

Constructivist Practices in a Teacher Education Program

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Abstract

This article examines the classroom practices of four teacher educators as they plan for instruction in a constructivist environment. The researchers followed four teacher educators at a large southwestern university throughout the course of a semester in order to uncover their definitions and views on constructivism and the ways in which construction of knowledge for their students was facilitated. Findings reveal that all teacher educators designed activities and situations meant to lead to conceptual change by challenging their students' preconceived beliefs about teaching and learning. In some cases, this change was met with resistance.

Introduction

We are living in a time when merely delivering information to students is not enough; teachers have to alter their roles and become diagnosticians and planners who understand the learning process and know exactly what strategies to use to make learning efficient (Darling-Hammond, 2000). This challenge urges teacher educators to adopt the new roles in order to be able to help prospective teachers become challengers and designers of activities (Darling-Hammond, 2000; Darling-Hammond & Bransford, 2005).

Constructivist teachers must separate themselves from what they have experienced as students, and constantly ask themselves, "Is my role to dispense knowledge or to nurture independent thinkers? Am I here to learn from the students?" (Windschitl, 1999). Preservice teachers then need to develop a new rationale for instructional decisions, and in order for them to possess this constructivist approach to teaching, they must be immersed in a constructivist learning environment in their teacher education classes (Windschitl, 1999).

Constructivist-learning environments represent those contexts that require teacher education students and faculty to engage in dialogue, reflection and inquiry (Tatto, 1998). In such a constructivist-oriented teacher education program, preservice teachers are encouraged

to see students as makers of meaning, as well as challenge the conceptions of the teacher and learner roles, subject matter and pedagogy.

In order to learn more about the constructivist practices in a teacher education class, this study examined the way four teacher educators enable their students to construct meaning in their classes, through developing diverse activities and empowering students. The teacher educators were asked to define constructivism and state whether or not they considered themselves constructivist teachers, as well as describe examples of constructivist practices in their courses.

Literature Review

As a theory of learning with applicability to teaching, constructivism has long been addressed in the teacher education literature, and its strengths and weaknesses have equally been discussed. This review will briefly address what constitutes constructivist learning by discussing the constructivist principles and illustrating common teaching and learning practices in teacher education classes labeled as constructivist.

Using a metaphor for learning, the acquisition of knowledge is compared to the process of constructing or building (Fox, 2001); constructivism postulates that there is no absolute truth (Yilmaz, 2008) and that learning is actively constructed by individuals from prior experiences (Al-Weher, 2004). Constructivism has emerged from the “dissatisfaction with the traditional Western theories of knowledge,” (Yilmaz, 2008, p. 161), advancing as its guiding principles active learning (as opposed to learning passively), the construction of knowledge (as opposed to the mere acquisition of knowledge), and sense making and problem solving (as opposed to memorization and drill).

In a constructivist learning environment, students construct their own knowledge through the interaction of what they already know and believe and the ideas, events, and

activities with which they come in contact (Cannella & Reiff, 1994; Cobern, 1995; Richardson, 2003). The role of the instructor in a constructivist class is to facilitate knowledge through active learning and to engage students in discovery learning, by arranging “suitable conditions that allow students to be involved in the learning process” (Al-Weher, 2004, p. 170), by constantly challenging their ideas and “changing the knowledge framework of the learner” (Al-Weher, 2004, p. 170). These suitable conditions consist of participation in class discussions and debates, design and implementation of projects, as well as problem solving, meant to develop critical-thinking skills that would enable students to become independent learners.

Constructivist learning environments are assumed to prepare teachers to become better diagnosticians and planners of activities (Darling-Hammond, 2000), as well as nurture independent thinkers (Windschitl, 1999). Constructivist-oriented teacher education, as opposed to traditional teacher education, emphasizes participatory learning and has more influence on teacher education students than do conventional teacher education programs (Tatto, 1998). In contrast, more conventional teacher education programs are targeted at helping teachers learn to teach to fit into preexisting school structures, the emphasis being upon the teacher, who has a central role, while students are uncritical recipients of information (Tatto, 1998).

The accuracy of the constructivist principles was questioned however, as Fox (2001) proposed an examination of the active learning/passive learning debate from a fresh perspective. He stated that active learning, when looked at in contrast to the traditionalist views of learning and teaching seems to be “misleading and untrue” (p. 23). The reason for this may be the fact that traditionalists placed a greater value on knowledge and the teacher as a knowledgeable expert. Fox (2001) also questioned the truthfulness of the fact that knowledge is constructed rather than innate, and his argument was that the ability to speak, to learn, to reason are all based on the innate capacities of the evolved human brain. Moreover, by merely

stating that learning is a process of making sense, it is suggested that understanding is the only learning objective and that motivation is not a problem for teachers: “while it is important for teachers to realize how learners are always trying to make sense of lessons in terms of what they already know, the making sense aspect of learning needs to be placed along two other aspects, making learning easy and making learning satisfying” (Fox, 2001, p. 31).

Whether constructivism is the answer to prepare better teachers and students remains in debate and does not constitute the object of the current study. By presenting more than one point of view to the constructivist theory, the authors are suggesting that constructivism may mean different things to different people, and as such, it may be given a different interpretation in the classroom. Due to the lack of a unified definition of constructivism (Black & Ammon, 1992), there is no consistency among teacher education programs across the U.S. in the courses they offer prospective teachers, as well as the methodologies they use (Lanier & Little, 2001). Moreover, teacher educators today are facing the challenge to translate this learning theory into a theory of teaching (Canella & Reiff, 1994).

This study is, however, concerned with what constitutes a constructivist-learning environment at the tertiary level. Despite the richness in research regarding the impact of constructivist practices in K-12 settings, research on constructivist teaching methods among teacher education faculty is limited (Andrew, 2007; Brindley, 2000; Yuen & Hau, 2006). What instructional strategies do teacher educators use in their classrooms, and how do these practices align with constructivism? What impact do these learning environments have on preservice teachers? What roles do teacher educators have in a constructivist environment?

Although few in number, the studies discussed below tried to answer these questions by analyzing teaching and learning from a constructivist approach in college classrooms. Despite the lack of a universally acceptable definition of constructivism, the studies investigated shared

a few common elements aligning with the constructivist approach: classroom instructors put students in charge of their learning; they used cooperative groups, small or large, in which students worked together, compared solutions and asked questions they tried to answer as a group; instructors created an environment in which the students were engaged in activities; and instructors encouraged students to initiate ideas. In most cases, the result of this approach was better retention and understanding of material, as students were involved in a deeper processing of the material. Findings further revealed that teacher educators played the roles of facilitators and guides in these constructivist environments, enabling the students to be in charge of their learning and construction of knowledge with the help of their peers.

