

HOW ARIZONA COMMUNITY COLLEGE TEACHERS GO ABOUT
LEARNING TO TEACH

by

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ABSTRACT

How Arizona Community College Teachers Go About Learning to Teach

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Utah State University, 2015

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This mixed-method study used a survey and semistructured interviews to learn how new Arizona community college teachers learned to teach, how available certain learning experiences and effective professional development activities were, how valuable teachers perceived those learning experiences and activities to be, and if there were any factors that underlie how new community college teachers learned to teach. The survey questioned whether 26 learning experiences were available to new community college teachers, and whether they had participated in professional development activities conducted using critical reflection, peer group conferencing, professional development cases, and active learning. All of these activities were available to the majority of new teachers except for professional development cases, which were available to only 38% of respondents. The perception of these community college teachers was that active learning, critical reflection, and peer group conferencing were more valuable than other more typical faculty development activities. The researcher expected that professional

development cases would be rated more highly than typical faculty development activities; however, the survey respondents who reported participating in professional development cases rated them as equally valuable to other faculty development activities, but not higher. The researcher discovered six factors that underlie the process new Arizona community college teachers used to learn to teach. They were guidance from others, receptive communications, formalized teacher training, personal resources, experimentation and reflection, and student perspective.

The process that new Arizona community college teachers used to learn to teach can be explained by the adult learning theory of transformative learning. They valued learning experiences that were reflective and applicable to the classroom. They benefitted from professional development activities that used the principles of transformative learning theory such as active learning, critical reflection, and peer group conferencing. Learning to teach was a process that included challenging and changing their assumptions about what happens in a community college classroom. They adjusted their assumptions and their teaching behaviors with time and experience.

(157 pages)

PUBLIC ABSTRACT

How Arizona Community College Teachers Go About Learning to Teach

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New Arizona community college teachers go through a transformative learning process when they learn to teach. They enter the classroom with preformed ways of thinking about teaching. These habits of mind include what they imagine a community college teacher to be. They expect their knowledge and expertise to translate into teaching ability and they are shocked to learn that this is not the case. Classroom teaching involves basic pedagogical skills such as preventing cheating, creating appropriate tests, planning a course calendar, and pacing a lecture. The discomfort that accompanies this revelation causes the teachers to think critically about what good teaching is and to question their own practices. They seek guidance from their peers and they engage in constructive discourse that sparks critical thinking about their own teaching behaviors and their assumptions about their students and their colleges. Eventually, their teaching is transformed through a process that is explained by the adult learning theory of transformative learning. New teachers value learning experiences that are reflective and that are applicable to the classroom. They benefit from professional development activities that use active learning, critical reflection, and peer group conferencing.

Learning to teach is a process that includes challenging and changing their assumptions about what happens in a community college classroom. They adjust their assumptions and their teaching behaviors with time and experience.

This study used a survey and interviews to discover how new Arizona community college teachers learned to teach, how valuable teachers perceived certain learning experiences to be, and whether Arizona community colleges were using effective methods to convey the content of their professional development programs. In descending order, new teachers valued learning experiences involving reflective activities, classroom application, formal methods of learning teaching strategies, and college-based activities. Additionally, the study revealed that six factors underlie the process new community college teachers used to learn to teach. They were guidance from others, receptive communications, formalized teacher training, personal resources, experimentation and reflection, and student perspective. The findings described above can assist instructional leaders in designing effective professional development experiences for their newly hired faculty.

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CHAPTER I

INTRODUCTION

Community colleges are primarily teaching institutions. Yet certification requirements for community college faculty focus on degree credentials, content knowledge, and experience in the field. Teaching experience is minimized or not required (Rourke, 2011). Many community college teachers have little teaching experience when they are hired. They are confident that their content knowledge will translate to teaching ability (Coddington, 2005), and they expect to receive instructional training from their institutions. However, that training is often sparse or even nonexistent (Lefler, 1998). Where training does occur, faculty are often dissatisfied (Gill, 1993; Maxwell & Kazlauskas, 1992).

Problem Statement

I first became interested in the topic of the training of community college faculty when I accepted a full-time job on the North Mohave Campus of Mohave Community College. Prior to that time, I worked in a secondary school for 17 years and participated in professional development every summer by choice and during the school year by mandate. My experience was typical of classroom teachers. For 11 years I took the techniques I learned in secondary school to the community college classroom where I worked as associate faculty. Then I accepted a position as an advisor at Mohave Community College. When my new duties as a full time employee of the college put me in close proximity to newly hired community college faculty, I was astonished to realize

that new teachers were hired for their expertise in subject matter but were not required to have teaching skills. They were left to their own devices for classroom practices. This hadn't bothered me before because the associate faculty I dealt with over the years had primarily come from the secondary school system and they were skilled in classroom techniques. But the new full-time faculty we hired had no teaching training. One teacher in particular had the impression that the time he needed to devote to teaching was limited to the time he was lecturing in class. He lacked basic pedagogical skills such as preventing cheating, creating appropriate tests, planning a course calendar, or pacing a lecture. This observation is especially disturbing considering that community colleges are teaching institutions, and so they should be primarily concerned with instruction. While it is important to have teachers who are skilled in their subject areas, it is also important that they have the ability to convey that knowledge to their students. After observing this newly hired teacher, I wondered how he and other community college teachers had learned to teach.

Purpose Statement

The purposes of this study were: (a) to determine the methods used by new community college teachers in Arizona to learn to teach; (b) to evaluate whether Arizona community colleges use identified effective methods of professional development to train their teachers; and (c) to discover how valuable new Arizona community college teachers consider those experiences to be.

Definition of Terms

There are certain terms that are used in the research questions and throughout this proposal that may not be clear without operational definitions. The following definitions describe the application of the terms for the purposes of the proposed study.

Available learning experiences: Learning experiences that are reported by greater than 9% of the respondents. Experiences reported by 9% or less of the respondents are considered unavailable.

Effective professional development: Professional development activities that are conducted using at least one of the four identified professional development methods. These are the professional development case (Glynn, Koballa, Coleman, & Brickman, 2006), peer group conferencing (Sydow, 2000), critical reflection (Walkington, Christensen, & Kocke, 2001), and opportunities for active learning (Prince, 2004).

Learning experiences: The 26 formal and informal activities identified in the survey instrument that were designed to increase a teacher's knowledge of the teaching process.

New Arizona community college teachers: Faculty currently teaching at least six credits (90 lecture hours) or the equivalent at a community college in the state of Arizona. These teachers must have less than 5 years teaching experience at the community college level. Five years was chosen because it is the average number of years of teaching experience required before community college teachers can be awarded tenure. Policies were reviewed for Alvin Community College (2008), the Illinois Public Community College Act (2009), the Nevada System of Higher Education (2009), the Peralta

Community College District (2009), Rhode Island College (2009), Rhodes College (2009), the Riverside Community College District (2009), Salt Lake Community College (2009), the Tennessee Board of Regents (2009), and Texas public 2-year colleges (Texas Association of Community Colleges, 2009).

Professional development: Systematic, intentional efforts at the individual, departmental, or college level that address instructional and organizational concerns.

Resident faculty: Faculty employed full time by an Arizona community college.

Teaching process: the application of pedagogical skills in the classroom.

Research Questions

1. What learning experiences are available to help new Arizona community college teachers learn to teach? How available are effective professional development methods to new Arizona community college teachers?

2. How valuable do new Arizona community college teachers consider those learning experiences for preparing them to teach? How valuable do new Arizona community college teachers consider their effective professional development experiences in preparing them to teach?

3. What are the underlying factors in the ways new community college teachers learn to teach?

Need for This Study

Prior research on faculty development needs has centered on the content of

faculty development programs, instructor's views of professional development programs and effective methods of training. Some studies have concentrated on what should be included in faculty development programs. These studies create lists of topics for inclusion (Leach, 2000; Opp, 2007). Some studies have found a gap between what those who plan professional development trainings think is beneficial and what instructors who attend those trainings value (Gill, 1993; Maxwell & Kazlauskas, 1992). Other research considers what types of training methods are effective (Glynn et al., 2006; Marzano, 2003), but there is little research on whether colleges use effective methods to deliver the content of their professional development programs.

Moreover, there is little research on how teachers actually learn to teach. This study examined how new Arizona community college teachers learned to teach, how valuable teachers perceived training opportunities to be, and whether Arizona community colleges were using effective methods to convey the content of their professional development programs.

This information becomes especially pertinent as community colleges face challenges such as decreasing economic resources and legislated accountability for student success. Colleges can no longer afford to spend precious time and money on unproductive training. Instead, the focus of these programs should be directed toward those activities which accurately reflect how teachers learn to teach. Therefore, more research is necessary to discover how teachers learn to teach and which professional development activities are most valuable to them. By studying how new teachers learn to teach and by understanding what factors contribute to this learning, developers of

instructor training programs can more efficiently convert new hires into skilled practitioners.

CHAPTER II

LITERATURE REVIEW

Community colleges face certain challenges that demand increased attention to professional development. Notwithstanding the emphasis at community colleges is on teaching rather than research. There is generally no teaching experience required in order to be hired as community college faculty (Twombly & Townsend, 2008). Because the community college mission is to provide education to everyone within the service area of each college, community colleges are generally open admission schools. They accept all high school graduates who apply. Applicants are increasingly in need of remediation in basic skills. A high proportion of community college students are nontraditional students: part-time, working, looking for immediate employment after graduation, increasingly diverse culturally, and frequently adult learners. In addition, as community colleges face tighter budgets, there is an increasing reliance on adjunct, part-time faculty (Hastings Taylor, 2006; Manville, 2004). Many of these teachers start the first day of the semester facing some of the most challenging students in higher education, with no training or experience in how to teach.

Community colleges are also facing increased attention from lawmakers who want to hold colleges accountable for student success. The American Association of Community Colleges (AACC) has responded to this pressure by creating a voluntary framework of accountability for community colleges that addresses some of the most frequently debated topics. In their white paper, *The Completion Agenda: A Call to Action* (McPhail, 2010), the AACC suggested using best practices for instructors and

redesigning curriculum and instruction to reflect contemporary pedagogical practices as two means of advancing the completion agenda. Community colleges no longer have the luxury of offering minimal professional development programs simply to satisfy accreditation requirements; they must now use effective methods to train teachers to teach if they are to meet the requirements of the AACC framework. Professional development activities should incorporate instructional methods that recognize those teachers as adult learners. Adult learning theory, specifically transformative learning theory, provides guidance for structuring professional development activities that will bring about transformations in the ways that community college instructors approach their teaching.

Transformative Learning Theory

Jack Mezirow is known as the architect of transformative learning theory. His first use of the term was in a qualitative study of 85 women in a community college re-entry program (Mezirow, 1978). Mezirow (2012) described transformative learning as

the process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action. Transformative learning involves participation in constructive discourse to use the experience of others to assess reasons justifying these assumptions, and making an action decision based on the resulting insight. (p. 86)

Through years of socialization, observation, and experience, children develop frames of reference through which they understand the world. As they grow, they have experiences that reinforce those frames of reference. Their habits of mind become more

rigid. They rationalize their experiences in terms of their meaning perspectives. As adults, we solidify our ways of making meaning of the world. We accept viewpoints and interpretations that are congruent with our frames of reference, and we reject those that are not. Sometimes we are confronted with evidence that contradicts these basic assumptions. When this happens, we will reject the evidence, or we will rationalize the experience to fit our existing frames of reference. Occasionally we experience events that so greatly challenge our preconceptions that we are forced to critically examine and then modify, or transform, our most basic assumptions, our frames of reference. When this happens, transformative learning has occurred (Mezirow, 1985).

Frames of reference, or meaning perspectives, are the basic assumptions we use through which to view and understand the world. We depend on these frames automatically, without effort, to help us interpret the world (Mezirow, 1994). Frames of reference are comprised of habits of mind and points of view. Habits of mind are the most deeply entrenched ways of thinking and are difficult for adults to change. We use them unquestionably as we navigate our lives, and it takes a disorienting dilemma or an activating event to force us to confront these habits. Examples of habits of mind include political orientation, religious doctrine, judgments about beauty, self-concept, sensory preferences, and moral values (Mezirow, 2012). Points of view are expressions of our habits of mind but they are more tractable than habits of mind. For example, adults frequently ‘try on’ other’s points of view in order to understand differences of opinion without examining the deeper meaning perspectives behind those points of view. Habits of mind cannot be “tried on” (Kitchenham, 2008).

Mezirow (1978) observed that the women in his study seemed to go through a transformation during their learning processes. He described 10 phases that they might experience.

1. A disorienting dilemma.
2. Self-examination with feelings of guilt or shame.
3. Critical assessment of epistemic, sociocultural, or psychic assumptions.
4. Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change.
5. Exploration of options for new roles, relationships, and actions.
6. Planning of a course of action.
7. Acquisition of knowledge and skills for implementing one's plans.
8. Provisional trying of new roles.
9. Building of competence and self-confidence in new roles and relationships.
10. Reintegration into one's life on the basis of conditions dictated by one's new perspective.

In 1985, Mezirow added an 11th phase, renegotiating relationships and negotiating new relationships, between the above phases 8 and 9. Mezirow originally conceived these phases as a series of steps in the process of transformation. Today, the phases are considered fluid. Learners may not experience all of the phases, and they may move back and forth between them. Cranton (2002) refined Mezirow's 11 phases into seven facets.

1. An activating event that typically exposes a discrepancy between what a

person has always assumed to be true and what has just been experienced, heard, or read

2. Articulating assumptions, that is, recognizing underlying assumptions that have been uncritically assimilated and are largely unconscious

3. Critical self-reflection, that is, questioning and examining assumptions in terms of where they came from, the consequences of holding them, and why they are important

4. Being open to alternative viewpoints

5. Engaging in discourse, where evidence is weighed, arguments assessed, alternative perspectives explored, and knowledge constructed by consensus

6. Revising assumptions and perspectives to make them more open and better justified

7. Acting on revisions, behaving, talking, and thinking in a way that is congruent with transformed assumptions or perspectives.

Not all learners go through all of these phases, nor are the phases necessarily experienced in the order listed above. Adult learners may move back and forth through phases as they work through the process of transformation.

Learning Domains

Mezirow (1997) referred to five learning domains.

1. *Instrumental*—learning to control or manipulate the environment or other people

2. *Communicative*—learning to understand what others mean when they communicate with you. This often involves feelings, intentions, values, and moral issues.

3. *Emancipatory*—learning to obtain self-knowledge and to experience freedom and relational autonomy
4. *Normative*—learning oriented to common values and a normative sense of entitlement
5. *Impressionistic*—learning to enhance one’s impression of others.

Transformative learning theory emphasizes the instrumental, communicative, and emancipatory domains of learning. Mezirow (1997) suggested that most learning involves elements of both the instrumental and the communicative domains. Instrumental learning uses deductive logic and empirical testing. Communicative learning involves understanding what others are presenting. In communicative learning, we examine our values, beliefs, and feelings through rational discourse with others. Mezirow (2012) redefined Habermas’ emancipatory knowledge to mean the transformative process that pertains to both the instrumental and communicative learning domains. This process is outlined in the phases or facets listed above. Emancipatory learning occurs best through critical reflection and rational discourse. By critically examining assumptions, and social and cultural frames of reference within the context of discourse, the learner is freed from frames of reference that limit or distort communication and understanding (Mezirow, 1998).

