theories within the community of practice, is critical to the reflection process (the Theory-making process) of the pre-service teacher.

Judgment

Perhaps what makes the construction of Theories about teaching and learning so difficult is the nature of reflection. Part of reflecting on experiences is using previously constructed theory (ideas/suggestions) to select or reject the pertinent aspects of an experience. These judgments or

discernment play a critical role in knowing, as Dewey (1933) writes, "… what to let go as of no account; what to eliminate as irrelevant; what to retain as conducive to the outcome; what to emphasize as a clew to the difficulty" (p. 123). The knowledgeable other is needed to provide support and guidance as the pre-service teacher reflects on her field experiences. It is the knowledgeable other who uses her previously constructed Theories to help discern which aspects of an experience emphasis ought to be placed, if the creation of "warranted assertabilities" is to ensue.

For example, it is not uncommon for pre-service teachers to place emphasis on student behavior, often what they deem to be "misbehavior." In our work, we see pre-service teachers initially viewing student behavior as separate from and unrelated to the content of lesson. The pre-service teachers with whom we have worked in the past often don't connect the ideas that what (content) teachers ask elementary students to do is directly related to the behaviors displayed by students. Pre-service teachers relying on their judgment alone can indeed result in unwarranted assertabilities—Theories about teaching and learning. Therefore, we view interaction with a knowledgeable other, the content coach to be critical for the development of warranted Theories. It is the judgment of the content coach that can place emphasis on certain aspects of a pre-service teacher's experience that upon reflection may result in a "warranted assertability," thus rendering the experience an educative one.

Analysis/Synthesis

Intimately related to judgment is analysis and synthesis. For Dewey, these are not dichotomous concepts. Analysis means to place emphasis on certain aspects of an experience rather than the traditional meaning "to take apart." Synthesis is conceived of as putting into context (relating back to the whole) that on which emphasis was placed (Dewey, 1933, p.129). In other words, to construct Theory from practice, we must be able to engage in reflection by making judgments that allow us to both accept and reject and analyze and synthesize our experiences. Again, it is the role of the content coach to assist the pre-service teacher during reflection by placing emphasis on certain aspects of experience and helping, through the use of her Theories, to engage in discourse with the pre-service teacher about that which emphasis was placed concomitantly with maintaining an awareness of how that which emphasis was placed relates to the whole.

Balance

Finally, according to Dewey, making meaning of our experiences must include a balance of new and old. New, meaning something strange or curious about a situation that causes us to refer to old, or familiar, ideas to make sense of the new.
Dewey (1933) writes:

> ...unless the familiar are presented under conditions that are in some respect unusual, there is no jog to thinking; no demand is made upon the hunting out something new and different. And if the subject presented is totally strange, there is no basis upon which it may suggest anything serviceable for its comprehension. (p. 290)

It is the role of the content coach to attend to this aspect of reflection during conversations with the pre-service teacher. The content coach seeks to emphasize those aspects of an experience which may seem familiar to the pre-service teacher because of her apprenticeship of observation by speaking about

them in ways that may be unusual as to jog thinking. For example, pre-service teachers may place emphasis on an aspect of their experience in which their students were quiet and looking at them. They may interpret this aspect of their experience as indicative of learning and so create the unwarranted assertability that quiet students mean students who are learning. In a situation like this, the content coach can jog a teacher's thinking by posing questions intended to make the familiar (learning) strange, such as, "How do we know they were learning?" or "What does learning look like/sound like?" Likewise, the content coach may emphasize that which may seem utterly strange to the pre-service teacher in a manner that connects the aspect of experience to something that is familiar and so jog thinking.

In Figure 1, the pre-service teacher and content coach enter into a relationship during which they both make judgments about the significant aspects of the pre-service teacher's field experiences. The pre-service teacher makes judgments based on ideas (theories) and her/his experiential epistemology. So does the content coach. However, the content coach brings to the relationship Theory about teaching and learning that has been developed by multiple experiences within the community of practice of teaching. The content coach uses Theory (capital T) to help guide dialogue with the pre-service teacher.