Although constructivist teaching has been supported by research studies (Carpenter, Fennema, Franke, Levi & Empson, 1999; Cobb, Wood, & Yackel, 1991; Kamii, Rumelsberg, & Kari, 2005; Phye, 1997; Shirvani, 2009), many teachers do not use constructivist approaches in their classrooms because as preservice teachers, they have lived and learned in non-constructivist classrooms that mainly focused on memorization of facts and lecturing (Andrew, 2007). In order to change the status quo, teacher educators need to walk the talk, by implementing reform-based teaching strategies. This apprenticeship of observation (Lortie, 1975) at the college level may influence preservice teachers to adopt reform-based teaching in their future classrooms. It is therefore deemed essential that teacher educators engage their students in the social construction of knowledge through both hands-on and minds-on activities (Hausfather, 2001) by helping the students understand content deeply and view content and process as inseparable aspects of knowledge construction.

This was the case of four mathematics' instructors in a study conducted by Andrew (2007). The participants (one professor, two adjunct faculty and one graduate teaching assistant) were observed teaching a class, interviewed both before and after instruction, and

sent questionnaires in order to find out their views about constructivism. Findings revealed that three of the four instructors fostered a learning environment characterized through inquiry, discussions and engagement in activities, while the other instructor was bent more towards lecturing. In the classes of the three constructivist instructors, student-student interaction was reinforced through a great deal of small and large group discussions and activities, in which students worked together to compare solutions, ask questions and find answers to problems. These students were in charge of their learning; the instructors empowering the students to make sense of the material on their own and with the help of their group members. Because the students in these classrooms had to provide explanations to the solutions they found, emphasizing not only the process and how they arrived at a solution, but also the content and why they solved the problem in that way (Hausfather, 2001), the learning of mathematic concepts covered in these classrooms was more in-depth.

Shirvani (2009) discussed another constructivist environment in a study examining the instructional strategies used in an elementary mathematics course. Forty-nine preservice teachers were enrolled in the three sections of the course. The instructor taught all his students using a teacher-centered approach during the first half of the semester, mostly lecturing from the textbook. For the second half of the semester he used a constructivist approach, engaging his students in group work and hands-on activities and using manipulatives. Students were engaged in three data analysis activities in working with concepts such as mean, mode and median, probabilities, etc. Grades were based on group activities and presentations of an individual problem-solving activity, and the pace of the lesson was set by students' abilities. A Constructivist Learning Environment Survey was administered at the end of both the first half and the second half of the semester, providing student perception of the nature of the classroom with respect to constructivism. Survey findings indicated that most students enjoyed

the second half of the class more; they found it more meaningful as they were engaged in problem-solving; they could freely express their opinions and ask and offer help to the group members when a concept was not clear. Students also noted how their confidence in discussing the answers increased and associated this with the non-threatening environment created by the instructor, who viewed mistakes as learning opportunities. This study shows the significance of exposing preservice teachers to a constructivist environment characterized by the use of hands-on activities and cooperative learning in a positive learning environment. The mere discussion of constructivist practices in the classroom (which is what the instructor did in the first half of the semester) did not have an equally strong impact on student learning.

Harkness, D'Ambrosio, and Morrone (2007) analyzed 20 preservice mathematics teachers' autobiographies and reflections written at the beginning and at the end of the semester. The preservice teachers were enrolled in a social constructivist mathematics course in which the teacher emphasized mastery goals. In an attempt to find out what motivated the students who tended to be more reluctant in traditional mathematics classes, the researchers asked the teachers to describe the learning experiences that took place in this course. Results showed that most preservice teachers attributed their better understanding of mathematics to the constructivist nature of the course and the types of activities they were exposed to. The course instructor created an autonomous environment, giving the students choices, allowing them to work on solutions to the problems in small groups before presenting them to the whole class, focusing more on process rather than on the right answers. As students worked in groups, the emphasis was on learning and effort rather than on performance. Students used a lot of manipulatives to make sense of mathematical concepts, which lead to a change in the ways they were thinking about mathematics, and enabled them to gain more confidence in the language of mathematics, being able to explain why we solve problems in the ways we do. Although more

than half of the students reported they had struggled with some of the mathematics concepts, they related this struggle with growth and attributed the growth to group work, which they considered to be one of the most important aspects of the course. Focusing on mastery rather than on performance goals in this mathematics class, and allowing students the freedom to ask questions, share ideas, and learn to achieve mathematics understanding through peer collaboration, the course instructor increased the mathematics learning of her students.

An increase in the preservice teachers' comfort level with developing constructivist learning environments was also noticed in the field of science. In a study examining the impact of the constructivist learning model on elementary preservice teachers' beliefs in reference to their constructivist knowledge, Plourde & Alawiye (2003) surveyed 511 science student teachers. Due to the concern that "elementary science education is lacking in areas that will equip preservice teachers to effectively teach science to elementary students once they enter their chosen profession," (p. 334) and because highly effective teachers have been found to use inquiry and student-centered instructional strategies in their classrooms, the higher education institution where this study was conducted used constructivism as a conceptual framework for its teacher preparation programs. A few attributes of this framework included, but were not limited to: using cooperative learning strategies emphasizing collaboration, respect of individuals and encouraging division of labor; using student questions and ideas to guide lessons; and promoting student leadership and collaboration. Instructors at this particular institution modeled daily constructivist practices in their classrooms. The results of the survey indicated a strong positive correlation between exposure to constructivist principles in their programs and the belief in their ability to apply constructivist principles in their future classrooms leading to the assumption that the more knowledgeable preservice teachers are in regards to constructivism, the more likely they will apply it in their classrooms.