Critical Reflection and Discourse

Mezirow (1985) described three types of reflection, (a) content reflection, (b) process reflection, and (c) premise reflection. In content reflection, we reflect back on our experience and our current knowledge and belief systems to solve a problem. Content

reflection does not require testing of the validity of our actions. We reflect on new information in terms of our existing frames of reference. In other words, we consider what we know rather than whether our knowledge is valid (Kreber, 2012). Process reflection seeks evidence to determine the effectiveness or meaningfulness of what we do. Learners might research a topic; they might examine research that has been done by others; or they may engage in dialogue with their peers as they each try to determine how the new ideas might transform their own points of view or opinions. Process reflection may result in transforming our opinions or points of view, but it does not result in transformative changes in our frames of reference. Premise reflection does involve transformation of our frames of reference. Learners look beyond reviewing their past experience or simply assessing the effectiveness of their processes. In premise reflection, the learner takes a global view of their frame of reference within the context of the problem. This requires critical reflection and is more likely to result in transformation of frames of reference (Kitchenham, 2008; Kreber, 2012).

Mezirow (1998) further refined the concept of premise reflection when he proposed a taxonomy of critical reflection on assumptions (CRA). In this taxonomy he makes a distinction between the objective reframing of assumptions (such as in improving performance or in analyzing text), and the subjective reframing of assumptions (such as examining our cultural and psychological doctrines upon which we have defined a problem). Objective reframing has two dimensions: (a) narrative CRA, and (b) action CRA. Narrative CRA is critically evaluating one's own frames of reference to evaluate the truth of concepts, beliefs, feelings, or actions that are being communicated to oneself.

Action CRA is pausing during problem solving to critically examine underlying assumptions that define the problem in order to take more effective action to solve the problem. Objective reframing differs from subjective reframing in that objective reframing examines the assumption, whereas subjective reframing considers what underlies the assumption; what caused the assumption to occur (Kitchenham, 2008).

Subjective reframing has four components.

1. Narrative critical self-reflection on assumptions (CSRA)
2. Systemic CSRA
3. Therapeutic CSRA
4. Epistemic CRSA (Mezirow, 1998).

Narrative CSRA is the application of narrative CRA to oneself. Systemic CSRA extends self-reflection to cultural influences including organizational or moral-ethical norms. Cultural influences such as conventions, dogmas, or ideologies define, encourage, and limit our understandings of traditional roles and ways of relating with others. Social action is often the result of systemic CSRA. This kind of reflection is also inherent in the workplace. Through systemic CSRA, workers examine how their acceptance of these norms are detrimental to their careers and to their organization. Another form of systemic CSRA focuses on critiquing one's value judgments which are often related to one's conscience or idealized self-image (Mezirow, 1998).

Therapeutic CSRA is a type of critical self-reflection of assumptions in which the learner scrutinizes the assumptions that underlie their feelings and the consequences of the ways they act upon those feelings. In epistemic CSRA, the learner seeks to discover

the assumptions that drive their particular ways of learning, why they set the goals that they do, their understanding of the world, and their particular roles in society. They consider the causes, the nature, and the consequences of their frames of reference. The goal is not to solve a problem, but to identify explicitly their frames of reference.

The primary method of examining frames of reference is CSRA in conjunction with discourse. Mezirow (1998) stated:

Challenges to the validity of a particular norm are met through critical discourse, a collective process of assessing reasons, examining assumptions, weighing evidence, hearing arguments, and arriving at a tentative best judgment until other analyses, arguments, or perspectives are encountered. (p. 191)

He further defined reflective discourse as:

That special function of dialogue devoted to presenting and assessing the validity of reasons by critically examining the widest possible range of evidence and arguments in the context of attempting to find understanding and agreement on the justification of beliefs. (p. 192)

Reflective discourse occurs within groups of individuals who each come to the discussion to examine their presumptions and habits of mind. Within this context, individuals reexamine and transform their frames of reference to accommodate the common understanding of the group (Mezirow, 1997). Critical self-reflection on assumptions is more likely to occur within the context of reflective discourse.

Criticism of Transformative Learning Theory

Perhaps the most prominent criticism of transformative theory comes from Newman (1993, 1994, 2012). Newman (2012) proposed that transformative learning does not actually exist. He listed six major flaws in transformative learning theory and then he proposed that the phrase, “transformative learning” be replaced by the phrase, “good

learning” as defined by nine aspects of learning. The first flaw Newman (2012) described was that the theory makes a distinction between learning that is transformative and learning that is not. He suggested that transformative learning theory is not necessary because he can explain all types of learning in terms of knowledge, skills and attitudes. He called programs that elicit significant change in learners simply good educational practice regardless of the types of learning that occur. He claimed that because all learning involved change, one type of learning differed from another only in degree—not in kind. Yet transformative learning is, in fact, a different kind of learning than other types of learning such as the acquisition of skills. Other types of learning result in the acquisition of new knowledge or skills, or new perceptions or insight. Transformative learning results in changes in the way the learner understands the world. Learning that causes a fundamental shift in the learner’s frame of reference is profound enough to demand a theoretical framework that explains that learner’s experience.

The second flaw Newman (2012) described was “the failure of transformative learning theory to make a clear distinction between identity and consciousness” (p. 42). Identity is our public face, our persona or the roles we play. Identity can be changed rather easily. Consciousness is much deeper. It is the “experience of existence” (Newman, 2012, p. 42). Newman cited Mezirow’s (2009, p. 19) use of the term “new roles” as evidence that Mezirow placed emphasis on identity rather than consciousness. Cranton and Kasl (2012) agreed that this failure to distinguish between the two was a legitimate flaw. However, when Mezirow described changes in frames of reference or habits of mind, he was referring to something much deeper than merely changing

identity. He was suggesting changes in consciousness.

Third, Newman claimed that transformative learning theory described learning as a finite experience rather than a continuous reforming of one's consciousness. He used Mezirow's 10 phases as evidence. Newman claimed that this list of phases presented learning as having a clear start and a clear finish. Yet, as described above, transformative learning theorists no longer consider those ten phases as sequential. Nor does every learner experience every phase. Cranton (2011) chose the term "facet" deliberately to dispel the notion of a progression.

Fourth, Newman disagreed with Mezirow and Cranton about discourse. He did not dispute that discourse was an important mechanism for facilitating transformative learning. Instead, he argued that the ideal conditions for promoting discourse as described by Mezirow (2009) and Mezirow and Associates (2000) were unattainable. Newman did not accept that "empathy and concern about how others think and feel" (Mezirow, 2009, p. 20) was an acceptable condition for discourse to take place. He said there are "detestable people who do not deserve my empathy" (Newman, 2012, p. 44) and so he should not be required to have empathy and concern for others when engaging in discourse. He also took issue with Mezirow's condition that in the ideal situation, participants will have a "willingness to seek understanding, agreement and a tentative best judgment as a test of validity" (Mezirow, 2009, p. 20). Newman interpreted this to mean that Mezirow was asking participants to accept consensus in all discourse. Newman argued that whether he was willing to accept consensus was dependent on the composition of the group. For example, if he were engaging in discourse with a group of

homophobes, he would be required to accept their opinion simply because there is consensus. Newman's last argument against discourse was that the "feelings of trust, solidarity, security, and empathy" that Mezirow and Associates (2000, p. 12) described as "essential preconditions for free full participation in discourse" were impossible to achieve. Newman argued that there were people who were not worthy of trust and we must be on guard against these people. Thus, we cannot feel solidarity with others in our group (what if they are not trustworthy?) nor can we feel a sense of security or empathy with them. It is impossible, he argued, to create a real life situation where a group of relative strangers form the feelings of trust, solidarity, security, and empathy that Mezirow deemed essential to discourse.

However, Newman's own arguments were flawed. Newman assumed that if there were any cases in which participants in discourse were untrustworthy, or who were detestable, or who proposed points of view that were opposed to one's own frame of reference, then all discourse was invalid as a vehicle for transformative learning. There are detestable people in the world who do not deserve Newman's empathy and concern. However, the empathy and concern for others as described by transformative learning theory did not require participants to like each other. It required participants to employ an openness of mind that allowed them to understand other frames of reference so that the participant could analyze them and compare them to their own. Without this kind of empathy, there was no critical reflection upon the validity of one's own frame of reference and no transformative learning would occur. A second assumption that Newman made was that transformative learning required all participants in discourse to

transform their frames of reference and their habits of mind to accommodate the consensus of the group as in his example of a group of homophobes. But he was mistaken. Transformative learning theory described the examination of habits of mind and frames of reference. If that examination was done using premise reflection, then it was possible that engaging in discourse would result in appropriate validation of existing habits of mind. If Newman found himself in discourse with a group of homophobes, ideally Newman would consider the underlying assumptions of his habits of mind regarding homosexuality. Most likely he would not change those assumptions. But rather than dismissing the group out of hand because they disagreed with him, he would have engaged in true discourse where he sought to understand their underlying assumptions as well as his own. Perhaps none of them would come away from the discussion having transformed their frames of reference, but they would have conducted a deep examination of themselves, and they would have gained a greater understanding of opposing views. This type of discourse only occurs when all parties have enough trust in the process to be willing to express points of view that may be abhorrent to others in the group. Participants must create solidarity in creating enough safety for these revelations to occur. They must feel secure that other participants will listen with empathy (openness to other point of view). Otherwise, it is unlikely that there will be premise reflection. There will be content reflection, and perhaps even process reflection, but without the environment described above, no premise reflection will occur and it is very unlikely that transformative learning will take place.

The fifth flaw that Newton described was that researchers frequently report

mobilization as evidence of transformation. This was a valid observation that researchers must carefully consider when they are designing their research. Because transformations of habits of mind and frames of reference are an internal process, transformative learning is difficult to measure. Researchers must either depend upon descriptions of the transformation provided by their informants, or they must depend upon observable behavior. However, mobilization for action (for example, heading up a voter registration drive) can occur with or without changes in habits of mind. Newman's complaint was less a description of a flaw in transformative learning theory than it was a caution to researchers.

Newman's description of a sixth flaw in transformative learning theory was that some perspectives include a spiritual component to the theory. He argued that spirituality was "beyond the reach of reason, and has no place in educational practice except as the subject of dispassionate examination" (Newman, 2012, p. 49). It is true that some perspectives of transformative learning theory include a spiritual component as part of a holistic view of transformation. Many do not. This criticism of transformative learning theory does not encompass the theory itself. It takes issue with one component (albeit a prominent component) of some perspectives of transformative learning theory.

Newman's overarching criticism of transformative learning theory was his contention that learning described as transformative was simply a result of good teaching. Newman (2012) proposed the replacement of the phrase "transformative learning" with the phrase "good learning." He described nine aspects of learning that make up good learning.

1. Instrumental
2. Communicative
3. Affective
4. Interpretive
5. Essential
6. Critical
7. Political
8. Passionate
9. Moral

Newman did not describe how he derived this list of nine aspects of learning, nor how he selected these nine aspects for inclusion in his list. Neither did he explain how understanding these nine aspects of learning would lead to a replacement of the term “transformative learning” with the term “good learning” (Cranton, 2011). These aspects of learning were similar to Mezirow’s descriptions of types of learning and habits of mind (Cranton, 2011). Newman’s (2012) descriptions of instrumental and communicative aspects of learning were similar to Mezirow’s (1997) descriptions of instrumental and communicative learning. Newman’s affective aspect was similar to Dirkx’s (2006). Newman’s essential aspect is similar to Mezirow’s aesthetic habits of mind. Newman’s critical aspect is similar to Mezirow’s emancipatory learning, and Brookfield’s (2000) ideology critique. Newman’s (2012, p. 51) political aspect was about “examining conflicts of interest and expressions of power in order to make judgments,” ideas that are considered in the social perspectives of transformative learning. Newman’s

passionate aspect of learning was about emotions, as was his affective aspect, but the emotions it describes are more intense. His moral aspect was similar to Mezirow and Associates's (2000) moral-ethical habits of mind. Upon closer examination, it appears that each of Newman's nine aspects of learning (good learning) were included within transformative learning theory rather than the other way around. Newman's aspects of learning did not include a description of the process of transformation that occurred when learners contemplated their most elemental assumptions. To replace "transformative learning" with "good learning" in the lexicon is to deny this important type of learning.

Tensions Within the Theory

Differences in approaches within a theory are part of the natural evolution of that theory as research increases. The tensions that exist between theorists encourages discussion on the meanings of seemingly contradictory findings so that revisions and improvements to those theories can occur. Although Mezirow's theory remains essentially intact, the theory has evolved into two main branches. The first continues to follow Mezirow's work. It is considered a rational or cognitive approach to transformative learning theory because of the rational approach learners use to deconstruct their habits of mind through critical reflection and discourse (Dirkx, 2006). Others (Dirkx, 2006; Taylor, 1997) described a strong emotional component to transformative learning, borrowing from the Jungian concept of individuation. This is considered an extrarational approach to transformative learning. These theorists argued that the process of critical reflection was often accompanied by emotions such as guilt, fear, shame, loss, or general anxiety. These deep emotions are connected to the learner's

psyche on an unconscious level. They may be expressed in images, dreams, or fantasies that bring to conscious awareness the learner's unconscious meaning-making processes (Dirkx, 2006). These theorists posited that engaging emotions during reflection and discourse accelerates the learner's scrutiny of their habits of mind. The differences between the rational and the extrarational approaches to transformative learning were hotly disputed until a renowned debate between Mezirow and Dirkx at the 2006, 6th International Transformative Learning Conference where Mezirow conceded that there is room for both approaches to transformative learning (Kitchenham, 2008).

More recent writings (Cranton & Taylor, 2012) described the evolution of transformative learning theory toward a more holistic approach. In 2002, Cranton proposed that different learners may revise their habits of mind in ways which fit their psychological type preferences. If this is so, there is a need for multiple perspectives of transformative learning. *The Handbook of Transformative Learning: Theory, Research, and Practice* (Cranton & Taylor, 2012) included chapters on several perspectives of the theory of transformative learning; critical theory and transformative learning, deep transformation, transformative learning and the challenges of complexity, and an existential approach to transformative learning. Cranton and Kasl (2012) recognized six branches of transformative learning: cognitive, extrarational, social, relational, artistic, and intuitive. Cranton and Taylor (2012) noted that the differences between the perspectives have more to do with theoretical discourse used in each of those perspectives, the level of emphasis on logic and reason, and how the learner is shaped by their social world. Despite the differences among these approaches to transformative

learning, the basic assumptions are similar. Transformation in learning comes when adult learners are stimulated to examine and to shift their most central beliefs, thoughts, and feelings.

Effective Professional Development

Four types of professional development occur collaboratively in a social environment and are congruent with the adult learning theory of transformative learning. These are critical reflection (Walkington et al., 2001), peer group conferencing (Sydow, 2000), the professional development case (Glynn et al., 2006), and opportunities for active learning (Marzano, 2003). Critical reflection involves analyzing assumptions, making accurate observations, looking for alternative ways of understanding a phenomenon, making meaning, understanding the personal and social contexts under which we make meaning, and questioning. “Critical reflection is at the heart of becoming an effective teacher. It invites teachers to evaluate their own philosophies about teaching and to be critically reflective about their own practices” (Walkington et al., 2001, p. 343). Peer group conferencing is a type of collaborative professional development where faculty from different disciplines meet to discuss professional issues and to learn from each other (Sydow, 2000). The professional development case is a more formalized version of the interactions teachers have at chance meetings where they ask each other’s advice about particular situations. Instructors and administrators write up real world situations in narrative form. Anonymity is protected by pseudonyms. These narratives are then shared and discussed with groups of from four to ten instructors and administrators.