The content coach's use of Theory in conversation with the pre-service teacher is a critical aspect of reflection. The Theory she constructs within the community of practice provides a guide as she formulates questions designed to strike a balance between old and new in a way that places emphasis on certain aspects of a specific field experience while simultaneously maintaining those aspects within the larger context of teaching and learning in general.

We recognize the above description of what the content coach attends to during reflective conversations with pre-service teachers as very different from either interrogating the pre-service teacher ("Is this what we learned in class?" "Why didn't you assess the students to see if they learned?") or treating teaching as a superficial act ("How did your lesson go?" "What will you do differently next time?"). Over time, as the pre-service teacher tests theories and engages in dialogue with a content coach, she begins to construct Theories that are considered "warranted assertabilities" within the community of practice. The teacher uses these socially constructed Theories to make future instructional decisions and to reflect on future field experiences (Richardson, 1997). Likewise, the content coach comes to modify her own Theories about teaching and learning (particularly as it relates to how pre-service teachers learn) that will inform her future instructional decisions, actions, and reflection. In this way, the content coach is a model of learning, not the expert other who is fearful of change and growth.

In Figure 1, it appears as though both content coach and pre-service teacher enter the space of T/theory as equals. And in a way, we believe this to be true. It is important that both the content coach and pre-service teacher enter this space with equally open minds, albeit one of which (the knowledgeable other) has considerably more knowledge about pedagogy, research-based practices, curriculum, and content as these things relate to elementary students' learning. However, the content coach is entering this space as a learner as well as she is having an experience that upon further reflection will help her create Theories about how pre-service teachers learn about teaching and learning. We believe that this subtlety is part of the critical difference between content coach and expert other. In this manner, we see the social construction of Theory building upon itself through experience and reflection with a content coach, indissolubly united with action. The inextricable relationship between reflection and action is generative and creative, and in our model it creates Theory and can be termed praxis or wise action.

We view the dialogue that occurs between the content coach and pre-service teacher as they reflect on the pre-service teacher's field experiences to be the space of Theory construction. We call this space

T/theory. The space T/theory, represented by the shaded rectangle in Figure 1. is co-created by the content coach and pre-service teacher as they engage in reflective dialogue about specific field experiences, each bringing theory, Theory, and practice to the table. The content coach has the additional role of using Theory to balance and guide the conversation in relation to judgment, analysis, and synthesis. Our conception of the space T/theory is both symbiotic (mutually beneficial) and synergistic (the whole is greater than the sum of the parts). It is symbiotic in that practice has a beneficial impact on Theory construction and the construction of Theory has a beneficial impact on future practice. It is synergistic in that the result, Theory construction/modification for both the content coach and pre-service teacher, is greater than prior Theory + theory + practice.

Figure 1 also shows how it is possible for both the pre-service teacher and content coach to judge, analyze, and synthesize field experiences in isolation. However, the result of those lone musings may perpetuate the theories (ideas/suggestions) about teaching and learning that were constructed outside the community of practice and thus may be unwarranted. Likewise, the content coach, if operating from a conception of her role as expert other rather than content coach does not meet the pre-service teacher in the space of T/theory. She stays outside the generative, creative space. This perpetuates the silo effect in which Theory remains separate from practice and theory, and it prevents Theory construction/ modification for both the pre-service teacher and content coach.

We assert that increasing field experiences alone will not necessarily result in dramatically improved teaching (Allsopp et al., 2006) or Theory construction. Rather, high-quality teacher education programs must create a space to support the simultaneous construction and understanding of Theory, theory, and practice and their intricate intertwinings. Figure 1 represents a model of Theory generation and the space in which content coach/pre-service teacher interactions create meaningful generalizations for a teaching community of practice. Implications

Calls for radical advancement in teacher education must be met with realistic approaches to increased field experiences that are inextricably connected to the content of university coursework. It is one thing to call for "expertly mentored" field experiences and quite another to put that into practice in the current educational system.