In an introductory teacher education course based on a constructivist approach to teaching upon which the teacher education programs at the University of North Dakota are founded, Vaughn Greves (2005) discussed the use of metaphors to provide a transformative, constructivist experience for her students. Through the use of the Butterfly Project, the instructor provided her students with an authentic learning experience and opened discussion between the students and the instructor. By modeling student-centered learning the instructor drew on the preservice teachers' creativity by enabling them to use the metaphor of a butterfly in writing hypothetical profiles of their future students. Data were collected from 191 students, and findings indicated that only 50 students created fiction metaphors, while the others used themselves or other people they knew as inspiration, reflecting on their own experiences or on the experiences of others. This is consistent with the constructivist theory, as students were able to create their new understandings from what they already knew and the new information they acquired (Richardson, 1997). By modeling this constructivist learning strategy, and through discussions with the students about more traditional instructional strategies, the teacher educator challenged her students to construct a new pedagogy of learning that they could implement in their future classrooms. It is only by providing authentic learning experiences and demonstrating constructivist approaches, and not merely discussing the benefits of constructivism in our classrooms (Dooley, 1998), that teacher educators can make a strong impact in the lives of preservice teachers. The researcher encouraged college professors to examine the use of metaphors in order to assist future teachers to make meaning from their teacher education courses.

To further analyze the influence of a 4-step training course based on constructivist ideas, Al-Weher (2004) discussed Jordanian student teachers' perceptions on constructivism in four areas: teaching, learning, and the roles of teachers and students. The experimental group

was taught using constructivist teaching methods (students were asked to plan a lesson including an application for each new teaching method and then discussed the teaching process with the whole group), while the control group was taught using more traditional methods of instruction, such as lecturing. Pre- and post-test results as well as classroom observations indicate that the course was successful in changing the experimental group's perceptions about teaching, learning and the roles of teachers and students, while the control group students' ideas remained unchallenged. The researcher found the reason for this more traditionalist look at the learning process to be the fact that students were not exposed to constructivist ideas in their classes, but they experienced more traditionalist approaches, which may lead them to incorporate similar practices in their future classrooms.

Examining the teaching behaviors of teacher educators in a teacher education program at a U.S. university, Brindley (2000) followed 11 teacher educators as they taught a cohort of 27 preservice teachers fulfilling the requirements of their program in Early Childhood Education. Data were gathered from the two interviews conducted with the teacher educators as well as from different course artifacts (e.g., syllabi, description of activities and assignments) in an attempt to uncover the teacher educators' beliefs about constructivism and whether or not these beliefs aligned with their classroom practice. Results indicate that while 9 out of 11 instructors stated that they held constructivist beliefs, only one of them discussed constructivist theory in her coursework. Despite the lack of discussion about constructivist theory, data shows that the activities they designed for their courses aligned with constructivism, as all instructors planned to involve students in the learning process through whole-group and small-group discussions and activities, while encouraging choice, voice and creativity. More preservice teachers experienced constructivism in their classroom than learned about constructivist practices, as most of their instructors were unwilling to teach about constructivism. This study

adds to the significance for teacher educators to walk the talk; looking at it from a different perspective, teachers did not discuss constructivism in their class, but designed a constructivist learning environment.

The idea that teacher education classrooms limit the exposure of the students to constructivist practices is also addressed by Klein (2001), who argues for a better exploration of relationships of power in the teacher education classes. In an action research study, Klein (2001) attempted to model a constructivist learning environment, with the hope that her students would experience a different learning environment than what they had been exposed to by being taught in a manner in which they were expected to teach. The instructor confessed that she reverted to practice of authoritative telling occasionally. Relying on data collected from students' journal entries, Klein (2001) discovered that her students experienced mathematics education at the university level the same way they experienced it at school, regarding the teacher as the authority source. The conclusion is that "future practice will only change when preservice teachers, in recognizing the constitutive power of discourse, take steps to interrupt and change those practices that are disempowering for the children they will later teach" (p. 264). This will happen as they are exposed to constructivist practices in their teacher education programs.

Research Questions

Although the above studies revealed positive results due to the exposure to constructivist approaches to different programs, there are not many studies discussing what specifically goes on in these types of classrooms. Questions remain regarding the impact constructivist practices at the tertiary level may have on prospective teachers' classroom practices, the instructional strategies used in teacher education classes, as well as how these practices inform or contradict a reform-minded, standards-based teaching. In an attempt to

understand more about the practices used in constructivist teacher education classes, this study deals with the following questions: 1. What are the most effective ways of instruction in teaching students different concepts? How do these practices align with constructivism? 2. What may be some of the challenges teacher educators encounter in a constructivist environment? How do they cope with these challenges? 3. What are the roles of teacher educators in a constructivist-learning environment?

Methodology

Context

This study was conducted at a large southwestern university, with a student enrollment of 27,000 students. The College of Education, where the participants of this study had been teaching for at least 5 years at the time this study was conducted, is one of the biggest colleges in the university, enrolling one-third of the university students. Moreover, this university is one of the few universities in the nation that offer a doctoral program in teacher education.

Participants

The main participants of the study were four teacher educators who were selected based on their expertise in the field of teacher education. These teacher educators were identified as exemplary by a special committee within the College of Education, based on the quality of their teaching as well as their research. Although one of the participants had been teaching at the college level for only 10 years, and the other three teacher educators having taught for 18-27 years, all four teacher educators had strong voices in the field of teacher education. All participants were in teaching methods courses, two at graduate and two at undergraduate levels. Two of the participants were males and two females. Both females were Caucasian (Dr. Owens and Dr. Philips), one male was Asian, (Dr. Wu), and the other male was Latino (Dr. Gonzalez). The researchers were doctoral students and teacher education

candidates. They had a peripheral membership role, interacting with both the instructor and the students while teaching classes, which allowed them to establish an insider's identity. However, this study focused particularly on the teacher educator participants, thus no further references will be made to the researchers as participants.

In order to provide more understanding of the way teacher educators organize their classes and the opportunities they provide for effective learning, the researchers conducted a cross-case analysis of the work of the four teacher educators throughout the course of a semester, examining their teaching strategies and choices behind these strategies.

This study is limited by its small number of participants, as the four teacher educators may not account for a representative sample of the teacher education population of this university. Another limitation is that only one course per teacher educator was shadowed, and the mentors may have taught differently from course to course based on subject and/or level of students.

Data Collection and Analysis

The data in this study came from four main sources:

1. Two formal interviews with the four participants, one in the beginning and one at the end of the semester. The first interview consisted of three parts in which the participants were asked open-ended questions about: a) their background (what prepared them to become teacher educators, why they became teacher educators, how long and what subjects they taught at both college level and K-12 level); b) their views on teaching (what they considered to be the best ways to teach, how important was learning about theory as a part of learning about teaching methods, as well as what might be some pressing issues facing teacher educators today); and c) the course assessment (how would they teach this course, what modes of instruction they considered to be most effective, what aspects of the course they expected to be more

challenging). The second interview consisted of two parts: a) course assessment (the researchers asked the teacher educators to provide evidence of how they taught the class and to discuss the challenges encountered); and b) view on teaching and roles (researchers asked the teacher educators to define constructivism, to state whether or not they considered themselves constructivist, and to provide three examples of constructivist practices).