These formalized conversations help prepare faculty for potential real world problems, and they can provide intellectual, emotional, and managerial support. Marzano asserted that opportunities for active learning where teachers are able to practice the pedagogical knowledge that they learn is one of the most important features of staff development with the strongest relationship to reported change in teacher behaviors

Critical Reflection

Theorists other than Mezirow have described the importance of reflection in teacher training. Dewey (1933) was the originator of the concept of reflection in education. He proposed that reflective thinking from teachers would help them clarify their purposes, focus their methods, and thus improve the quality of their teaching. Teachers develop automatic habits and routines in their daily activities. This routine thinking frees the practitioner to reflect on problems or issues that are more complex. Teachers use their knowledge and experience to contextualize a problem and formulate plausible solutions to the problems.

Schön (1983) studied the thought processes of professionals when they are faced with uncertainty. He concluded that new practitioners should have practical experiences in their field, guided by an experienced coach or mentor. Through interaction with the coach, the novice develops “knowledge-in-action.” This becomes the basis of automatic actions so that when a problem arises, the practitioner does not have to interrupt their processes in order to reflect upon a solution. They continue their actions while solving their problems, much as a jazz pianist continues underlying chord progressions while improvising on a melody. Schön also described reflection on practice through which

practitioners examine their professional duties and responsibilities, and ethical norms of their profession.

Langer (1989) described reflection as mindfulness, a state of conscious awareness that included:

1. The creation of new categories and distinctions (masculine/feminine, success/failure)
2. Openness to new information
3. Awareness of more than one perspective.

Langer (1989) stated, “Once we become mindfully aware of views other than our own, we start to realize that there are as many different views as there are different observers. Such awareness is potentially liberating” (p. 68).

Loughran (1996) spoke of reflective practice, which he applied to training preservice teachers. He described reflection as it is used in developing teachers. First, the teacher identifies a puzzling or curious situation. Then she or he must recognize that this situation may be a problem. The teacher must be able to view the problem from perspectives other than her or his own or it is not likely that the practitioner will address the situation. Simply experiencing a puzzling situation will not lead to learning; rather, it is essential that the teacher reflect upon the experience. An important component of the teacher’s reflection is to find other ways of seeing. For example, a teacher may reflect on the students’ perspective on the classroom. Further, the teacher must reflect on her or his own actions as she or he considers other ways of seeing. It is through combining reflection with seeing and action that the practitioner learns through experience.

Mezirow (1985) described three types of reflection, (a) content reflection, (b) process reflection, and (c) premise reflection. In content reflection, we reflect on new information in terms of our existing frames of reference. Process reflection seeks evidence to determine the effectiveness or meaningfulness of what we do. Process reflection may result in transforming our opinions or points of view, but it does not result in transformative changes in our frames of reference. Premise reflection does involve transformation of our frames of reference. In premise reflection, the learner takes a global view of their frame of reference within the context of the problem. This requires critical reflection and is more likely to result in transformation of frames of reference. A more detailed description of Mezirow's theory of critical reflection can be found in the transformative learning section of this literature review.

Seibert and Daudelin (1999) theorized about the role of reflection in managerial learning. Like Loughran (1996), Seibert and Daudelin theorized that active reflection is necessary to learning from experience that leads to new knowledge. "Reflection is seen as an ongoing process of critically examining current and past professional practices against standards or objectives with the goal of improving future practices and increasing knowledge" (p. 2). Like Mezirow, Seibert and Daudelin emphasized the importance of discourse with others. They posit that active reflection is both an internal and an external process. The external nature of active reflection occurs in meaningful discussion with someone trusted, and it is one of the most powerful tools for reflection.

Rogers (2001) conducted a concept analysis of the approaches to reflection in education of these seven theorists. He considered the work of Dewey (1933), Schön

(1983); Boud, Keogh, and Walker (1985); Langer (1989); Loughran (1996); Mezirow (1991); and Seibert and Daudelin (1999). Each of these approaches defined reflection differently; however, Rogers found that their definitions had some commonality. Each of their definitions included the following elements.

A cognitive and affective process or activity that (1) requires active engagement on the part of the individual; (2) is triggered by an unusual or perplexing situation or experience; (3) involves examining one's responses, beliefs, and premises in light of the situation at hand; and (4) results in integration of the new understanding into one's experience. (p. 41)

These common elements form the basis of critical reflection activities used for the professional development of teachers. These types of activities vary widely from writing journals, creating portfolios, action research or fully developed professional development programs. Despite this variation, the goal of each of these activities is to encourage participants to reflect critically on their own teaching behaviors and on the assumptions that underlie those behaviors.

Hubbal, Collins, and Pratt (2005) studied the effect of 18 different reflection activities on the teaching perspectives of teachers at the University of British Columbia. Hubbal and colleagues followed two cohorts of the university's Faculty Certificate Program. Forty-four participants developed teaching dossiers based on 18 different reflection activities such as weekly readings and interactive learning experiences. Interestingly, data from the study did not identify any one of the 18 reflection activities under study that was more effective than the others were. For one activity, some teachers were more engaged than others were, and for the next activity other teachers participated more fully. The authors recommend that designers of university professional

development programs vary their activities along qualitative, quantitative, degree of structure, individual, collaborative, and time frame dimensions. Each activity is a tool to be adapted to teachers, learners, and work settings

The participants also completed the Teaching Perspectives Inventory (TPI; Pratt & Collins, 2001) as a pre- and posttest. The TPI was an online, standardized questionnaire that elicits what teachers perceive as good teaching, and uses their responses to identify which of five perspectives is dominant. Most teachers will operate predominantly from one or sometimes two of the five teaching perspectives. Many teachers will also score high on an additional back-up perspective. The five teaching perspectives identified by the TPI are transmission, apprenticeship, developmental, nurturing, and social reform. In the transmission perspective, good teaching means a substantial commitment to content or subject matter. The teacher represents content accurately and efficiently. The learner learns the content in its legitimate forms. In the apprenticeship perspective, good teaching means socializing students into new behaviors or ways of working. The teacher is the expert who translates skilled performance into successively more complex tasks. The learner develops through these tasks into an independent worker. In the developmental perspective, good teaching means planning and conducting instruction from the learner's point of view. The teacher understands how the learner reasons and they adapt their instruction to the learner's level of understanding. The learner responds to questions, problems, cases, and examples to develop from simple to sophisticated forms of reasoning. In the nurturing perspective, good teaching assumes that persistent effort to achieve comes from the heart, not the head. The teacher cares

about the students and creates an environment of support and encouragement. The learner responds to this environment with increased self-confidence and achievement. In the social reform perspective, good teaching means changing society in substantive ways. The teacher challenges the status quo and encourages students to consider values and ideologies embedded in their disciplines. The student thinks critically and seeks to take social action to improve the lives of themselves and others.

Of the 44 original cohort members in this study, 30 finished the entire professional development program and took the TPI posttest. Hubbal and colleagues (2005) found significant changes in teacher's perceptions of their roles. There were increases in scores for the transmission, apprenticeship, developmental and social reform perspectives, as well as the total score. Only the nurturing perspective showed no change in scores from pre- to posttesting. The posttest results showed that participants tended to become more balanced in the subscores of each orientation (i.e., beliefs, actions, intentions) within their dominant teaching perspective. These changes in scores indicate that participants reflected more deeply on their underlying pedagogical beliefs, intentions, and actions after the eight month program than they did before. The cohort members attributed the changes in TPI scores to "the social negotiation that took place during discussion on critical teaching and learning issues between professors from a wide range of disciplines and academic ranks within the FCP cohort" (p. 77). One cohort member described his/her experience: "...interactions with cohort members helped to shape and deepen my beliefs about teaching and learning...caused me to think outside my own 'teaching world'" (p. 73). This cohort member described examining his/her frames of

reference by engaging in critical self-reflection on assumptions through discourse, one of the most essential elements of transformative learning (Mezirow, 1998). Hubbal and colleagues did not explain why 14 of the cohort members did not finish the program. It would be instructive to know whether they left due to dissatisfaction with the program, if there were external reasons for them leaving such life changes, or whatever other reasons there may be. If the attrition was simply due to the transience of this group, it may have no bearing on reflection and teaching. But if they left because of programmatic issues we are missing important information.

Kreber (2005) tested the extent to which 36 science teachers engaged in any of the three levels of critical reflection as identified by Mezirow (1985). This research also identified concrete indicators of reflection on teaching so that future researchers are not dependent solely on teachers reporting of having engaged in reflection. Kreber studied the teachers using three instruments; (a) semistructured interviews, (b) the Approaches of Teaching Inventory (ATI), and (c) individualized repertory grids based on the ATI scores of participants. Kreber found that all instructors showed evidence of reflection but premise reflection occurred the least often. She also found that teachers reported having engaged in reflection considerably more often than they provided evidence of such reflection. In other words, there was a discrepancy between the extent to which teachers say they reflect and how much they can demonstrate that they do. Additionally, the types of reflection that these teachers valued changed depending on context. For example, when teachers are teacher-centered in their approach, they value content reflection on instructional knowledge more highly than when they are student-centered in their

approach. When teachers were student-centered in their approach, they consider all three forms of reflection as more relevant than when they were teacher-centered in their approach. There was also differences between experienced teachers (more than 10 years) and those with little experience (less than 2 years). Experienced staff were more likely to reflect on the effectiveness of their instruction methods and their pedagogical approaches. Those with little experience are more likely to reflect on their teaching goals.

To be effective practitioners of community college teaching, teachers must have the opportunity to reflect upon the assumptions and frames of reference that they bring to the classroom. Effective professional development programs should include opportunities for teachers to think critically about their own understanding of what it means to be a community college teacher. This dissertation studied whether new Arizona community college teachers have experienced professional development activities using critical reflection, what their experience with those activities was, how much they valued those experiences, and whether they applied those experiences in their classrooms.

Peer Group Conferencing and Professional Development Cases

Mezirow's (2012) description of transformative learning stated that "transformative learning involves participation in constructive discourse to use the experience of others to assess reasons justifying these assumptions, and making an action decision based on the resulting insight" (p. 86). In part, this study considered two methods of professional development that provided teachers with opportunities for constructive discourse. These were professional development cases and peer group conferencing.

Professional development cases are professional development activities in which participants share and discuss a narrative case study of a situation that has occurred at their college. Peer group conferencing is an informal version of case studies. In peer group conferencing, faculty from different disciplines meet to discuss professional issues and to learn from each other. Both types of interactions allow opportunities for discourse between participants as they think critically about their teaching methods, about how they solve particular problems, and about their own habits of mind and assumptions about teaching.

The case studies used in these activities were stories. They portrayed real events that were relevant to learners. They may be retrospective or narrative where they recount a real history including the actual solution to the problem, or they might be decision-forcing cases that stop short of revealing the outcome and require the learners to propose their own responses to the problem (Golich, Boyer, Franko, & Lamy, 2000). Regardless of which format is used, case studies compel the learners to:

- Distinguish pertinent from peripheral information
- Identify the problem(s) at hand and define its context and parameters
- Identify a set of possible solutions
- Formulate strategies and recommendations for action
- Make decisions
- Confront obstacles to implementation. (p. 1)

Several researchers (Hughes, Huston, & Stein, 2010; Noblitt, Vance, & Smith, 2010; Yadav et al., 2007) have studied the efficacy of case study teaching. Yadav and colleagues sent survey invitations to 139 faculty members from 23 states who had attended at least one workshop or conference conducted by the National Center for Case Study Teaching in Science. One hundred one teachers responded. The respondents were

diverse in their years of teaching experience, their faculty positions, and disciplines taught. Four percent were high school teachers, 55% had not used case studies in their teaching prior to attending the conference, and 84% reported using case studies during the year following their training. The survey respondents perceived positive instructional benefits from using case studies in their teaching. In relation to their students' critical thinking, faculty members reported that their students:

- Demonstrated stronger critical-thinking skills (88.8%)
- Were able to make connections across multiple content areas (82.6%)
- Developed a deeper understanding of concepts (90.1%)
- Were better able to view an issue from multiple perspectives (91.3%). (p.35)
- In relation to their students' learning the faculty members:
- Disagreed with the statement that students retained less from class (87.5%)
- Disagreed with the statement that students feel that what they are learning is not applicable to their field of study (77.5%)
- Disagreed with the statement that students did worse on tests (65.1%)
- Disagreed with the statement that students feel that they are not covering enough content (47.6%)
- Agreed with the statement that students are frustrated by ambiguity (52.6%)
- Agreed with the statement that students find the format challenging (60%). (p. 35)

Faculty also reported their perceptions of student participation. They thought:

- Students take a more active part in the learning process (95.1%)
- Students were more engaged in class (93.8%)
- Students have a better grasp of the practical application of core course concepts (91.3%)
- Students develop positive peer-to-peer relationships (80.1%)
- Students strengthen communication skills when using case studies (78.8%). (p. 37)

Faculty who responded to this survey overwhelmingly reported improvements in their students' critical thinking skills, their learning, and their participation when using case studies.

Not all results were positive. Faculty reported that students found the format challenging, and they were frustrated by the ambiguity inherent in case study work. Yadav and colleagues (2007) suggested that this may be because most of the respondents were novices at presenting case studies. The majority of faculty also reported that they faced three obstacles to implementing case studies in their teaching.

Lack of preparation time required for your use of cases in teaching (78.7%), assessing student learning, student discussion, or small group work (68%), and a lack of relevant case studies (58.4%). (p. 37)

The results of this survey may be limited. The faculty surveyed may not be representative of university faculty in general because the survey was sent only to those who had attended workshops or conferences conducted by the National Center for Case Study Teaching in Science. Presumably, teachers who choose to attend workshops and conferences on case studies already have a predisposition to favor that method of teaching. In addition, this survey asked only for the teachers' perceptions of student learning. There were no references to evidence of changes in student behavior or student learning. Even so, the vast majority of respondents to this survey perceive the use of case studies to be an effective instructional method.

Hughes and colleagues (2010) conducted three professional development workshops with 32 university faculty members. The purpose of these activities was to increase faculty members' skill in handling hot classroom moments such as comments on sensitive issues that trigger highly emotional responses from other class members. Each workshop used one case study focused on a hot topic such as race, gender, or students' self-righteousness. Participants completed an evaluation form at the end of the workshop.

The average rating on a Likert scale was 4.7 out of 5, where 5 was the most positive score. Comments from the participants indicated that they considered the group discussions to be the most helpful feature of the workshop. Participants also stated that they acquired new techniques that they could apply in their classrooms.

At the end of the semester, Hughes and colleagues (2010) conducted a follow-up survey with the workshop participants. Fifty-three percent of the participants responded. Of those who responded, 53% indicated that they had “tried a new teaching technique as a result of the ‘difficult moments’ workshop,” 47% “gained confidence or felt encouraged,” and another 47% “gained an understanding of why a particular approach does/does not work.” Of those who tried a new teaching technique, 78% “changed how I lecture or present information,” 56% “introduced new class policies,” and 44% “implemented techniques to make the class more inclusive” (Hughes et al., 2010, p. 10). Furthermore, 42% of the teachers who modified their lecture style reported that they saw improvement in their classroom dynamics or in students’ written work. The participants in this case study professional development activity affirmed the value of discourse, which ultimately led to changes in their behavior. In some cases, the teachers noted positive changes in their students’ work as well.