Field experiences alone will not result in dramatically improved teaching, which forces teacher educators to attend to the quality of field experiences and subsequent mentoring. Shifting the way university coursework is delivered without compromising the theoretical underpinnings that exist in preparing teacher educators necessitates that teacher educators value the multiple communities of practice that exist with and within schools and amongst pre-service teachers in particular. Thus, we have reconceptualized pre-service teachers as thinking agents who act upon the ideas and suggestions presented to them from coursework and their collaborating teachers.

Through our work thus far, we recognize that pre-service teachers are capable of reflective practices that lead to professional growth, and the level of scaffolding provided reinforces their ability to generalize Theory (Gelfuso & Dennis, 2014). University content coaches serve in the role of knowledgeable other, supporting the pre-service teacher as she or he negotiates the theoretical and pedagogical knowledge needed to test hypotheses about teaching. There is no one way to approach this work as it requires in-depth knowledge of Theory, pedagogy, and content, as well as knowledge of our students' readiness for engaging in these discussions. Thus, the work takes time. Quality field experiences, integrated with university coursework, and supported through scaffolded teaching cycles requires significant time from both the pre-service teachers and teacher educators. And we must be

willing to give our pre-service teachers the time to develop into a member of the community of practice in which they demonstrate the ability to generalize Theory from their experiences.

To skillfully facilitate Theory construction derived from the relationship between coursework and practice (experience), we must reconceptualize traditional approaches to both coursework and field experiences rather than merely inserting more field practice. A traditional aspect of supervising field experiences is the reflective journal (Chitpin, 2006). Typically, the pre-service teacher writes about experiences she has and what she would do differently in the future. According to our model, this approach may actually reinforce personal theories about teaching and learning derived from their apprenticeship of observation (Lortie, 1975), which may not be warranted within the community of practice. Thus, we argue for the space of T/theory. Within this space, the pre-service teacher constructs/ modifies Theory with the support of a content coach.

In this framework, a journal could be used as a tool to prepare for meaningful engagement in the space of T/theory. Pre-service teachers could review video of their teaching and code for significant moments, using their judgment. These moments could be recorded in a journal along with their reasoning for choosing these moments. Then, after conversation in the space of T/theory with a content coach, the teachers could use the journal to record new insights, questions, or generalizations.

Other traditional aspects of field supervision include pre/post conferences (Clark, 1998; Mewborn, 1999). Pre/post conferences usually occur between the university "supervisor" and the pre-service teacher as they focus on planning for and reviewing the enactment of a lesson. Although this structure has the potential to create the space of T/theory, it varies widely and some versions may not attend to the complex interplay of judgment, analysis/synthesis, and balance that is characteristic of the space of T/theory.

During a preconference, the pre-service teachers traditionally share the lesson plan they intend to follow, and the university "supervisors" asks questions and provide support in the development of the lesson. A post-conference is traditionally characterized by the pre-service teachers sharing what they felt was successful about the lesson and what they would do differently. Although traditional conferences may be helpful in refining a particular lesson, we feel that they often fall short of Theory development, because the focus of the conferences seems to be centered on "the lesson" rather than an emphasis on "warranted assertabilities."

We shift the emphasis of our pre/post conferences from the lesson in particular to teaching and learning in general. In this way, the lesson becomes data from which we construct Theory about teaching and learning. We recognize that pre/post conferences are time-consuming, as they require both the pre-service teacher and the content coach to prepare by viewing and coding video. Thoughtful preparation to anticipate the pre-service teacher's needs, develop guiding questions, and determine how to strike a balance between old and new is necessary for the content coach to facilitate Theory generation. Our work reveals that it takes approximately an hour to prepare for a post-conference, 45 minutes to engage in dialogue with the pre-service teacher, and around 30 minutes to record our thinking about the post-conference in regard to judgments, analysis/synthesis, and balance that did or did not occur. This thinking is used to inform our future conferences. Again, these conferences are different from traditional approaches to conferencing in that we focus on the development of Theory over time (four semesters) with the same pre-service teachers. To heed the call for "robust opportunities to develop as practitioners" (NCATE, 2010, p. 27), the onus is on universities to reconceptualize the role of university "supervisor." To place scaffolded reflection in the space of T/theory as a hallmark of quality field experiences' means

to drastically reduce the number of pre-service teachers a content coach is responsible for. It also calls for university content coaches to spend extended time (multiple semesters) with the same small group of pre-service teachers.