2. Informal meetings: Each researcher met with their assigned teacher educators on a weekly basis, before and after class, to discuss issues related to the teaching of the class. This was a good opportunity for the researchers to ask questions about the goal of the class taught, the activities that were developed, as well as what the teacher educators anticipated to be the most challenging concepts and how they were going to handle these concepts. The meeting at the end of class enabled the researchers to ask further questions about the way the class was taught and the reasons behind some of the instructional decisions the observers witnessed in class.
3. Field notes were collected by each of the four observers shadowing the teacher educators. Teaching strategies were observed and recorded, and notes were used as evidence in an attempt to see the connection between the practices described as being used by the teacher educators in the interviews, and the real-life applications of these practices.
4. Artifacts used by the teacher educators in their classes were also collected (i.e., syllabi, the activity sheets, and PowerPoint presentations).

The data collected from the field notes, artifacts and meetings served to triangulate the interview findings. This was deemed as essential since sometimes teachers see themselves differently than observers do, and researchers wanted to eliminate this potential limitation from

the study. Data were analyzed using an event mapping, a discourse and a taxonomic analysis which enabled the researchers to construct categories and analyze the four cases from three different perspectives: 1) challenges in a teaching education class, 2) roles of teacher educators in a constructivist classroom, and 3) examples of constructivist teaching strategies used in their classrooms. The findings paint a portrait of the four teacher educators, discussing the way they planned for instruction in order to foster a constructivist learning environment, the strategies they implemented, as well as the challenges encountered.

Findings

The Case of Dr. Wu

Dr. Wu is originally from China, where he became an English teacher under a centralized curriculum. In order to better understand the process behind making curricular decisions, he decided to become a researcher and a teacher educator with the hope that he would be able to help prepare future generations of teachers. Dr. Wu had been teaching for 10 years at the time this study was conducted. For the class that he was shadowed, Dr. Wu taught a Master-level course of instructional strategies, its main objective being to challenge and change his students' beliefs about learning and teaching and "make them realize if they really want to be an effective teacher, they have to change a lot of their assumptions."

As the purpose of the study was to examine constructivist practices in teacher education classes, the researchers wanted to first understand how the teacher educators described constructivism in order to align their definition of constructivism to their instructional practice. Dr. Wu stated that to him, constructivism meant constantly engaging students to reconstruct their ideas by exposing them to new situations and creating dilemmas in their minds that will prompt them to change: "You have to learn to change; that is the crucial point for you to grow qualitatively rather than quantitatively."

When asked whether he considered himself a constructivist teacher educator, Dr. Wu stated that he designed his class on the very constructivist principle he described above, constantly challenging his students and ultimately helping them change their perceptions of teaching and learning. Believing that learning to teach is partly conceptual and partly practical, Dr. Wu planned to expose his students to an equal balance of theory and practice, and he found the theoretical aspect to be very significant since teachers make many decisions based on theories. On the other hand, theory alone cannot help teachers in all situations, and teachers need to contextualize their theoretical thinking into practice. The instructor exposed his students to both theory and practice through discussions of the textbook theories, written case studies, scenarios and videotapes showing successful and less successful examples of lessons taught by classroom teachers.

A typical instructional day in Dr. Wu's class began with students discussing a particular chapter from the textbook, as the instructor's first goal was for the students to understand the text. The instructor did not lecture about the reading, neither did he openly express his ideas about the readings, but through asking questions he gave the students the opportunity to express their ideas in small groups and whole class settings. Once he was sure the students had a strong understanding of the theories and methods covered in the chapter, Dr. Wu proceeded to engage his students in practical situations that were meant to lead them to change their ideas. This approach, as he stated, may have been in contrast with more typical approaches used in teacher education classrooms across the U.S., where students are being told in the beginning of the class what they should expect to learn. In contrast, Dr. Wu showed his students videotapes of classroom teachers or presented teaching scenarios for students to read, allowing the students to react to these case studies based on their own instinct. Students would work individually, and then in groups, to provide answers to the scenario questions and would have to

justify their ideas in small groups. After watching the videos, the students discussed what their initial reaction to the video was and what the video was actually showing, which in most of the cases presented them with a conflict. This conceptual level conflict was, according to Dr. Wu, the actual point where some of his students started to change their beliefs.

These learning strategies are in close alignment with Dr. Wu's beliefs of a constructivist setting, as discussed in the interviews and observed in his course. As one of the constructivist elements require students to recreate knowledge through constant change of beliefs, it is the role of the instructor to help students reach the conceptual change, and according to Dr. Wu, this can be done through "understanding how your students will respond to the situation, and providing scaffolding and assisted performance through classroom discussions." As a facilitator, Dr. Wu pointed out some of the conflicts between the students' initial judgments and what actually took place in the video, which caused surprise and excitement. When this conceptual conflict was created, students moved into the higher-level thinking consistent with constructivist learning. Dr. Wu's teaching approach consisted mostly of debates and discussions in which the students were encouraged to critique each other's opinions. His role was to design a challenging situation, put the students in it and push them to find their own conclusions: "My role is challenger and facilitator and designer, rather than I tell you how I think, what is the theory of learning, what is the logic behind the whole thing."

Change was seen as the crucial point in the student's life, and from this perspective Dr. Wu believed that while trying to implement these ideas in one's class, one should realize that some students might not feel happy about change and will still hold to their initial beliefs. This stage, where students have to give up their own conceptions, represented therefore the most challenging aspect of the students' learning. Moreover, due to an inconsistency in the student culture of learning and the university culture of teaching (Al-Weher, 2004; Klein, 2001), students

would find refuge in the other classes they are taking and would not change their beliefs: “Not everyone can usually get it, especially in a program with only one or two people trying to do this and the rest of the people still have very traditional ways of teaching.” Dr. Wu is thus stating that despite a university culture not so open to constructivist learning practices, his course on teaching strategies tended to be constructivist in nature, by allowing his students to make sense of their learning and constantly challenging their beliefs. In the final interview Dr. Wu re-stated that the most challenging part of teaching the class were indeed those moments when students had to give up some of their beliefs. The way Dr. Wu dealt with these challenging aspects, as seen in the classroom observations, was by constantly providing his students with situations and activities in which they would have to think outside their comfort zone and come to the conclusion that what they held as being true about learning or teaching may not be true. The instructor declared himself satisfied at the end of the course; he said that at least one third of his students were able to change their beliefs about learning and teaching as a result of taking this particular class.