Noblitt and colleagues (2010) conducted an experiment to study differences in student performance between students who were taught using a case study method, and those who were taught the same material using a traditional paper presentations approach. They measured oral communication skills and critical thinking skills in a class of 56 forensic science majors at Eastern Kentucky University. Two sections of the Expert

Witness Testimony course were taught using the same lecture series, class activities, and reading assignments. Exams and written assignments focused on identical substantive information and higher-order thinking skills. One section of the class was also taught using the case study format. Instructors assigned students roles to play in a mock trial simulation/case study. All students received identical case packet materials such as court filings and witness affidavits. Students selected one of five topics: DNA, bullet comparison, solid-dosage drug identification, blood alcohol determination, and gunshot residue analysis. Students were required to perform calculations on the given data—they had to decide what types of calculations to perform—and they had to reach defensible conclusions based on the data.

In the noncase study section of the class, students selected from a group of peer reviewed, published papers. The papers covered topics that students had studied in their course work. Instructors asked students questions about the research, calculations used by researchers, and basic background scientific concepts. Students answered in such a way that a layperson could understand their conclusions. Students had approximately 3 weeks to prepare their presentations.

All students of both sections testified as expert forensic witnesses. The instructors acted as attorneys and asked the students questions about scientific theory and the students' data analysis and conclusions. Oral communication and critical thinking skills were assessed by studying six factors on a rubric developed by the instructors. Factor number one on the rubric identified the students' ability to effectively conduct background research and explain to a layperson the data used and related concepts. Factor

number two evaluated the students' ability to organize information in such a way that laypeople could understand the content and consequences of the testimony regardless of the order in which the instructors asked questions. Factor number three described the students' ability to integrate information required for message production, and to convey to a layperson the interpretation of the data and conclusions. Factor number four evaluated the students' ability to explain scientific and technical information to a lay audience. Factor number five evaluated the students' ability to implement appropriate verbal delivery skills such as grammar, pronunciation, voice modulation, and speaking skills. Factor number six evaluated the students' ability to implement appropriate nonverbal skills such as hand gestures, movement, and facial expression (Noblitt et al., 2010, p. 29).

To ensure the reliability of the rubric scoring, the instructors chose anchor performances for each of four levels of performance (beginning, developing, competent, accomplished) for each of the six factors. Two reviewers compared videotapes of the students' performances to the anchor performances and scored the students accordingly. After scoring the students, the two reviewers compared their results to test for interrater reliability. More than 95% of the scores were within one scoring level apart. Analysis of the scores showed that for each factor, the average case study teaching method score was significantly higher than the average paper presentation teaching method score (Noblitt et al., 2010, p. 31). Students were able to think more critically and improve their communication skills when their lessons were presented through case studies than when they were presented through paper presentation methods.

Case studies are effective teaching strategies in the classroom. Hughes and colleagues (2010) have shown that case studies are also effective as professional development activities. This dissertation studied whether new Arizona community college teachers had experienced professional development activities using peer group conferencing or professional development cases, what their experience with those activities were, how much they valued those experiences and whether they applied what they learned from those experiences in their classrooms.

Active Learning

Active learning is something that educators seem to understand intuitively but have a hard time defining explicitly. Definitions of active learning are sometimes comprehensive. For example, Manville (2004) described active learning as:

A multi-dimensional experience in which teaching/learning occur teacher-to-student, student-to-teacher, and student-to-student. It refers to a situation in which students learn specific skills in a context similar or identical to those experienced by experts in the field, and involves activity-based experiences that engage the students in critical thinking tasks, such as synthesis, analysis, and evaluation. (p. 3)

Sometimes definitions are more compact. For example, Prince (2004) defined active learning as, “Any instructional method that engages students in the learning process” (p. 223). Active learning exercises can be as simple as multiple 2-minute pauses in a lecture while students confer with each other (Prince, 2004) or as elaborate as forum theater in which the instructor uses theater to depict a problem after which the students join the sketch to act out possible solutions (Felder & Brent, 2003). What all of active learning has in common is that the students are actively involved in the learning process

and thinking about what they are doing (Manville, 2004; McCarthy & Anderson, 2000; Pedersen, 2010; Prince, 2004).

Ingvarson, Meiers, and Beavis (2005) surveyed participants in four statewide studies of 80 individual professional development activities undertaken by the Australian Government Quality Teacher Programme. As part of the larger study, Ingvarson and colleagues examined the effect of active learning on teachers' knowledge, practice, and efficacy. The researchers sent a common survey to all of the participants of the four studies. Three thousand, two hundred fifty teachers responded. The average response rate for the four surveys was "around 50%" (p. 5).

The survey asked about the teachers' background, the structural features of the professional development experiences, the opportunity to learn, mediating factors, and the impact of the experience. The background questions were the control variables: teacher gender, years of teaching experience, school sector, and school support for professional development. The structural features were contact hours and time span. The questions about opportunity to learn asked about the design features of the professional development, that is: content focus, follow up, active learning, feedback, and collaborative examination of student work. The mediating factor was a measure of the school's professional community. Questions about measures of impact asked about the impact on teachers' knowledge, practice, student learning outcomes, and teacher efficacy. Teachers were surveyed at least three months after participating in a professional development experience so that the researchers could gauge the impact that the experiences had on the teachers' practice (hereafter referred to as impact on practice).

To measure active learning, the survey asked about the extent to which the professional development experience:

- Engaged them actively in reflecting on their practice
- Engaged them in identifying specific areas of their practice that they needed to develop
- Gave them opportunities to test new teaching practices.

The researchers analyzed the data separately for each of the four state-level studies using a blockwise regression. The background questions part of the survey mentioned above were the six control variables and three blocks of intervening variables: structural features, learning processes, and professional community. Active learning was one of the structural features. This study found that the most important influence on reported impact on practice is the extent to which individual programs provide many opportunities for active learning. Table 1 shows the standardized regression coefficients and significance levels for the opportunity for active learning on practice, knowledge, teacher efficacy, and student outcomes.

Table 1

Standardized Regression Coefficients and Significance Levels for Active Learning

Variable	State-level study							
	Program A		Program B		Program C		Program D	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
Practice	.10	.01	.12	.00	.18	.01	.15	.00
Knowledge	.17	.00	.11	.01	.27	.00	.08	.17
Teacher efficacy	.13	.00	.20	.00	.05	.55	.16	.00
Student outcomes	.04	.48	.20	.00	.08	.24	.02	.72

Across all four state-level studies, the relationship between active learning and impact on practice is significant. The opportunity for active learning had a significant impact on knowledge in three of the four studies. The opportunity for active learning also had a significant impact on teacher efficacy in three of the four programs. The opportunity for active learning had significant impact on student outcomes in only one of the four studies.

The significance of professional community as a mediating variable became apparent when the researchers look at impact on knowledge and practice together. “The extent to which programs influenced the level of professional community activity was enhanced to the extent that their designers built in active learning processes, follow up and opportunities for collaborative examination of student work” (Ingvarson et al., 2005, p. 14). The study showed a significant relationship between active learning and teacher knowledge, practice and efficacy.

This dissertation studies whether new Arizona community college teachers have experienced professional development activities using active learning, what their experience with those activities were, how much they valued those experiences and whether they applied what they learned from those experiences in their classrooms.

New Teacher Experience

Brennan (2004), Campbell (2009), and Coddington (2005) investigated the new teacher experience. Brennan studied full-time occupational teachers in Nebraska community colleges, Campbell studied full-time community college teachers across all

content areas in three Southwest community colleges, and Coddington studied adjunct (part time) faculty in Indiana.

The focus of the Brennan (2004) study was on the discrepancies between teacher expectations of pedagogical training that they would receive, and the actual training that occurred. This mixed methods study was conducted with new, full-time community college faculty who started teaching in the 2000, 2001, or 2002 school years. These instructors taught in occupational fields at six community colleges located in an unnamed Midwestern state. The quantitative portion of the study included a researcher-designed survey sent to 96 teachers of whom 56 responded. From the 56 respondents, 21 were randomly selected as informants for semistructured interviews in the qualitative portion of the study.

Brennan (2004) looked for significant differences between faculty expectations of training and the training the teachers received. Brennan found that there was not a significant difference between teacher expectations of having a mentor assigned and having a mentor assigned. There were significant differences between faculty expectations and the actual training received in the areas of classroom instruction, curriculum development, developing a philosophy of teaching, writing a course syllabus, preparing course materials, writing a test, evaluating student performance on a test, assessing test effectiveness, and advising program majors.

The qualitative portion of Brennan's (2004) study revealed that teachers learned to teach in two ways—formally and informally. Informally, teachers used their own prior experience as they learned to teach. They taught the way they had been taught. Teachers

also sought out veteran teachers at their institutions as informal mentors, they reacted to changes in their classroom settings, and they used their own experience to promote teaching excellence. Teachers were confounded by their institution's bureaucracy, and they learned to navigate it on their own, including learning how to advise their students. Formally, they learned through inservices, workshops, institutes and other professional development training provided by the community colleges.

Brennan (2004) found that two thirds of the informants she studied reported not having any formal training provided. Only two of the six community colleges she studied provided formal training for teachers. This training took the form of inservices, workshops, institutes, and the requirement of professional development plans. The teachers that Brennan studied reported a need for more training, conducted apart from the school day and away from the institution. They reported a need for training in the areas of procedures/process, educational theories and teaching methods, and course management.

Campbell (2009) administered a survey questionnaire composed of open- and closed-ended questions to 185 faculty members in three community colleges. She was interested in what instructional methods they use, how they perceived their teaching effectiveness, what motivates them to change, and why they teach as they do.

As part of the Campbell (2009) study, participants in the survey were asked how they learned about teaching. Eighty-four percent of the teachers responded that they used trial and error in their classrooms. The next highest ranking was colleagues (79%), then previous teaching employment (60%), formal degree coursework (56%), internal training workshops (52%), and external course work related to teaching and learning (49%).

Other findings were as follows.

- Community college faculty are using instructional methods in the classroom other than just lecture.
- Community college faculty use a variety of methods to assess their students' performance and their own teaching effectiveness
- Community college faculty feel that college and district level assessment methods of their own performance are not necessarily adequate so they incorporate assessment methods of their own
- Despite feeling that good teaching is not rewarded, faculty do find professional development training beneficial to their teaching. (p. 94)

Coddington (2005) used multiple embedded studies to describe the case of how new, inexperienced, part time teachers prepare for teaching during their first three weeks of teaching in higher education. The study involved six new adjunct faculty from the central region of Ivy Tech Community College. Information was gathered using interviews, classroom observations, and focus groups.

Coddington (2005) found that these teachers did little or no research on teaching and learning prior to their actual teaching; none of the informants felt a need for this research. They believed that their knowledge of their subject area would be enough to compensate for their lack of teaching preparation. After issues and concerns arose during their first few weeks of teaching, the informants described their lack of preparation in teaching as a weakness.

Informants described frustration and concern over the discrepancy between what they expected and what they experienced in terms of help with curriculum, full-time faculty support, and student or administrative issues. Coddington (2005) concluded that “the college did a poor job of communicating with these new instructors in preparing them to teach, what to expect in the classroom, and supporting them during the first few

weeks of the semester” (p. 208). Coddington also found that the quality of instruction during the first few weeks of the semester suffered due to this lack of teaching preparation. The high level of confidence expressed by the informants prior to teaching was substantially shaken during their first few weeks. The informants depended on their own past experience and real-world applications to get through this period. Regardless of the difficulty of these first few weeks, each of the informants reported that they love teaching and that they want to continue.

Summary of Literature Review

This chapter reviewed literature related to the transformative learning theory of adult learning; four effective methods of professional development; active learning, peer group conferencing and professional development cases, and critical reflection; and learning to teach. Mezirow (2012) defined transformative learning and identified five learning domains (Mezirow, 1997). He emphasized the importance of critical reflection and discourse in adult learning. He contends that critical self-reflection on assumptions is more likely to occur within the context of reflective discourse among groups of individuals who each come to the discussion to examine their presumptions and habits of mind. Criticisms of the theory and tensions within the theory are discussed in detail within the body of the chapter.

Hubbal and colleagues (2005) studied the effect of 18 different reflection activities on the teaching perspectives of teachers at the University of British Columbia. They found significant changes in teacher’s perceptions of their roles. The participants

tended to become more balanced in their beliefs, actions, and intentions within their dominant teaching perspective after participating in the reflection activities. These changes indicate that participants reflected more deeply on their underlying pedagogical beliefs, intentions, and actions after the program than they did before.

Kreber (2005) tested the extent to which 36 science teachers engaged in any of the three levels of critical reflection as identified by Mezirow (1985): content reflection, process reflection, and premise reflection. Kreber found that all instructors showed evidence of reflection but premise reflection occurred the least often. She also found that teachers reported having engaged in reflection considerably more often than they provided evidence of such reflection. Additionally, the types of reflection that these teachers valued changed depending on context.

Several researchers (Hughes et al., 2010; Noblitt et al., 2010; Yadav et al., 2007) have studied the efficacy of case study teaching. Yadav and colleagues sent survey invitations to 139 faculty members from 23 states who had attended at least one workshop or conference conducted by the National Center for Case Study Teaching in Science. Faculty who responded to this survey overwhelmingly reported improvements in their students' critical thinking skills, their learning, and their participation when using case studies. Hughes and colleagues conducted three professional development workshops using case studies with 32 university faculty members. The purpose of these activities was to increase faculty members' skill in handling hot classroom moments such as comments on sensitive issues that trigger highly emotional responses from other class members. At the end of the semester, Hughes and colleagues conducted a follow-up

survey with the workshop participants. Respondents reported that they had tried new teaching techniques, gained confidence, and learned why a particular approach does/does not work. Teachers reported that they saw improvement in their classroom dynamics or in students' written work. The participants in this case study professional development activity affirmed the value of discourse, which ultimately led to changes in their behavior. Noblitt and colleagues conducted an experiment to study differences in student performances between students who were taught using a case study method, and those who were taught the same material using a traditional paper presentations approach. Analysis of the scores showed that for each factor, the average case study teaching method score was significantly higher than the average paper presentation teaching method score. Students were able to think more critically and improve their communication skills when their lessons were presented through case studies than when they were presented through paper presentation methods.

Ingvarson and colleagues (2005) surveyed participants in four statewide studies of eighty individual professional development activities undertaken by the Australian Government Quality Teacher Programme. As part of the larger study, the researchers considered the effect of active learning on teachers' knowledge, practice, and efficacy. They found that the most important influence on reported impact on practice is the extent to which individual programs provide many opportunities for active learning. The study showed a significant relationship between active learning and teacher knowledge, practice and efficacy.

Brennan (2004), Campbell (2009), and Coddington (2005) investigated how new

teachers learn to teach. Brennan found that teachers learn to teach formally and informally. Informally, teachers used their own prior experience and they sought out veteran teachers as informal mentors, they reacted to changes in their classroom settings, and they used their own experience to promote teaching excellence. Formally, they learned through inservices, workshops, institutes and other professional development training provided by the community colleges. Brennan also found that two-thirds of the informants she studied reported not having any formal training provided. The teachers that Brennan studied reported a need for more training, conducted apart from the school day and away from the institution.