It also takes a dramatic perspective shift from technical rationality to constructionist ideas. For this to occur, the role of university "supervisor" needs to be re-envisioned. University "supervisor" as expert other has perpetuated the idea of teaching as technical rationality rather than teaching as a profession of practice. University "supervisor" as expert other has served to further concretize the idea of students (pre-service teachers) as empty vessels, an idea that gets replicated by pre-service teachers' interactions with their students and is not conducive to learning. We believe the above-mentioned perspective shift will create university "supervisors" who act as knowledgeable others in the role of content coach. We maintain that our model of Theory construction and the role the content coach in the space of T/theory is a model of learning. The pre-service teacher is experiencing for her/himself learning as interaction with a knowledgeable other in the process of constructing meaning from experience. Her participation in this learning serves as a powerful model for how she as 'teacher' can interact with her students as they create meaning from experience.

We noted earlier that it takes nuanced skill and intuition to facilitate the dialogue that occurs in the space of T/theory. Therefore, we must consider the role of university content coach. Because field experiences are not neutral places to test ideas from class but rather complex real-world contexts (Zeichner, 1996, 2010), it requires a knowledgeable other who has in-depth knowledge of Theory, pedagogy, and content and who is flexible and able to discern the level of scaffolding each pre-service teacher needs, often times within the moment and space of T/theory. This is problematic as we traditionally undervalue field "supervision," relegating it to graduate students who may have limited experience or interest in teaching or teacher education (Slick, 1997; Zeichner, 2010).

Furthermore, university "supervisors" are often not well-prepared to navigate the many tensions that exist in field experiences; their own grappling with theory and practice, negotiating complex relationships among triad members, and simultaneously existing in the K–12 and university settings (Slick 1997; Zeichner, 2010). When the work of "supervision" does fall to university faculty, it is often undervalued and not allotted appropriate time designation, thus creating major hurdles in meeting tenure and promotion expectations. In order to facilitate T/theory development, adequate support (mentoring by knowledgeable others), time and training for the work of knowledgeable others is vital. Because without the development of content coaches as knowledgeable others, we continue to graduate non-reflective practitioners who imitate what they observe from their own experiences as students and what they see during their field experiences. And the cycle continues.

We have focused on the relationship between pre-service teacher and content coaches as integral to Theory construction. However, we recognize the integral role the classroom teacher plays in the pre-service teacher's field experiences. Under current structures within pre-service teacher education, the pre-service teacher views the classroom teacher as expert other who transfers knowledge about teaching to the pre-service teacher. The pre-service teacher gets the idea that by imitating the expert other they too will become "good" teachers who are the experts in their classrooms. As we stated earlier, the classroom teacher as possible knowledgeable other is an area of great interest to us and will be the focus of further study.

We believe a space (T/theory) within which the classroom teacher, pre-service teacher, and content coach co-create Theory about teaching and learning could open possibilities for understanding

and growth for all involved. Creating these collaborative spaces is an integral next step toward transforming teacher preparation.

We agree with the call for intensive clinical preparation centered on preparing pre-service teachers largely "through robust opportunities to develop as practitioners via expertly mentored experiences in the field and through pedagogically designed approximations of practice" (NCATE, 2010, p. 27). However, much is ambiguous about this statement. How can experiences be expertly mentored, and under current structures of field supervision, how intensive can those experiences really be? Our proposed space of T/theory is a heuristic to guide our work as field supervisors as we scaffold (mentor) and work intensively with pre-service teachers. We recognize the seemingly utopian nature of this model and see the necessity for it to be repeatedly tested across multiple contexts to understand better the intricacies involved in co-constructing Theory with pre-service teachers. So we say yes to more practice, as according to Dewey, experiences are inextricably connected to Theory development. However, we need extensive exploration of the space of T/heory construction, the role of possible knowledgeable others, and the subsequent symbiosis that exists during the experience of learning to teach.

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