The Case of Dr. Owens

After being an elementary school teacher for a few years, Dr. Owens decided to become a teacher educator in order to influence the development of teachers. She had been teaching for 27 years in the field of teacher education at the time this study was conducted. Dr. Owens taught a Master-level course of curriculum development, having as the main objective to help students uncover their personal beliefs about curriculum and instruction. In order to reach this objective, the instructor enabled her students to possess the language of curriculum philosophy and understand the intricacies of curriculum development.

Dr. Owens defined constructivism as a movement “from instruction to construction, from teacher-centered to learner-centered instruction, from school to life-long learning, from

teacher as transmitter to teacher as facilitator.” She talked about herself as being a constructivist teacher educator, planning the course with the main goal of exposing the students to both theory and practice, in order to motivate them to become critical thinkers and problem solvers. Dr. Owens believed her students needed to have a strong theoretical base, and she enabled her students to make connections between the literature and develop an understanding of what curriculum and instruction stand for, designing activities in which students were involved in active learning.

Similar to Dr. Wu, Dr. Owens also discussed the significance of exposing students to both theory and practice in a course. She designed activities that enabled students to critique two types of school curriculum and develop a curriculum unit (or revise an existing unit) that would be used by students in their future classrooms and to present it to their peers. As the instructor viewed reflection as one of the most important missions of a teacher, the students had to also reflect on this teaching experience, and consider the relationships between their beliefs and their practices. Because this assessment involved students sharing their knowledge and what they had constructed over the course of the semester, Dr. Owens considered this class at the end of the semester to be the best lesson in her course: “I think that the best example of lessons is when the students are involved in showing what knowledge they’ve constructed.”

A typical day in Dr. Owens’ class began with the instructor asking the students to discuss their thoughts and ideas on their readings as part of an interactive dialogue. As in the case of Dr. Wu, Dr. Owens did not lecture about the readings; neither did she openly express her beliefs before hearing what her students had to say. The dialogue was followed by different interactive activities in which the students worked in teams or pairs to make sense of the content. An example of group work included creating mock school boards and having groups of students presenting a particular philosophical orientation to curriculum development (e.g., as a

progressivist, an essentialist, a reconstructivist, etc). Another example would be taking the position of a curriculum model developer as a guest on a mock Oprah Winfrey show. The activities would be followed by debriefing, where students and instructor “unpacked” what happened during the activity and had an open dialogue about the content.

These learning strategies are in close alignment with Dr. Owens’ beliefs of a constructivist setting, as discussed in the interviews and observed in her course. In order for construction of knowledge to occur, the learners need to be exposed to situations in which they will uncover their personal beliefs about curriculum and instruction and either change their beliefs or learn to strongly defend what they believe in. This was a constant theme throughout the semester, and Dr. Owens seemed satisfied with the productive learning community she had created. Her students “deal with some tough issues and can have differences of opinion; they are self-sustaining and interacting without me having to direct, where they take over and feel comfortable and confident to do that...I think I accomplished this by making every comment a student has valuable or valued.”

In alignment with her teaching philosophy, Dr. Owens’ role in this class was that of facilitator of learning: “My general philosophy of teaching is that you have to involve the learner; it is about learners constructing their own knowledge, and I have a responsibility to facilitate that, but the learners have a responsibility to construct it.” Despite her vast knowledge in the field of curriculum, Dr. Owens stated that her role is “to facilitate learning more than it is to deliver information,” and the teaching practices she makes use of are a good example of her constructivist beliefs. Although this curriculum theory course might have inhibited the use of constructivist techniques, Dr. Owens was able to convey the factual information in such a way that would engage her students in discovery learning:

I've used whole group and small group instruction. I've used paired instruction. I've used having students create drama. I've had students creating mock school boards. I've had them pretend they're on the Oprah show. I've had them create jingles...always trying to have students involved in some way.

When talking about the most challenging aspects of student learning in this class, Dr. Owens confessed that the area in which her students were going to face difficulties was their philosophy of teaching, as she saw some of her students struggling with walking the talk:

They say that they are progressivist, but then they say, "But I can't be a progressivist in my classroom because my administrators won't let me." So that whole notion of how you believe something and carry it through, no matter the context. You certainly make adaptations, but you don't change your basic beliefs.

The same concept was deemed as challenging by Dr. Owens in the final interview, and in order to address these challenges, the instructor constantly revisited the concepts taught during the semester through different class activities and raised questions that would enable her students to see other points of view. Conceptual change, as in the case of Dr. Wu's students, was hard but possible as Dr. Owens challenged her students to think outside their comfort zones. She also provided them with the support needed to develop a language of curriculum philosophy and guided them towards a reform-minded view of teaching and learning, and curriculum and instruction.

The Case of Dr. Philips

Dr. Philips was a middle school and secondary school teacher for 17 years, experiences she largely used in her college teaching. She had been teaching at the college level for 18 years at the time this study was conducted. Dr. Philips taught a secondary English course for

undergraduate students. One of the main objectives of her course was to guide students into learning different philosophies of teaching English.

Like the two teacher educators discussed in the above cases, Dr. Philips stated that to her, a constructivist learning environment would allow opportunities for students to create their own learning based on their own backgrounds and values, by looking at all aspects of a particular problem or situation. Dr. Phillips considered herself constructivist, planning the course with the main goal to enable teachers “to look at their own personal, practical knowledge and have them examine their own values and beliefs based on their own experiences in the classroom, and create a conceptual change in their beliefs.” Dr. Phillips was another teacher educator who believed in creating situations for her students that would lead to their conceptual change, a required component of constructivist learning: “I want to provide students with experiences that will help them look at and change not only what they do in the classroom but what they *think* about what they do in the classroom.” As she believed in the importance of exposing her students to both theory and practice, the instructor dedicated much of her time to theoretical aspects of teaching English, allowing for practical applications of these theories by having students design lesson plans and teach them to their peers.