Coddington (2005) found that new community college teachers did little or no research on teaching and learning prior to their actual teaching. After issues and concerns arose during their first few weeks of teaching, the informants described their lack of preparation in teaching as a weakness. Informants described frustration and concern over the discrepancy between what they expected and what they experienced. The informants depended on their own past experience and real-world applications to get through this period. Regardless of the difficulty of these first few weeks, each of the informants reported that they love teaching and that they want to continue.

Active learning, peer group conferencing, professional development cases, and critical reflection are all effective instructional techniques that are congruent with the transformative learning theory of adult education. Professional development activities are instructional situations where faculty are the students. When adults are the students, teaching methods that follow adult learning theory are appropriate. This dissertation

questions whether new Arizona community college teachers have experienced professional development activities conducted using any of these four effective methods of professional development.

CHAPTER III

METHODS

This chapter describes the methodology used in this study including a description of the research design, the development of the survey instrument and the interview protocol, methods of data collection and analysis, and descriptions of the participants of this study.

Research Design

In this study, research was conducted using a mixed methods sequential explanatory design (Creswell, 2003). In this design, the research is conducted in two distinct phases, quantitative first, followed by qualitative. Priority was assigned to the quantitative portion of the study because the research questions are more easily addressed through a survey. The qualitative portion of the study consisted of semistructured interviews, which greatly enriched the survey results by clarifying and explaining which learning experiences were most valuable to new teachers and whether the teachers implemented what they had learned in those professional development experiences. The qualitative phase built upon what was learned in the quantitative phase.

The two phases of the study were integrated at several points. First, the participants for the interviews were purposively chosen from the respondents of the survey. Second, the interview questions were grounded in the results of the survey. Finally, the findings of the qualitative portion of the study helped to clarify the results of the quantitative phase of the study.

Survey

The survey instrument was *the Learning to Teach Survey* (Fanutti, 1993) with three modifications. The first modification was to administer the survey online rather than on paper. Secondly, questions specific to nurse educators were deleted because this study sought information from a broader audience. Third, items were added to the survey to address how available the four previously identified effective methods of professional development are to new Arizona community college teachers, and how valuable they are.

Pilot

Although the survey was based on the Learning to Teach Survey, there were enough modifications to warrant a pilot study of the new instrument. Email invitations to participate in a pilot of the modified survey (see Appendix A) were sent via Survey Monkey to 79 teachers at a rural community college in Arizona. Forty-six teachers completed the survey for a response rate of 58%. These participants were excluded from future participation in the main study.

The pilot survey included the instruction, “If you have any comments regarding the content or design of this survey, please write them in the space below.” There were eight responses to this instruction (see Appendix B). Seven made statements like, “Simple and convenient” but made no suggestions for improvement. One comment described the respondent’s experience as a new teacher; however, it was irrelevant to the design of the survey. The last comment stated that the definitions of the effective methods of professional development were confusing, and recommended that the order of

the definitions be rearranged to parallel the order of the questions.

The Chronbach's alpha coefficient of reliability for the modified survey was 0.812, which satisfies the minimum level of .700 (Gliem & Gliem, 2003). None of the correlations were above 0.900, indicating that each item is unique (Ferketich, 1991).

Thirty-three faculty members did not respond to survey. A phone survey of 25 randomly selected nonresponders was conducted to check for nonresponder bias. Fifteen faculty members reported that they received the survey but chose not to respond, three could not remember whether they received the survey or not, three were no longer employed at the college, and four could not be reached. Fourteen of the 15 who did not respond to the survey said they were too busy or they were uninterested in the survey. The fifteenth nonrespondent said that she had chosen not to answer the survey because she was concerned that there might be negative repercussions to her. This respondent was the only one who showed nonresponder bias. Therefore, there does not appear to be general nonresponder bias in the pilot survey.

Survey Instrument

On the final survey instrument, the first two questions on the survey served as filters in the case that some of the respondents did not meet the research criteria. The next five questions gathered information about the respondents themselves: highest level of education completed, the subject area of their degree, years of teaching experience outside of the community college, primary teaching area, years of non-teaching experience in their primary teaching area, and what brought them to teaching. Following the background questions was a set of 26 items that described activities teachers used to

learn how to teach, and a set of four items that described the four effective methods of professional development: active learning, critical reflection, peer group conferencing, and professional development cases. Respondents indicated both the availability of the activity and the value—rated on a 5-point Likert as follows: not valuable = 1, slightly valuable = 2, moderately valuable = 3, very valuable = 4, extremely valuable = 5. The same Likert scale was used for the next four items that described each of the four effective methods of professional development. Next was an open-ended question asking for a description of any professional development activity that the respondent found especially positive or negative in nature. The final question asked if the respondent was willing to participate in a follow-up interview.

Data Collection

The researcher contacted the chief academic officers (CAO) at each of the 21 public community colleges in the state of Arizona to request lists of new community college teachers at their institutions. The researcher sent two email requests and subsequently phoned the offices of non-respondents directly. The CAOs of five schools did not respond. Two CAOs denied permission for the survey because they do not allow campus-based research from external institutions. Two colleges approved the survey but they had no faculty who met the research criteria. The remaining 12 colleges agreed to participate in the study. Five of the participating colleges were rural colleges with multiple campuses that served geographically large counties. Enrollment at these rural colleges ranged from 2,583 (Integrated Postsecondary Education Data System [IPEDS], 2014) to 13,216. The mean enrollment at these colleges was 7,288. These rural colleges

served the Navajo, Apache, Tohono O’Odham, Hopi, and Paiute reservations. Two of the participating colleges were located in small metropolitan areas. The enrollment at one of these colleges was 5,618 on two campuses. Enrollment at the other was 11,764 on five campuses. Two community college districts also participated in this study. Both districts were in large urban areas. The colleges in one district chose to participate or not participate at the site level rather than at the district level. Four colleges in this district participated. Enrollment at these colleges ranged from 7,338 students to 16,527 students. The mean enrollment at these four colleges was 11,826. All colleges in the second district participated. This urban district had six campuses. The enrollment in the district was 47,374 students. Institutional Research Board approval was required and received from the Maricopa Community College District, the Pima Community College District, and Arizona Western Community College.

At the 12 participating colleges, three CAOs approved the survey and released their faculty email addresses, but they did not distinguish between new faculty and others. Email requests were sent to these faculty members via Survey Monkey software. The email request included informed consent information (Appendix C) and a link to the survey with an explanation that clicking on the link constituted acceptance of the informed consent. The CAOs of nine colleges forwarded the email directly from their offices to their faculty listservs. However, when CAOs forwarded the email and link to their faculty listservs, they did not filter the lists for experienced faculty versus new faculty.

Using lists that were not limited to new faculty presented three problems. First,

the lists needed to be filtered to exclude faculty who did not meet the research criteria. The target population for this survey was Arizona community college teachers with less than 5 years teaching experience at the community college level. In order to identify the target group, the first question on the survey asked, "How many years have you been teaching at the community college level?" If the respondent answered more than 5 years, they were routed to the closing page of the survey. Similarly, the second question asked, "Do you presently teach: Six credits (90 clock hours) or more? Less than six credits?" If the respondent answered less than six credits, they were routed to the closing page of the survey. Only the responses of teachers with less than 5 years teaching experience at community colleges who were teaching at least six credit hours were included in the analysis of the survey.

The second problem created by using faculty listservs was that the researcher did not have the ability to randomly select participants who met the survey criteria. Therefore, the sample for this survey was one of convenience rather than a random sample.

Third, because the CAOs did not report how many invitations were sent to eligible respondents, the response rate was calculated indirectly. IPEDS collects data from all institutions of higher learning that participate in the federal student financial aid programs including human resources reports. IPEDS keeps records of the number of people hired in instruction at each college. IPEDS does not distinguish new hires who have previous community college teaching experience from novice teachers. It also counts instructional administrators and instructional support staff in its hiring numbers.

However, the IPEDS number of new hires represents the best estimate of the maximum possible number of new community college teachers in the participating colleges. IPEDS (2014) reported 224 instructional hires at participating colleges over the 5-year period of 2007 through 2011, the most recent data available. Eighty-three respondents fit the research criteria and completed the survey. Therefore, the survey response rate was estimated to be 37%. This method of estimating the survey response rate was a limitation of this study.

Survey Analysis

Research question one asked what learning experiences and professional development experiences were available to help new Arizona community college teachers learn to teach. By definition, items that were reported by less than 10% of respondents were considered unavailable. Items that were considered available were ranked according to frequency. Those items with the highest frequency scores were considered the most available.

Research question two asked how valuable new Arizona community college teachers considered their learning experiences and professional development experiences in preparing them to teach. To determine value rankings, the questionnaire offered a 5-point Likert scale. Mean values and standard deviations were calculated for each item.

There is controversy over whether it is appropriate to analyze data generated by using Likert scales in parametric statistical procedures that require interval data rather than ordinal data. Some scholars, such as Kostoulas (2015), asserted that any numerical calculation applied to the data are invalid in all cases. However, others such as Grace-

Markin (2008), argued that under certain circumstances numerical calculations are acceptable. The scale should be at least 5 points, which is what this survey used. A Chronbach alpha coefficient of reliability should be calculated. The alpha for this survey was 0.93, which satisfied the minimum level of 0.700 (Gliem & Gliem, 2003). In addition, Grace-Markin recommended that researchers run the nonparametric equivalent to the test. If the results were the same, the researcher could have confidence in the parametric test. Appendix D contains the comparison of medians and interquartile ranges (Kostoulas, 2015) with means and standard deviations, along with sparklines of the frequencies of each of the learning experiences. The items are sorted by mean, highest to lowest. The medians and the means are consistent throughout all 26 items with the exception of taking a workshop on curriculum development. The median value for this item is four. The average value for this item is 3.45 which, when rounded to zero significant digits, is three. The difference between rounding down to three and rounding up to four for this item is only 0.05.

The researcher created sparklines for the frequency distributions of each of the items. Sparklines are graphs without axes. They are useful for visually determining the shape of data. In this case, a visual inspection of the series of sparklines shows a progression from graphs that skew left for the more highly valued items, and graphs that show more central tendencies for the less highly valued items. The comparison of the medians to the means shows that, for this data, it was appropriate to use numerical processes.

A closer inspection of Appendix D shows that of the 26 items, 19 had a median

score of 4. The researcher chose to use mean scores rather than medians because the means showed a finer distinction between scores. The items were ranked by mean value. Items with higher mean scores were considered more valuable than those with lower scores. Qualitative data from the interviews were also used to analyze the value of professional development activities. That analysis is described in the interview section below.

Research question three asks what the underlying factors were in the ways new community college teachers learned to teach. Identification of underlying factors was determined by a principle components factor analysis using Varimax rotation with Kaiser normalization. Statistical analysis was completed using the SPSS statistical software. Eigenvalues and a skree plot were used as criteria for factor retention. Factors with Eigenvalues above 1.000 were retained (see Appendix E). Communalities were examined after the number of factors was determined. Variables with communalities less than 0.500 were excluded. Then factor loadings were inspected to determine if any factors loaded at less than 0.320 as recommended by Tabachnick and Fidell (2001). Next, crossloading items were examined to see whether they were strong loaders (0.500 or higher) on any factors. Crossloading items with all factors below 0.500 were excluded. Finally, the factors were named by finding common themes across the items in each factor.

Interview

Research question two asks how valuable new Arizona community college teachers considered their learning experiences and professional development experiences

in preparing them to teach. Qualitative data were used to answer the second research question. As with the survey questions, the interview questions also addressed how valuable teachers consider their learning experiences.

Informants

The informants for the interviews were purposively chosen from the respondents to the survey. The final question on the survey asked, “Are you willing to be contacted for a follow-up interview?” Forty-three respondents indicated a willingness to be interviewed; however, only 37 provided contact information. Information about these 37 potential informants was placed in a spreadsheet with columns labeled respondent number, teaching experience, active learning rating, critical reflection rating, peer group conferencing rating, professional development case rating, highest rated from survey, lowest rated from survey, and comments (see Appendix F). The respondent number was the Survey Monkey identifier of the respondent. This preserved anonymity while the researcher reviewed the informant’s responses. The teaching experience column listed teaching experience outside of the community college setting. The next four columns listed the respondent’s answers to the survey questions about effective professional development. Responses included NV (not valuable), SV (slightly valuable), MV (moderately valuable), VV (very valuable), and EV (extremely valuable). If a respondent answered that a professional development activity was not available, that space was left blank.

The next column in the spreadsheet listed the highest rated items by that respondent from the survey. If a respondent gave his or her highest score to more than

one item, the number of items (in parenthesis) with that score preceded the list of items. For example, (3) guidance from mentors, experimenting, student evaluations, meant that this respondent gave the highest rating to those three items. The same method was used for the column listing the lowest rated items from the survey.

The comments column included the researcher's rationale for excluding or including each informant. Many of the respondents had teaching experience outside of the community college. Thirteen had more than 5 years of teaching experience in higher education. These potential informants were excluded. The purpose of this study was to learn how new community college teachers learned to teach. Even though these respondents had less than 5 years teaching experience at community colleges, the experience of teaching at other institutions of higher education was close enough to teaching at a community college that these respondent would not be likely to accurately represent the novice teacher experience.

Another respondent had less than 5 years of experience teaching in higher education, but she or he had 14 years of experience teaching in high schools. Teaching in high schools is similar enough to teaching in community colleges that the researcher excluded this respondent. One respondent fit the criteria for years of teaching experience but she or he did not have any experiences with effective professional development and so she or he was excluded.

The responses of the remaining 22 potential informants were analyzed for the informant's ratings of their experiences with effective professional development (see Appendix G). The goal was to identify informants who reported either highly positive or

highly negative ratings of each of the four effective professional development experiences. Three effective professional development experiences, critical reflection, peer group conferencing, and professional development cases, each had respondents who rated them highly, extremely valuable, and others who rated them as only slightly valuable, the lowest rating given. All but one of those who reported experiencing professional development using active learning rated it as either extremely valuable or very valuable. The lowest rating for this professional development activity was moderately valuable.

The researcher identified seven respondents who together reported the highest and the lowest ratings for each of the effective professional development experiences. One of these potential informants was an extreme negative case. This respondent did not rate any items as extremely valuable. He also rated 14 items as only slightly valuable including both of his experiences with effective professional development. Another respondent represented an extreme positive case. She rated 24 out of 28 items as extremely valuable including each of the three effective professional development activities in which she participated. After these seven potential informants were selected, their respondent numbers were matched with their contact information and they were invited to participate in interviews. All seven agreed to be interviewed.

Phil was the extreme negative case. He had 2 years of teaching experience, one at the high school level, and one at a 4-year college. He participated in both critical reflection and peer group conferencing professional development experiences and rated both of them as only slightly valuable. These were the lowest ratings given to the

professional development experiences. Phil did not rate any of the 26 professional development experiences as extremely valuable, and he rated 14 items as only slightly valuable.

Serena was the extreme positive case. She had 2 years of teaching experience at the elementary school level. She participated in active learning, critical reflection, and peer group conferencing professional development experiences, each of which she rated as extremely valuable. She also rated 21 of the 26 professional development experiences as extremely valuable, and she rated the other four as very valuable, the next highest rating.

Antonio had 3 years of teaching experience, all at the graduate level. He participated in three of the four effective professional development activities: active learning, critical reflection, and professional development cases. He rated both active learning and critical reflection as extremely valuable, and professional development cases as very valuable. He was included because he gave active learning and critical reflection the highest ratings.