A typical day in Dr. Phillips’ class started with the students listening to the instructor discussing certain aspects of the text. Open discussion was an important part of the class, with the instructor asking questions about the readings to find out their beliefs and encouraging them to constantly challenge each other’s ideas, with the goal “to guide the students into learning the concepts rather than pushing a particular philosophy of teaching English.” Believing that students need to be actively involved in their learning, the instructor created opportunities after the discussions for students to be engaged in cooperative learning where they could apply the theories they learned about. Being aware that her students struggle with concepts of

teaching grammar, as “there is a mismatch between the literature they read in college and the real-life activities they see in their classrooms,” the instructor planned activities in which students would practice with teaching certain aspects of English grammar using multiple perspectives, in an attempt to provide relevant learning to all the students. Real-life applicability was a big component of her class, as one of the more common questions seemed to be “how will that look in the real world?” By constantly asking this question, the instructor pushed her students to begin imagining how and when they would apply what they were learning, and find the connection between theory and practice.

The instructor stated that she used a lot of concept attainment theory in her class, presenting her students with different ways of teaching English, both inductively (through concept attainment, where students had to find the patterns of different concepts, analyze them and based on these patterns to come up with the name and definition of the concept at the end) and deductively (presenting the concept to the students in the beginning, and discussing the concepts).

These learning strategies matched Dr. Phillips’ constructivist teaching philosophy, as discussed in the beginning of the semester. In trying to model constructivism through the use of various teaching strategies and assessments, Dr. Phillips wanted to make sure that she walked the talk and designed various assignments that showcased her students’ multiple intelligences, using discussions, having students reflect on the readings, writing lesson plans, and presenting group projects. By engaging her students in these activities, allowing therefore for individual work, pair work and cooperative group work, Dr. Phillips created an environment where students could reflect on their own ideas, critique the readings and critique each others’ ideas, uncover their misconceptions and learn from all this. From this perspective, the instructor’s role was that of a facilitator: “This class does not focus a lot on lecturing, taking notes and

regurgitating...I want them to reflect and try to see a wide variety of doing things. I like when they understand that there is no particular wrong or right, but a lot of gray area.” As noticed throughout the observations, the way Dr. Phillips assumed her role matched her interview statement, as the class had a constructivist approach where students constructed their own learning, and were actively engaged, rather than having the instructor using direct instruction and delivering the information.

The most important thing for preservice teachers, in Dr. Phillips’ opinion, was to possess the skills of planning completely, yet she stated that most preservice teachers lacked these skills because they were not totally aware of what students generally know. It is then the teacher educator’s responsibility to “instill into students the real world of teaching and hopefully help them to understand the theory behind how students learn.” In this way, preservice teachers will be better prepared to meet the challenges of diverse populations and “will provide their students with the best practices of exemplary teachers.”

One of most challenging factors in teaching this course for Dr. Phillips was the conceptual change in students’ beliefs. In order to lead her students to this conceptual change, Dr. Phillips created situations in which students’ beliefs came in direct contradiction with their experiences. For example, in one of the first classes, the instructor asked her students who should have control over the curriculum, and several students replied that there is a body of knowledge that constitutes background knowledge. The instructor then gave her students a list containing 100 items and asked them to identify all the items. The groups worked together on the list, and then the instructor asked them how many items they got, with answers ranging from 48-61. Dr. Phillips then explained that the list was put together by the former Secretary of Education, and it outlined a body of knowledge U.S. students should possess. Dr. Phillips disclosed the results, telling her students that anyone who scored less than 89 was considered

an uneducated person and in need of more education. The students were silent for awhile, and only one student, who had been most vocal in the claim that there is a unified body of knowledge necessary for every student objected saying that the list represented only “one man’s point of view.” The instructor smiled and agreed, hoping that through exercises and experiences like this one, teachers’ beliefs will begin to change.

The Case of Dr. Gonzalez

Dr. Gonzalez became a history teacher because he wanted to help correct the social injustice he encountered as a student, when he realized that the quality of education children received varied by race and socioeconomic class. He further wanted to become a teacher educator in order to make a difference in preparing teachers. Dr. Gonzalez had been a teacher educator for 26 years at the time this study was conducted. Dr. Gonzalez taught an undergraduate multicultural education course, that had as its main objective to “sensitize people to cultural differences, and to be sensitive to how that plays out in the classroom.”

Dr. Gonzalez’s definition of constructivism reflected his belief in actively engaging students to construct their knowledge, but in order for this to happen, students need to have first a solid theoretical knowledge base. When asked whether he considered himself a constructivist teacher, Dr. Gonzalez answered that this depended on the nature of the course one was teaching: “I could be more constructivist, but that would take me away from giving them information about a variety of different groups I think they should become familiar with.” As for the course he was teaching, Dr. Gonzalez confessed that with this particular topic, students knew little about ethnicity, race relations and the history of groups; therefore what he was trying to accomplish in this course was to give his students a knowledge base, since what students knew was a lot of stereotypic, generalized information: “I do believe in it (constructivism), but I didn’t do it in this course. You need a knowledge base before you can

begin talking about constructivism.” This statement makes us think that there may be conditions inhibiting a constructivist learning approach, and the nature of a class may be one of them. This implies that before having students reconstruct ideas, they need to possess a broad range of life experiences (Windschitl, 1999).

The instructor planned his class with the goal of exposing students to multicultural theories about different ethnic groups. By learning about the historical experiences of groups, hopefully they would better understand their own status in society, as well as why some groups succeeded and others did not succeed in school. Dr. Gonzalez was another teacher educator who deemed it essential to expose students to ideas and situations that would create a conceptual change in their minds, enabling them to see the social injustices facing different groups of people.

Although he did not think of his teaching approach as entirely constructivist, a typical day in Dr. Gonzalez’s class did not look very different from the other instructors’. In trying to balance theory and practice in this class, the instructor usually began his classes lecturing about a particular topic in order to provide his students with the basic information about the different ethnic and cultural groups, followed by class discussions of the readings. Through discussions of their readings, which the instructor supplemented with excerpts from local periodicals depicting cultural insensitivity toward, and struggles of, different ethnic groups, or by showing his students a documentary movie about the life of a family of color, Dr. Gonzalez was trying to teach his students to understand multiple perspectives, be aware of the biases teachers and schools might have against certain groups of people, and keep an open mind to social injustices:

You provide them with opportunities to learn how to understand the concept “cultural diversity” and address differences in the classroom. I develop strategies that allow students to gather a database in the area of cultural diversity and to talk to each other

about differences. I use a variety of teaching strategies, but I like group work and lecture and discussion where I can ask questions and provoke students to think.