Madelyn had 4 years teaching experience at the university level. She had participated in all four effective professional development activities. She rated active learning as very valuable, critical reflection as very valuable, peer group conferencing as extremely valuable and professional development cases as only slightly valuable. She was included because she gave the highest rating to peer group conferencing, and the lowest rating for professional development cases.

Sophia had 3 years of teaching experience outside of the community college: two

at a 2-year college and one as a graduate assistant. She rated active learning as extremely valuable, critical reflection as very valuable, peer group conferencing as very valuable, and professional development cases as extremely valuable. She was included because she rated her experiences with both active learning and professional development cases as extremely positive.

Chloe had 5 years of teaching experience at a junior high school, and 2 years at a 2-year college. She rated active learning as extremely valuable, critical reflection as slightly valuable, and peer group conferencing as moderately valuable. She was included because, although her total teaching experience was 7 years, junior high school teaching was sufficiently different from teaching in a community college that she could be considered a new community college teacher. She also had experience with three of the four methods of effective professional development. She gave the lowest rating to critical reflection.

Emma taught at a university as a teaching assistant for 5 years but she had no years of paid teaching experience outside of the community college. She rated active learning as moderately valuable, critical reflection as very valuable, and peer group conferencing as moderately valuable. She is included because she fits the definition of new community college teacher. Her responses to the questions on the 26 learning experiences were balanced: they skewed neither high nor low. She had experience with three of the four methods of professional development, and she rated active learning as only moderately valuable, the lowest rating in the survey.

Table 2 shows that together, these seven informants assigned the highest and the

Table 2

Ratings of Effective Professional Development Activities

Respondent	Active learning	Critical reflection	Peer group conferencing	Professional development case
Phil		Slightly valuable	Slightly valuable	
Serena	Extremely valuable	Extremely valuable	Extremely valuable	
Antonio	Extremely valuable	Extremely valuable		Very valuable
Madelyn	Very valuable	Very valuable	Extremely valuable	Slightly valuable
Sophia	Extremely valuable	Very valuable	Very valuable	Extremely valuable
Chloe	extremely valuable	Slightly valuable	Moderately valuable	
Emma	Moderately valuable	Very valuable	Moderately valuable	

lowest ratings to each of the four effective professional development activities. They also include one extreme positive case and one extreme negative case.

Interview Protocol

Each interview began with some housekeeping content. The researcher asked for permission to record the interview, the informant received two physical copies of informed consent, one of which she or he signed, and one which she or he kept. The researcher reminded the informants that the dissertation would use pseudonyms for both the informants and their colleges. The researcher explained member checking for this study; the informant would receive a transcription of the interview via email, which they could review for corrections, additions, and/or deletions. Finally, the researcher asked for permission to follow up with additional questions if needed.

The interview protocol (see Appendix H) was developed to enhance the results of the survey. The first two questions examined the background of the informant. The first

question repeated one of the survey questions, “What brought you to teaching?” The second question asked the informant to describe his or her school. The interview continued with question number three asking the informant to describe his or her experience with the particular effective professional development activity she or he rated most highly on the survey. Questions four and five asked whether the informant had tried the instructional method learned during that particular professional development method, and if so, what kinds of responses she or he got from the students. The purpose of these two questions was to go beyond the typical evaluation of professional development activities. Most faculty development activities are not evaluated, and those that are typically ask whether the participants were satisfied with the experience (Salmon, 2006). These questions asked whether the activity resulted in behavioral changes in either the participant or her or his students. Question six asked about the factors identified through a factor analysis of the survey results. As the informants answered questions three through five, the researcher listened for references to any of the underlying factors. Question six specifically asked about the faculty experiences with those factors that had not already been described. As a follow-up, question seven asked whether the informant’s experiences with each of the factors had improved her or his teaching. Questions eight and nine were additional questions for the extreme positive and the extreme negative cases to check for predisposition in the informants. Question eight asked what types of professional development experiences would help them. Question nine asked the extreme negative case what it would take to make a professional development experience valuable. The extreme positive case was asked what it would take to make a professional

development experience not valuable. An extreme negative case may have difficulty answering these questions. An extreme positive case may suggest that all activities are valuable.

Interview Analysis

The qualitative analysis of the interview data began with a reading of all of the transcripts of the interview as suggested by Corbin and Strauss (2008). The purpose of this reading was to allow the researcher to attempt to understand the experiences of the informants and to listen to their messages before any analysis occurred.

Next, the researcher identified 10 analytic files (Glesne, 2006)—one file for each of the four effective professional development activities and one for each of the six factors. Initially the raw data were organized into these files using the MAXQDA software. The data within each of the analytic files were coded using incident-to-incident coding and constant comparison (Charmaz, 2013). Themes emerged from the codes and these themes were used to answer research questions two and three.

For example, during one interview Emma said, “The people coming to my college for the most part are not like me.” This statement caught the researcher’s attention as she read the transcript so she created a code called student characteristics and tied this statement to that code. Later in Emma’s interview she said, “We teach a more fragile population....” so that statement also got coded under student characteristics. She made multiple statements that were coded to student characteristics, so the transcripts from the other informants were also reviewed looking for descriptions of their students, and each informant made at least one statement fitting this code. Chloe said, “You walk into a

community college classroom and half the students are older than you.” Phil said, “The population that I’m dealing with is so different from my past experience....” The process of reading within and between interviews continued as each comment related to student characteristics was coded. The MAXQDA software can pull up every quote under any particular code or combination of codes from each informant or combination of informants. I used this feature to focus on, in this case, what the respondents as a whole had to say about student characteristics.

The researcher also used memo writing to help understand the data and to solidify its analysis. Memos were tied to specific quotes within the MAXQDA software. They were typically reflections on concepts or relationships the researcher observed between what one particular informant said to what others had said. The memos sometimes identified patterns and sometimes they tied patterns to transformative learning theory. For example:

Here is an example of how the community college teachers were surprised at their student’s characteristics. Emma compared herself to her students in a way that made it seem as though she had previously assumed that her community college kids would come from a similar background to her own—White, upper-middle, college-oriented. Otherwise, why the surprise when she first experienced first generation students? Other informants, Phil, Madelyn, Sophia, all expressed similar ways of projecting their own (various) backgrounds onto their expectations of what their students are. This is an activating event for them on a smaller scale than their new teacher experiences are. All adjusted their views quickly.

Finally, the survey included an open-ended question that asked, “Was there a specific professional development activity (not limited to the items on this survey) that you found especially positive or negative? Please describe.” Responses to this question were included in the qualitative analysis. All of the text responses were tabulated into a single document. This document was then entered into MAXQDA and included along with the transcripts of the interviews. The document was then coded with all of the interview transcripts. The source of quotations from these results, were referred to as an anonymous respondent.

Summary of Methods

This chapter explained the methodology used in this study of how new Arizona community college teachers went about learning to teach. This chapter also identified the research design of the study, that is, a mixed-methods study using a sequential explanatory design with priority assigned to the quantitative phase over the qualitative phase. Additionally, this chapter described the development of the survey instrument including the pilot survey, data collection procedures, and methods of analysis of the survey data. Finally, the chapter described the development of the interview protocol, descriptions of the informants, and methods of analysis of interview data. The next chapter describes the results obtained by using these methods.

CHAPTER IV

RESULTS

This chapter presents the results of the survey and interviews organized according to the three research questions introduced in Chapter I. First, this chapter reports the availability of certain learning experiences and professional development activities. Second it reports the perceived value of those activities, and third, it reports the underlying factors in how new Arizona community college teachers learn to teach.

Results of Research Question One

Research question one asked what learning experiences were available to help new Arizona community college teachers learn to teach and how available certain effective professional development methods were to new Arizona community college teachers. By definition, items that were reported by less than 10% of the respondents were considered unavailable. Table 3 shows the availability of the 26 learning experiences. None of the 26 learning experiences listed in Part III of the survey were reported by less than 10% of the respondents. The least reported activity was making videos of myself in a teaching situation. Only 56% of the respondents reported having done this. The next least reported activity was working as a graduate assistant. Sixty percent of the respondents reported that they had participated in this activity. The availability of the remaining 24 learning experiences ranged from 79% to 100%, with 10 learning experiences available to 100% of the respondents. The average availability of these 24 learning experiences is 96%.

Table 3

Availability of Learning Experiences

Activity	Availability (%)	Response count
Reflecting on my teaching process	100	82
Using my natural ability	100	83
Seeking guidance from mentors	100	82
Applying my own experiences as a student	100	83
Receiving feedback through informal discussions with students	100	81
Improvising in response to unexpected situations in class	100	82
Seeking guidance from fellow teachers	100	82
Trying a variety of teaching methods using the trial and error method	100	82
Networking with other professionals	100	82
Participating in faculty development activities	100	82
Discussing teaching strategies with colleagues	99	82
Modeling former teachers	99	82
Following school policies and procedures	99	82
Experimenting in a purposeful manner	98	81
Talking with my family members	96	82
Observing colleagues teaching	95	82
Using formal course evaluations from students	95	81
Attending seminars in my field	94	83
Reading journals in my subject area	94	83
Receiving feedback from an administrative evaluation	94	82
Asking for guidance from chairpersons or directors	94	82
Attending seminars on teaching strategies	89	82
Taking workshops on curriculum development	82	82
Taking formal courses in education	79	82
Working as a graduate assistant	60	82
Making videos of myself in a teaching situation	56	82

All four of the effective professional development activities listed in Part IV of the survey met the definition of availability for this study. However, their availability is much lower than that of the learning experiences listed in Part III. The availability of both the active learning and the critical reflection activities was 77%, peer group conferencing was available to 67% of the respondents and professional development cases were available to only 38% of respondents.

Results for Research Question Two

Research question two asked how valuable new Arizona community college teachers considered those 26 learning experiences for preparing them to teach, and how valuable new Arizona community college teachers considered their effective professional development experiences in preparing them to teach.

Twenty-Six Learning Experiences

Table 4 provides the average value ratings and standard deviations of how valuable the respondents found each of the 26 learning experiences listed in Part III of the survey. The perceived value varies from activity to activity with standard deviations increasing as the perceived value decreases. All but two learning experiences had average value ratings of 3.00 or higher, indicating that, on average, participants found most learning experiences at least moderately valuable. The two learning experiences rated less than moderately valuable are talking with my family members (2.85) and making videos of myself in a teaching situation (2.41).

Table 4

Value Ratings of Learning experiences for Learning to Teach at a Community College

Activity	Value rating average	SD
Reflecting on my teaching process	4.35	0.760
Using my natural ability	4.24	0.835
Seeking guidance from mentors	4.18	0.877
Applying my own experiences as a student	4.17	0.881
Discussing teaching strategies with colleagues	4.16	0.782
Receiving feedback through informal discussions with students	4.10	0.903
Experimenting in a purposeful manner	4.10	0.856
Improvising in response to unexpected situations in class	4.09	0.892
Seeking guidance from fellow teachers	4.02	0.889
Modeling former teachers	3.86	1.046
Working as a graduate assistant	3.76	1.234
Trying a variety of teaching methods using the trial and error method	3.74	0.953
Observing colleagues teaching	3.71	0.916
Attending seminars in my field	3.64	1.128
Networking with other professionals	3.60	1.087
Attending seminars on teaching strategies	3.52	1.156
Taking formal courses in education	3.48	1.200
Reading journals in my subject area	3.47	1.095
Taking workshops on curriculum development	3.45	1.171
Participating in faculty development activities	3.38	1.062
Receiving feedback from an administrative evaluation	3.37	1.058
Using formal course evaluations from students	3.35	1.160
Following school policies and procedures	3.12	1.144
Asking for guidance from chairpersons or directors	3.08	1.189
Talking with my family members	2.85	1.262
Making videos of myself in a teaching situation	2.41	1.147

In an attempt to better understand the relative rankings, the researcher organized the learning experiences into four general categories: reflective activities, classroom application, formal methods of learning teaching strategies, and college-based activities. The reflective activities include reflecting on my teaching process, seeking guidance from mentors, discussing teaching strategies with colleagues, receiving feedback through informal discussions with students, seeking guidance from fellow teachers, and observing colleagues teaching. Each of these informal, unstructured learning experiences required introspection on the part of the teacher. The next category of activities took place in the classroom: using my natural ability, applying my own experiences as a student, experimenting in a purposeful manner, improvising in response to unexpected situations in class, modeling former teachers, and trying a variety of teaching methods using the trial and error method. Each of these informal learning experiences required the teacher to use their experience and personal resources to develop teaching techniques. The next group of activities was more formal methods of learning teaching strategies: attending seminars in my field, networking with other professionals, attending seminars on teaching strategies, taking formal courses in education, reading journals in my subject area, and taking workshops on curriculum development. Each of these learning experiences required the new teacher to pursue formal training external to the classroom. The final group of activities was college-based activities: participating in faculty development activities, receiving feedback from an administrative evaluation, using formal course evaluations from students, following school policies and procedures, and asking for guidance from chairpersons or directors. Each of these learning experiences

required the teacher to take part in the instructional framework of the college.

An inspection of the rankings revealed a definite pattern in the average value ratings received within the four groups. New teachers reported that learning experiences that were reflective and those that applied to the classroom were the most valuable in learning how to teach. The mean value of ratings across the reflective group (4.09) was slightly higher than the mean value ratings across the classroom application group (3.99). As can be seen in Table 4, while the rankings of specific items from these two groups were intermingled with one another, all were more highly ranked than the items for the remaining two groups. The activities describing more formal methods of learning teaching strategies had a mean of 3.52 and ranked consecutively from 14th through 19th places. Similarly, the college-based learning experiences had the lowest mean value of the four groups across all items (3.26), and the lowest rankings (20th through 24th).

Four Effective Professional Development Activities

Table 5 provides the average value ratings and standard deviations of how valuable the respondents found each of the four effective professional development activities listed in Part IV of the survey.

Active learning was rated highest of the four activities. The most common rating, very valuable, was reported by 25 (40%) of the 62 respondents to this question. The next most common rating, extremely valuable, was reported by 20 (32%) of the respondents. Critical reflection was rated the next highest of the four activities. The most common rating, very valuable, was reported by 22 (35%) of the 62 respondents who answered this

Table 5

Value Ratings of Effective Professional Development Activities

Answer options	NV	SV	MV	VV	EV	N/A	Rating average	SD	Participant count
Active learning	2	4	11	25	20	19	3.92	1.03	62
Critical reflection	0	10	16	22	14	19	3.65	1.00	62
Peer group conferencing	2	7	18	15	12	27	3.52	1.09	54
Professional development case	1	5	9	13	3	50	3.39	0.99	31

Note. NV = not valuable, SV = slightly valuable, MV = moderately valuable, VV = very valuable, EV = extremely valuable, N/A = not applicable.

question. The next most common rating, moderately valuable, was reported by 16 (26%) of the respondents. Peer group conferencing was rated third highest of the four activities. The most common rating for this activity, moderately valuable, was reported by 18 (33%) of the 54 respondents who answered this question. The next most common rating, very valuable, was reported by 15 (28%) of the respondents. The lowest rated activity was professional development cases. The most common rating for this activity, very valuable, was reported by 13 (42%) of the 31 respondents who answered this question. The next most common rating, moderately valuable, was reported by 9 (29%) of the respondents.

The average value ratings for these four activities ranged from 3.39 for professional development cases, to 3.92 for active learning. When compared to the value ratings of the 26 learning experiences rated in Part III of the survey, the score for active learning falls between seeking guidance from fellow teachers, and modeling former teachers. This places active learning below the reflective activities and into the classroom application category in its value to the new teachers. The value rating of professional

development activities that used critical reflection was 3.65. When compared to the value ratings of the 26 learning experiences, the score for professional development activities using critical reflection falls between observing colleagues teaching, and attending seminars in my field. This places professional development activities using critical reflection below both the reflective activities category and the classroom application category, and into the formal methods of learning teaching strategies category in its value to the new teachers. The average value rating for professional development activities using peer group conferencing was 3.52. This rating is equal to the rating assigned to attending seminars on teaching strategies. This also places peer group conferencing into the formal methods of learning teaching strategies category in its value to the new teachers. Professional development activities using professional development cases received the lowest ratings, 3.39. This score falls between the scores for taking workshops on curriculum development, and participating in faculty development activities. This places these activities on the border between the formal methods of learning teaching strategies category and the college-based learning experiences category. The following sections describe selected informants' experiences with the four effective methods of professional development.

Active Learning

Interview informants had little trouble identifying professional development experiences that were taught using active learning. All of the comments about active learning were positive. The informants contrasted their active learning professional development experiences with their experiences with other types of professional

development. Chloe said:

Sometimes you'll go to a training and they'll give you these great ideas but by the time you get home you just have a stack of notes and it doesn't really have meaning or value to you. But being able to participate in it and see how the students would experience it, you know how they would relate to it and how to best use it with your students.

Emma summed it up more succinctly. She said, "I can recall the cool activities we did. I cannot recall all of the cool lectures." The informants described very concrete activities that were easily applicable to the classroom when they recounted the topics they learned in their active learning professional development. One anonymous respondent talked about concept mapping with mobile devices. Emma described a game called, "What's it to ya?" that she used to generate discussion about various sociological concepts. Sophia substituted a film analysis activity coupled with a paper for a typical research paper. The most intricate example of a professional development activity using active learning came from Chloe. She described a series of workshops put on by the Arizona Geographic Alliance. They created lesson plans, worksheets, answer keys, maps, diagrams, and many other supplemental materials. Rather than simply showing them to instructors, they taught the lessons as if the instructors were students. As instructors work through the lessons, they discussed how they would adapt them to their classrooms. Chloe said her lab on the hydrological cycle "is one of the students' favorites. When they can see how something works, it's a lot better than reading a selection and then answering questions." Each of the informants who applied the activities they learned through active learning professional development mentioned that the students loved what they did. None provided empirical evidence of improved student learning.

Critical Reflection

This section discusses the informants' experiences with professional development activities that used critical reflection as a teaching technique. Further discussion of the informants' experiences with reflection outside of the professional development activities can be found under research question three, experimentation and reflection.

Serena described the process of critical reflection that is representative of the reflective professional development activities reported by informants:

We were asked during some professional development activities to think of different experiences that we've had in the classroom, write them down, and then talk with each other about them. I find writing things down and reading it over helpful because you rerun the classroom scenario and then you might get a different perspective on it. You think about how you would handle it differently in the future. Then you talk about it with your peers and you might also get a different perspective on it. They can challenge what you said, or maybe even agree with what you said and reinforce whatever you did.

The informants who reported participating in professional development using critical reflection also reported implementing what they learned. Topics included classroom management techniques, lesson planning processes, and teaching methods. Antonio learned some principles of andragogy through critical reflection professional development activities. Consequently he changed his teaching methods to include group dynamics, interdisciplinary activities, and more active engagement from the students. When the informants were asked how the students responded to the implementation of these techniques, they gave similar responses. They said that they saw positive results because the students told them that they enjoyed the lessons in which the teachers used something they learned from their professional development. Antonio said, "Students say I like the way that you teach this class, or they enroll in the next class in the series, or

they refer other students to my class.” None of the informants reported negative experiences with their critical reflection professional development.

Peer Group Conferencing

The interview informants stated that the most valuable thing about peer group conferencing was the opportunity to engage in constructive discourse with their peers. An anonymous survey respondent described a professional development activity that was especially helpful, “When I first started as faculty the dean met with the new hires and we had an opportunity to network with people outside of our department/division. It was wonderful to hear the perspective of faculty outside my teaching area.” Another respondent said, “An assessment workshop I attended was great. Sharing strategies with other instructors and collaborating on workshop assignments proved beneficial.” A third anonymous survey respondent described the value of informal interactions with peers regardless of the stated purpose of professional development:

I primarily benefit from sharing ideas with colleagues during professional development. There isn't a lot of time allotted to this in our day-to-day practice, so getting to talk to other teachers at professional development usually trumps whatever formal activity is planned.

Serena described the professional development experiences that were most helpful as, “those that you get to interact with people that are your peers...other community college math teachers...and every now and then I also like working with people from different departments like the English department and the reading department.” Even the extreme negative case informant, when questioned about what would make a professional development activity useful, described participating in peer

group conferencing.

If the school would, maybe once per year or once a semester, say we're going to come in for the day and we're going to have a chance to interact with other instructors in your discipline and other instructors in other discipline. I'm amazed at what they've come up with and I'd love to meet with somebody like that.

However, one anonymous respondent warned that "When educators come together and complain about the issues in classrooms without discussing how the issues were resolved it is not helpful and can discourage wanting to teach."

Teachers were asked whether they implemented what they had learned during professional development activities using peer group conferencing. Serena immediately recalled implementing an activity that used excel spreadsheets to track the student's weekly schedules in a developmental math class. She thought the activity not only taught mathematical concepts but it was also something they could use to "be more productive in their college career." Madelyn said that she used "a wider range of how to explain things to students" after participating in peer group conferencing. She noted that there was "no way to measure" the student responses. However, she did implement some classroom management techniques she learned through peer group conferencing. She had a lab section of 15 students and two of them were having difficulties with each other. The techniques she learned through professional development allowed her to diffuse the problem. In this case, the students' behavior changed as a direct result of the implementation of the techniques Madelyn learned through her peer group conferencing experience.

Professional Development Cases

Enthusiasm for professional development cases was mixed among the interview informants. Antonio described a pathophysiology to disease class he took in medical school that was taught using case-based learning. “You’re presented a case, you go through it in steps with everyone else, then you research it on your own. I still pull from what I did there with the students I have now.” Others described professional development case activities that were centered on teaching techniques. When asked to describe an especially helpful professional development experience, one anonymous survey respondent said, “As a graduate student, we used to have teaching seminars. Sometimes we would study cases and share reactions. Then the specialist would parse out the scenarios and discuss pros and cons of each reaction.” Sophia was notably enthusiastic about professional development cases. She was in her second year of her college’s new faculty orientation where they presented scenarios, discussed them, and then implemented them in their classrooms. Their peers were invited to observe the implementations. “I’m like, oh wow, that’s awesome, I didn’t even think about it that way.” Sophia also recalled a scenario in which a student got angry. They learned strategies and phrases to deescalate the situation. She had used that in her classroom as well. Other informants were less enthusiastic. When asked about whether she had participated in any professional development cases, Chloe said, “Probably. I think there was some idea sharing that happened at middle school professional development.” Emma was equally vague. “When Mark was our division dean he loved to do stuff like this. I’m struggling to think of some examples right now but we did that often.” Whatever

experience these teachers had with professional development cases was not very memorable to them.

Results for Research Question Three

Research question three asked what the underlying factors were in the ways new community college teachers learned to teach. The 26 learning experiences from Part III of the survey loaded onto six factors that explained 60% of the variance in how valuable new teachers found those learning experiences to be. Table 6 lists each factor, its name, and the associated eigenvalue and variance.

Table 7 shows which items loaded on each factor, and the associated communalities. The six factors were used in developing the protocol for the semi-structured interviews. Question six asks about the informant's experiences with each of the six factors. Question seven asks whether that experience improved the informants' teaching.

Table 6

Factor Names, Eigenvalues, and Variance

Factor number	Factor name	Eigenvalues	Variance
Factor 1	Guidance from others	6.350	13.150
Factor 2	Receptive communications	2.364	11.377
Factor 3	Formalized teacher training	1.991	11.215
Factor 4	Personal resources	1.675	8.964
Factor 5	Experimentation and reflection	1.388	8.132
Factor 6	Student perspective	1.274	7.327

Table 7

Rotated Component Matrix with Communalities

Variable	Component						Communalities
	1	2	3	4	5	6	
Seeking guidance from others	0.784						0.734
Experimenting in a purposeful manner					0.726		0.681
Receiving feedback through informal discussions with students						.0640	0.672
Modeling former teachers				0.537			0.657
Using formal course evaluations form students						0.617	0.839
Applying my own experiences as a student				0.690			0.652
Reading journals in my subject area		0.704					0.638
Receiving feedback from an administrative evaluation		0.621					0.622
Attending seminars on teaching strategies			0.667				0.757
Attending seminars in my field		0.699					0.633
Following school policies and procedures		0.715					0.719
Using my natural ability				0.694			0.732
Participating in faculty development activities			0.678				0.694
Talking with my family members	0.467				0.434		0.511
Taking formal courses in education			0.708				0.607
Asking for guidance from chairpersons or directors	0.506						0.567
Reflecting on my teaching process					0.434		0.565

(table continues)

Variable	Component						Communalities
	1	2	3	4	5	6	
Improvising in response to unexpected situations in class				0.642			0.760
Taking workshops on curriculum development			0.811				0.800
Working as a graduate assistant						0.582	0.727
Discussing teaching strategies with colleagues	0.641						0.695
Observing colleagues teaching			0.418				0.660
Networking with other professionals	0.711						0.749
Trying a variety of teaching methods using the trial and error method					0.686		0.689

Note. Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization.

Each of the interview informants described being unprepared for their first teaching experiences. Antonio did not know what classroom management was. Chloe had trouble “finding her pace, knowing when to stop and ask a question and when to move on.” Sophia didn’t know how challenging her honors course should be. Madelyn described her first semester as:

Terrible. They give the newest teachers the assignment of teaching intensive writing to miserable students who’ve never had to do it before. It was a terrible combination. The next year it was fine. I’d been doing it a year. But the first semester was really hairy.

Several teachers suggested formal training for new community college teachers.

Sophia said:

I would have liked more teacher training in classroom management. I have a

colleague who's now in elementary education. She says we really should all have taken one elementary education class in how to teach. It's unfortunate that we don't. It really is.

Serena suggested that community college teachers

Should be required to have a minor teaching certificate or something because it's not good just to be thrown into a classroom environment. I've seen some really horrible instructors. They know their stuff, but if they can't teach it to the students, why are they here?

Emma said that she was "blown away" by the lack of teacher training at

community colleges:

We give more time to sexual harassment training and workplace etiquette training than we do to how to teach. The only way I knew that other educational institutions do it differently is because my dissertation was on men training to be K-3 teachers. So I sat in on teacher education classes and I saw them learn how to teach five-year-olds. And then I would go back to my graduate seminars and think that no one is teaching me how to teach. This is so bizarre. I will be perhaps more well respected than this kindergarten teacher, I know I'll be paid better, and yet I've had only one, one-credit class on how to teach. At community colleges, we assume that if you know the content you will be able to teach it. That's like saying if you are a great athlete, you'll be a great coach. Not necessarily.

Guidance from Others

The interview informants in this study sought guidance from others in three ways: through mentors, peer observation, and informal communications with others. One common thread in the comments was to name a mentor who was especially helpful and available to the informant. Sophia said, "I have a mentor in our psychology department who has been very helpful to me. I can just call or text whenever I have a question." Other informants reported having negative experiences. "I didn't feel very supported by my college assigned peer mentors," said Emma. Those who had negative experiences theorized that the quality of the mentor was personality dependent. Chloe said:

Right now we have a different dean and a different faculty member who are not as approachable or supportive as my original mentors were. Luckily I'm far enough into teaching that I can take it on my own.

She added that she thought it was "underwritten that faculty members are supposed to be mentors for new faculty, but they don't always embrace that role."

The interview informants spoke about receiving guidance from others through peer observation. They described both the new teacher observing the more experienced peer and vice versa. Emma had mixed experiences with peers observing her.

I had two who gave me a few suggestions like make sure your font is all the same size in your PowerPoints. Then there was one who would correct me in the middle of my lecture, in front of my students. I try to take criticism well, but not in front of my students. But my division dean was very supportive. He would smile while he observed me and say things like, 'that was excellent. You know, here are a few things we could work on.' I felt like he had my back, even though I'm not perfect.

Other informants benefitted from observing other instructors, sometimes in surprising ways. An anonymous respondent described "watching others do things badly and vowing to do them differently" as an especially positive learning experience. Serena not only sat in on other people's classes, she also volunteered to substitute for them "just so I could get a feel for how their class was run." Sophia participated in a formalized professional development program for second-year teachers. Faculty from all disciplines observed each other for 15 to 20 minutes at a time. They met monthly to process their experiences. She called this training "invaluable."

Interview informants also sought guidance through informal communications with others. They described informal networking with other instructors, connecting with instructors who had previously taught their course and who were willing to share

materials, and working with instructional designers. Antonio said:

The first thing that I did was talk to people and ask them how they teach, how they set up their classes, what their syllabi look like, and how the college works. But I had to seek them out. Luckily, I had some friends that could help me.

Serena talked to the instructors that shared her classroom. They taught right before her or right after her. She said that when she had concerns “it made me feel a little bit better about what was going on in my classroom just to know that I wasn’t alone.”

Chloe described how she was initially rebuffed. “When you approach some faculty they just brush you off and tell you to ask registration, or they say they don’t know.” She simply moved on from these unhelpful faculty members to others who were more helpful.

Receptive Communications

When the interview informants spoke of receptive communications, they spoke of reading from journals and receiving evaluations from supervisors. They stated that it is important to belong to professional organizations and to read their journals in order to, as Antonio put it, “keep current in my subject area.” They also spoke in terms of using what they learned to improve their teaching.

Reading journals keeps me current in my field. I go to them whenever I’m thinking that I want to do a better job of teaching, say, discrimination and privilege. This is a difficult topic because students don’t want to internalize that they may be benefitting from it, they may be on the privileged side. So I always go to the American Sociological Association to see what other instructors are doing.

Informants said that finding time to read the journals was a challenge. Antonio said, “Sometimes it’s just about reading the titles. If I gain something from the title or it sounds interesting then I’ll read about it, but unless I really can apply something I don’t

take the time.”

The comments about evaluations from supervisors were less positive. Serena stated:

Evaluations have never really been helpful to me because I don't feel like people are one hundred percent honest. I think they want to save your feelings so they tell you that you did a good job. Unless they say something really specific, evaluations don't do anything for me.

Four of the informants reported that they had not received any feedback from supervisors about their teaching. Madelyn said she found this “disturbing. In one way it's nice because you don't feel the pressure to perform but there should be some oversight just to make sure everyone's actually doing what they're supposed to be doing.”

Formalized Training

All informants reported that they had participated in some form of formalized teacher training. About half of these trainings were college-based. There was wide variety in the nature of the trainings provided by outside entities. Some were workshops provided by professional organizations such as the Equine Science Society, the Arizona Geographic Alliance, and the American Mathematical Association of Two Year Colleges (AMATYC) all of which were well received. An anonymous survey respondent said, “Being part of a cohort of new full-time math teachers at AMATYC proved very inspiring. I came back very motivated to try new ideas and push myself as a teacher.” The other formalized training that was offered by outside entities was reported by former graduate assistants and was provided by universities. One of these was a 1-week course that met for 9 hours each day. Another was a series of lectures from professors at the

three Arizona universities as well as teachers from several Arizona community colleges. The topics were all about teaching styles and teaching perspectives. Another informant described a negative experience with her university-provided graduate assistant training.