Group projects were an important part of this class, as the instructor assigned groups of students to work on a cultural diversity project, dedicating class time in almost all his classes for groups to get together and work on their project, while the instructor was listening to the students' ideas, collaborating with them and providing support. Dr. Gonzalez saw himself as a collaborator, his role being "to educate every student and the whole student, to prepare them to go out in the world of education to improve the educational setting," by enabling them to possess a solid knowledge base about different cultural groups and exposing them to examples of social injustice. Dr. Gonzalez's design of the class aligned with his collaborative role, as the readings he had assigned exposed his students to backgrounds and histories of various people, theorizing the effects of those cultural legacies in their current lived experiences, while the discussions analyzed the practical implications of these diverse experiences in the real world from the perspective of social injustice. In an attempt to create conceptual change in his students, Dr. Gonzalez used his class as a tool to address social injustice and develop in his students the need to fight it as teachers.

When discussing the challenges he might face while teaching this course, Dr. Gonzalez pointed out that one of the biggest challenges would be to convince preservice teachers about the social injustice facing different groups of people. The instructor believed it was difficult to make students see school as the potential problem to social injustice and themselves as part of the problem, due to the different experiences these mainstream students had in school:

The biggest challenge is convincing teacher candidates, who generally view school from a positive perspective, that perhaps schools have not done historically a good job at

educating certain groups of students. That race, color and SES are factors in the quality of education students receive.

The same challenge was addressed in the final interview, as the instructor stated that while he reached his initial objective with some of the students, there were also students who came to the class with preconceived notions; students who were not aware about any discrimination between people, and who were not open to the diversity concepts Dr. Gonzalez was teaching. The way the instructor chose to deal with these challenges was by exposing all his students to important theories that would enable them to develop background knowledge necessary in order to understand diversity issues. Despite his effort, some of Dr. Gonzalez's students finished class holding on to their beliefs, and refusing to consider the idea that some biases are deeply rooted and that to some extent, all people have them:

Some of the students came in with preconceived notions that there is no problem or that if there is, they know the solutions. So, there was no reason to be in the class.

Dealing with this topic is very difficult for students, they just don't see the relevance and part of it is because they haven't been involved with people of color on a daily basis...

they don't think in terms that there is discrimination against people, and if there is, it is not their fault.

This example, and many others encountered in the four classes observed, shows that despite our best efforts to reach all our students and help them change their misconceptions, conceptual change is hard, as some students have difficulties admitting they were wrong and resist the change. Being aware of the misconceptions students hold regarding the nature of teaching and learning, and the bias they may have against different cultural groups (whether or not they deemed themselves constructivist), the four teacher educators planned for and implemented situations and activities geared towards creating conflicts in students' minds.

The resistance and opposition by some of the students did not discourage the teacher educators, but it further strengthened their belief that a constructivist learning environment needs to engage the students in the active construction of knowledge, by building on their prior experiences while exposing students to new ideas and concepts.

Discussion and Conclusion

The case studies discussed above present examples of the teaching strategies used in four teacher education classes, as well as how the teacher educators' beliefs about constructivism aligned with the learning environment in their classrooms and their instructional strategies. This study attempted to answer a few of the following questions: how do four teacher educators at a southwestern institution define constructivism, and in light of their definitions, do they consider themselves constructivist? What instructional strategies do they use in their courses, and how do these practices align with constructivism? The researchers also tried to understand what roles these teacher educators play in student learning and what may be some of the challenges teacher educators encounter in a constructivist environment.

In spite of a lack of a universally accepted definition of constructivism, the literature shows that in general, constructivist teachers "share the belief that learning is an active, interpretive process and learning is built through a process of making sense of reality as it is experienced" (Brindley, 2000, p. 2), and that knowledge is constructed from human activity as "people interact with each other and with the physical world, using their minds and bodies" (Hausfather, 2001). Similar to this definition, the four participants in this study described constructivism as a movement from instruction to construction (Dr. Owens); by actively engaging students to create learning based on their own backgrounds and values (Dr. Phillips); and to construct knowledge by creating dilemmas that will prompt them to change (Dr. Wu and Dr. Gonzalez). While all four teacher educators stated that they considered themselves

constructivist, designing activities that were meant to motivate students, and help them become problem solvers and critical thinkers by challenging their ideas, Dr. Gonzalez thought that the nature of the class one is teaching may inhibit constructivism, and he felt that because his students lacked the basic content knowledge, a constructivist environment might have taken away from developing a stronger knowledge base. Dr. Gonzalez did not see himself as a constructivist in the course he was teaching.

Despite Dr. Gonzalez's reluctance to see himself as a constructivist, classroom observations showed that the setting in all four teacher educators' classrooms were constructivist in nature. Teacher education literature describes a constructivist setting as one in which preservice teachers are "challenged with stimulating questions, debates and investigations" (Brindley, 2000, p. 4), as participating in communities of discourse allows students to clarify, defend, elaborate, evaluate and argue over the knowledge constructed (Brown, 1994). It becomes the teacher educators' responsibility to provide their students with opportunities in which they learn within cooperative groups while analyzing their own experiences (Hausfather, 2001).

On the other hand, Richardson (2003) urges that as a learning theory, constructivism implies that students make meaning also from activities encountered in a more transmission model of teaching (i.e. lecturing, direct instruction), where the teacher "provides students with opportunities to develop deep understanding of the material, internalize it, understand the nature of knowledge development and develop complex cognitive maps that connect together bodies of knowledge and understandings" (Richardson, 2003, p. 1628). Lecture and direct instruction should not, therefore, automatically be linked to a more traditional teaching approach. From this perspective it becomes the responsibility of teacher educators to find

model approaches that lead their students to understand content deeply and view content and process as inseparable aspects of knowledge construction (Hausfather, 2001).

Aligned with these two different approaches of a constructivist setting, and understanding the significance of exposing their students to theory and practice, the four teacher educators created classroom environments meant to provide their students with a deep understanding of the content and a practical application of the theories. Similarities and differences could be observed in the ways the four instructors approached theory and practice in their classroom. Dr. Wu and Dr. Owens engaged students in discussions about the readings, empowering their students to make sense of what they were learning, and asking them thought-provoking questions to make sure their students understood the concepts. On the other hand, Dr. Phillips and Dr. Gonzalez were more bent towards first exposing the students to the main ideas of the readings through a short lecture to equip their students with a strong theoretical base. Classroom discussions and interactive learning were characteristic to all four learning environments, as the instructors wanted their students to apply the theories through debates, classroom projects and analysis of videotapes that examined different teaching approaches.

These practical applications were meant to present students with dilemmas and create an interior conflict that would further lead to conceptual change. Dr. Gonzalez summed the significance of this change by addressing preservice teachers' preconceived notions regarding the teaching and learning opportunities available for the different cultural groups. In order to help them keep an open mind in their teaching, these beliefs need to be challenged by creating a conflict between the ideas they hold as true and exposing them to new situations in which they see that their ideas may not match reality.

An apparent theme in the teacher educators' class instruction, conceptual change, was addressed both in the interviews and observed in the implementation of the classroom

activities. Believing that a constructivist teacher program is meant to be not only informational, but transformational (Plourde & Alawye, 2000; Vaughn Greves, 2005), where teacher educators design experiences that “produce cognitive conflict in students who progressively resolve these problems by integrating new knowledge into prior knowledge structures” (Shymansky et al., 1997, p. 572), the major goal of the four instructors in this study was to create this conceptual change in their students.

Their approach was similar, as their students were first pushed to openly discuss their beliefs regarding what is the best way to teach English grammar (Dr. Phillips), whether or not the school milieu perpetuates social injustices (Dr. Gonzalez), what instructional strategies increase student learning (Dr. Wu) and whether or not preservice teachers could walk the constructivist talk in their current classrooms (Dr. Owens). The next step was to expose preservice teachers to situations that contrasted with their expressed beliefs, possibly leading to a change in these beliefs. Results indicate that all teacher educators were successful to some degree in challenging and changing their students’ beliefs, but in all cases there were students who expressed resistance and held strong to their beliefs. This conclusion is supported by literature findings: “Asked to consider ideas that are incompatible with prior beliefs, some preservice teachers will distort the new information so that their prior beliefs persevere” (Brindley, 2000, p. 3).

In Dr. Wu’s case, there were students who did not want to admit that their teaching and learning beliefs were wrong and ended the course resenting the instructor. One of Dr. Phillips’s students ended the class still believing that direct instruction was the best way to teach English grammar. Dr. Gonzalez talked about a student who did not believe the school environment might perpetuate social injustices. Finally, Dr. Owens stated that some students ended the course with a discrepancy between their teaching philosophy (they considered themselves

constructivist) and the classroom reality (they stated that because of the context of teaching and demands from administration, they had to be more traditionalist).

Despite the resistance encountered in some of their students, the final interviews conducted with the participants reveal the fact that all of them would continue to deem creating this conceptual change as essential in becoming a culturally sensitive, well rounded teacher, paying attention to these beliefs rather than ignoring them in the hope that new learning will replace them (Brindley, 2000). In order to change preconceived beliefs, they need to be “illuminated, discussed and challenged” (Fosnot, 1996, p. 216). This seems to agree with the approach taken by the four teacher educators in this study.

Whether constructivist or semi-constructivist learning environments are better at changing student beliefs and enhancing learning is still the object of debate. Since this study only aimed at presenting some practices deemed as constructivist by the teacher educators at one university, future research may look into how teacher educators from different universities develop and implement their activities in an effort to increase student learning.

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Appendix A: Initial Mentor Interview Questions

Background:

1. What in your educational background prepared you best to become a teacher educator? Why did you become a teacher educator?
2. How long have you been teaching at the college level? Which levels and what content areas have you taught at the K-12 level, and how has that affected your approach to teacher education?
3. What is the best way to learn to be an effective teacher and researcher? What is the best way to teach teachers how to teach? What are the most important qualities that define an effective teacher educator?
4. Have you taught this course before?

Course Assessment:

1. Briefly describe how you will teach this course. In planning the course, what will be/were some of the easiest and challenging aspects of teaching it?
2. How did you come up with the goals and objectives for this course? Why do you think students need to learn these concepts in the course?
3. What modes of instruction are most effective in learning these important concepts? What will your students be doing during sessions? How do your strategies reflect your general philosophy of teaching?
4. What do you anticipate to be the difficult concepts that your students will struggle with? Why do you think this would be the case? How will you approach these difficult concepts?
5. How will you be assessing your students' understanding of the major concepts in the course? Why do you want to assess in these ways?
6. What influences, if any, do you think your university environment and/or your community have on your students' learning in this course?
7. If you were in an ideal situation, without any limitations on anything, what would you like to change in designing and teaching this course? Please describe.
8. Do you address the issue of diversity in your course? How do you promote teaching and learning to a diverse population in your class?
9. Please describe any research that you have conducted that has influenced your teaching in any way.

Views on Teaching

1. In your view, what do you think are the most pressing issues facing teacher educators today? Why?
2. How important do you view learning about "theory" in relation to learning about teaching methods?
3. From your perspective, what do you consider to be the essential differences and similarities in teaching at the K-12 level compared to the college/university level?
4. How would you describe a well-prepared teacher educator for today's world? In your view, what do you think most novice teacher educators lack?

Appendix B: Final Mentor Interview Questions

Course Assessment

1. What do you consider your best lesson in this course?
2. What were your major goals for the course? Did you meet these goals?
3. How do you view your students' learning in this course?
4. What assessment strategies did you use? Did these deviate from your original plan?
5. What do you think were your students' general attitudes towards learning the concepts during this course?
6. What teaching strategies did you use during the course? Did any of these strategies deviate from the original plan?
7. What are some of the specific changes that you have made in teaching this course over the years? Do you think you will make any changes in teaching the course this time?
8. Describe any reflective practices you use in your course. Do you think that incorporating reflective practices are important in teacher preparation and development?
9. What major barriers/problems, if any, did you face while teaching this course?

Views on Teaching and Roles

1. How would you define an effective learning community? How were you able or not able to accomplish this course that you taught?
2. How would you define constructivism? How would you characterize a constructivist teacher? Could you give three examples of constructivist instructional strategies that you have used?
3. How do you keep true to your beliefs about effective teaching practices and the pressures of mandated materials/testing of NCLB? What is the role of the teacher educator for dealing with this? How can teacher educators continue to make meaningful connections between theory and practice when constructive curriculum/instruction is not being promoted by NCLB?
4. As a teacher educator, how do you balance research, teaching, and service? Where do you spend most of your time? What do you struggle with most as a professor in each of the three areas?
5. How do you deal with students not making satisfactory progress?
6. How much do student evaluations play in designing and implementing the course? Did this differ from your untenured years?
7. How much influence did the internship (me shadowing you) this semester impact your thinking, planning, and teaching? In what ways did this internship affect you?
8. What growth have you seen in me during this internship?
9. What advice would you give to beginning teacher educators like me?