Madelyn said:

It was a lot of pedagogical theory. Things that didn't end up being very transferable to what you actually do when you're on the ground in the classroom. It seemed very, very abstract compared to what you ended up actually doing.

One other informant received formalized training outside of the college setting.

Serena earned her master's degree in education. She stated that she "got a lot of experience teaching in that setting so she didn't feel quite as surprised when she began at the community college."

Professional development experiences provided by the community colleges also varied widely. Some respondents complained that they had not had the opportunity to participate in many activities. Some colleges offer very little beyond faculty orientations. Antonio started teaching as adjunct faculty. His college had developed a professional development course for adjunct faculty, but it was offered only sporadically, and it was not available to him at the time. Two informants taught some or all of their classes online. They both had intense training on their learning management systems and other technology. Some community colleges had fully developed, required training for new teachers. One college gave three credits of released time to new faculty so they could attend their New Faculty Orientation course during the first semester. Participants met every Friday for 2 hours, completing activities as diverse as book discussion and microteaching. Emma's college also had a new faculty orientation similar to the one just

described. She said, “At first we thought, ‘Why are we doing this? The semester has already started. It’s not really helping us.’ But it totally helped us for the next semester and the semesters after that.” Another college in the same district had an even more intense New Faculty Orientation program that spanned 2 years. The first year was required of all new teachers. Participants met once a week for 2 hours. At each session they had a presentation about best practices in classroom management, technology, or any other topics of concern. The focus was on connecting the new teacher with the resources available at the college. The second year was optional. During this year participants observed each other in the classroom to get ideas from each other. This same college district “does a great job offering workshops and conferences” to all faculty.

There was great variety in the types of formalized training that new community college teachers received. Most trainings occurred after the new faculty began their classes. All informants reported having had some kind of formalized training either through their college or through an outside entity. New faculty preferred training that was immediately applicable to their classrooms. An anonymous survey respondent said:

The most positive professional development activities are those where the participant chooses the activity based on areas of desired improvement. The most negative activities are those which are compulsory or ill-suited to areas of desired improvement.

Experimentation and Reflection

The new teachers interviewed for this study used experimentation, reflection, and modeling others as they learned how to teach. “I think, especially at first, it’s all about experimentation and reflection. You go in with a set of expectations of what you think

might happen and the students dictate the rest,” said Chloe. Every one of the interview informants reported changing their teaching behaviors in response to experimentation and reflection. Phil recalled:

[In my] first year of teaching, I had a supplementary reading booklet that the students had to buy at Kinkos. I cringe at that now, but it was just my enthusiasm. There were so many exciting things to read. They must have gotten the booklet and thought, oh my! It was just stuff that I thought was cool. Now I upload TED talks or give them links on the internet.

Chloe told how her first class was a lab course that met for 3 hours Monday and 3 hours Wednesday. She logically structured it so that the lecture was on Monday, and the lab was on Wednesday. She posted a video of the lecture online each Monday for the benefit of students who could not attend. Soon her students began skipping the Monday lecture altogether. “So I ended up restructuring the class so that it was hybrid.” Antonio taught the same BIO 202 class at 10:40 a.m. and again at 2:40 p.m. He said that “between classes I think about how the lecture went and how I can make the next one different. What worked, what didn’t, what did the students respond to?” Two teachers, Emma and Serena, wrote notes each day that they analyzed later. For example, Emma might write, “We discussed ethnocentrism today and to make the point we read a children’s book aloud in class. I think that went well.” Emma was required to report to the Student Learning Outcomes Assessment Committee, so if she introduced a new assignment that “didn’t quite go like I’d hoped, I sit down and look at the grades and look at some of the miscommunication from my assignment and their responses.”

Teachers also talked about looking back at when they were students as a source for experimentation. Phil said, “I ask what worked for me when I was in school and how

I can make that work for my course.” Madelyn said that she “would definitely think about teachers that I have had who I thought were particularly successful, and who I liked, and then implement different things that they had done.” Phil told a story about his role model.

My professor was this kind of tall, slender guy, probably in his late fifties, too long white hair, and a goatee beard. He really looked the part of a Shakespearean actor. He had a debonair look about him but he came to class every day in a tennis warm-up suit. He taught a public speaking course and he set up this very collegial feeling in the class. After every single person gave their speech he said, ‘Bravo!’ and we all said, ‘Bravo!’ I’ve never forgotten that. Now I tell my students all about this. I tell them that’s the spirit from which I want you to be commenting on your classmate’s work.

Personal Resources

There was no common theme in the personal resources each of the interview informants used as they learned how to teach. Yet every one of them acknowledged that they brought personal resources of one sort or another to their teaching. Phil used his sense of what students would need when they entered the workforce. Chloe talked about time management and the ability to seek out resources other than content knowledge. Madelyn had a performance background. “I wanted to be an actor, theater major, so I’m very used to being in front of groups of people. Teaching is like a performance.” Antonio referred to a particular life experience:

It was in my second year of medical school. We had a doctoral class and there was a woman there who had lung cancer but she didn’t really have any other risks aside from living in LA. She was like a 12-year survivor so she was really an exception, and I had this huge epiphany. It was right in the middle of rounds. I just remember thinking that my entire education system had betrayed me. We’re taught that there are facts, and there’s a test, and there’s a right answer—there is one right answer. But there really isn’t. I thought about that for a long time. I saw it when I was practicing medicine, that there isn’t one right answer. Now that’s

one of the things that I go by in how I teach.

Student Perspective

The interview informants in this study modified their teaching behavior in response to student perspectives: student evaluations, cues and clues, and student characteristics. The informants voiced some dissatisfaction with the college evaluations. One problem was that the results of the college evaluations were not disseminated until after the semester was over. “I don’t think student feedback comes effectively at the end of the semester in an evaluation,” said Antonio. Teachers were also frustrated at the low response rate to the student evaluations. Sophia said, “This college recently went to an online student evaluation at the end of the semester. The percent completion rate is anywhere between five and ten percent. It’s ridiculous.” Despite their dissatisfaction, the informants did read their student evaluations and modify their behavior in response to them. Chloe said, “I actually read them and try to implement something that I can change based on the students’ feedback.” She illustrated with an example.

In the formal feedback they told me that I ramble, that I go off on tangents. So this semester I write up on the whiteboard what we’re going to do today. It’s mostly for me, to keep me on track.

Several of the teachers asked for feedback from their students throughout the semester. Madelyn handed out 3x5 cards and asked for anonymous critiques of the class. Sophia had developed an anonymous paper-and-pencil survey. Emma had changed her grading in response to informal feedback from students. Her university experience was that

You have a midterm, final, and a final project so that the bulk of the points are at

the end. My students here said they can't handle that. It's too much anxiety. So now my points are spread out through the semester, and when the withdrawal deadline approaches I shoot out an email telling them how many points they have. If they are in danger of failing, I say let's meet so we can talk about what you're going to do differently the second half of the semester, so you can pass, because I don't want you to fail.

There were some mixed feelings about student evaluations. Chloe said, "Sometimes student feedback is polar opposites. One person loved the class: it's structured, I know what to expect every week, and the other person says it's so boring, we do the same thing every week." An anonymous survey respondent made a stronger statement:

Student evaluations and RateMyProfessors.com have been extremely painful and discouraging. It seems as though when considering the balance of power, the students ultimately hold the power. There is no honor or respect in simply having become a professor. We have to knock ourselves out to earn it.

Sophia also mentioned RateMyProfessors.com. She started as adjunct faculty and her student evaluations were not made available to her after the first semester. Her second semester students recommended that she viewed RateMyProfessors.com. Her colleagues said not to go there but she went anyway.

I had good reviews with the exception of one that was...it wasn't damning, but it was hurtful. I neglected all of the other good evaluations and focused only on the bad. It stuck with me. You can't beat yourself up about it when you're a new faculty member. Yes, things are going to go horribly, horribly wrong sometimes. But then some things are going to go awesome. So RateMyProfessors is a no-no for the first 5 years of your teaching. That's for sure.

The informants in this study also watched student behavior for feedback. Antonio said:

I'm always looking for any clues I can get. Cues or clues as to how engaged they are. I have to look at how comfortable I am in the classroom and how the class responds to me and how successful they are.

Emma said:

If one or two students says this class is too hard I think, that's their perspective. If an entire class says they feel like everything I tested them on we didn't talk about in class, I take that very seriously. The next semester I stick to, I'm going to cover this and I'm going to assess it. I'm not going to cover this and then assess that.

Similarly, she said:

If one student falls asleep in class, I just say all right, you're having an off day and I'll maybe move close to you to lecture. But if four or five students look like they're fading, I'd think this isn't going well. Let's do something different. So I'm continually trying to read them.

The informants in this study indicated surprise at the characteristics of their community college students. They compared them to their own student experiences at the university. Emma said, "The people coming to my college for the most part are not like me. They're not from a middle-upper-middle class background. It's not taken for granted that they are going to college." Phil said:

If I missed a test at the university, it was because I got drunk. Here its things like my father had a heart attack, or my husband has cancer. At the university the worst that usually happened was an accident or too much partying...dumb stuff. Here it's real life stuff. What am I going to say? You had a cancer treatment so your paper is late; I'm not going to take it? It's been a bit of an adjustment.

The informants talked about the diversity of students as well. Madelyn said:

The student composition is really different. Some students are 18 or 19 year-olds right out of high school. They want to transfer to one of the state schools here. Others are much more diverse. I have much more ethnic diversity, age diversity, people returning to school, and people doing training programs rather than wanting to transfer to the university.

Phil said:

The diversity, it was amazing, really amazing. There are people who are 50 years old who worked in mining or whatever but it wasn't working for them anymore so now they're going into healthcare, or the 40 year old who hasn't taken a class in

20 years who is really nervous about technology. But they bring their expertise with them so their projects are not necessarily what I expected but what they do is really cool.

Antonio said:

I learned that you can't take things personally because some student will just come and look like they're zoned out because that's what's going on in their life. Just the fact that they came to class is like a miracle.

Emma summed up this way:

The thing about teaching is every day you've got to face those people who made the effort to be here and they want to go to college. They might not be dying to be in my class but they want to be there, so how can I not try to do better?

She described a change in her frame of reference about teaching:

When I came from the university it felt like, "we instructors are doing you a favor teaching you." Then at some professional development breakout sessions we'd have students come in and talk. They'd say, "Just answer my questions like I'm not a total idiot. With some instructors I feel like I'm asking the best questions in the world, but with other instructors I felt like I wasn't." I realized that the students are doing us a favor by showing up. We need each other so let's be more respectful. I think I'm nicer than when I first started.

Summary of Results

The results of this study indicate first that the 26 learning experiences and the four effective professional development methods were available to new Arizona community college teachers. Second, the teachers considered all but two of the learning experiences and each of the four effective methods of professional development to be at least moderately valuable. Finally, the researcher identified six factors that underlie how new Arizona community college teachers learn to teach. The following chapter discusses the researcher's insights, theoretical implications, and implications for practice.

CHAPTER V

DISCUSSION

I first became interested in the topic of the training of community college faculty when I accepted a full-time job on the North Mohave Campus of Mohave Community College. Prior to that time, I worked in a secondary school for 17 years and participated in professional development every summer by choice and during the school year by mandate. My experience was typical of classroom teachers. For 11 years I took the techniques I learned in secondary school to the community college classroom where I worked as associate faculty. Then I accepted a full-time position as an advisor at Mohave Community College. When my new duties as an employee of the college put me in close proximity to newly hired community college faculty, I was astonished to realize that new teachers were hired for their expertise in subject matter but were not required to have teaching skills. They were left to their own devices for classroom practices. This circumstance had not bothered me before because the associate faculty I dealt with over the years had come primarily from the secondary school system and so they were skilled in classroom techniques. However, the new full-time faculty we hired had no teacher training. One teacher in particular had the impression that the time he needed to devote to teaching was limited to the time he was lecturing in class. He lacked basic pedagogical skills such as preventing cheating, creating appropriate tests, planning a course calendar, or pacing a lecture. This observation is especially disturbing considering that community colleges are teaching institutions, and so they should be primarily concerned with instruction. While it is important to have teachers who are skilled in their subject areas, it

is likewise important that they have the ability to convey that knowledge to their students. After observing the newly hired teacher mentioned above, I wondered how he and other community college teachers eventually learned to teach.

This study used a mixed-methods sequential explanatory design (Creswell, 2003). Priority was assigned to the quantitative portion of the study because the research questions were more easily addressed through a survey. The qualitative portion of the study consisted of semistructured interviews, which greatly enriched the survey results by clarifying and explaining which learning experiences were most valuable to new teachers and whether the teachers implemented what they had learned in those professional development experiences. The qualitative phase built upon what was learned in the quantitative phase. This study asked how new Arizona community college teachers learn to teach, how valuable teachers perceive certain learning experiences to be, and whether Arizona community colleges are using effective methods to convey the content of their professional development programs.

Researcher Insights and Theoretical Implications

This section contains the researcher's insights on each of the three research questions, and how the adult learning theory of transformative learning explains how new Arizona community college teachers learn to teach. The three research questions asked:

1. Which of 26 learning experiences are available to help new Arizona community college teachers learn to teach, and how available certain effective professional development methods are to them?

2. How valuable new Arizona community college teachers consider those 26 learning experiences and the effective professional development experiences in preparing them to teach?
3. What are the underlying factors in the ways new community college teachers learn to teach?

Availability

The survey used in this study was a modification of the Le Clair (1989) Learning to Teach survey. The 26 learning experiences described in that survey were available to new teachers in 1989 and they are still available today. Even 26 years later, despite considerable changes in technology, curriculum, and general philosophies of instruction, new teachers still use the same 26 learning experiences to learn to teach. This consistency seems to indicate that there is an enduring process new teachers use when they learn to teach.

Most new community college teachers in Arizona have participated in professional development activities that are conducted using active learning, critical reflection, and peer group conferencing. The educational leaders who plan professional development appear to value these teaching methods in training teachers. However, activities conducted using professional development cases were only available to about one-third of new community college teachers. It may be that educational leaders themselves are less familiar with this method, or perhaps they have not considered transferring case study teaching from the classroom (teaching students) to professional development (teaching teachers).

Value

In descending order, new teachers valued learning experiences involving reflective activities, classroom application, formal methods of learning teaching strategies, and college-based activities. The first two categories of learning experiences are informal, and they apply directly to what the new teacher is experiencing in her or his classroom. When an unanticipated situation occurs, the new teacher can swiftly use reflective activities or classroom application to decide how to respond to the incident. The lesser-valued learning experiences, formal methods of learning teaching strategies, and college-based activities, are more structured. Seminars, courses, and evaluations are not immediately germane to the new teachers' classroom experience. They may contain very useful information for the new teacher but the application of that information generally does not occur right away. It may be weeks or months before the new teacher finds an opportunity to apply what they have learned. In her description of the six underlying factors, Emma said, "At first we thought, 'Why are we doing this? The semester has already started. It's not really helping us.' But it totally helped us for the next semester and the semesters after that." When classroom troubles are acute, suggestions for relief are immediately appreciated, but when advice is anticipatory there is no sense of urgency about considering the offered guidance, and therefore the advice is less valued. However, that does not mean that the training is actually less valuable. It could be that it is simply perceived that way by new teachers. Although new teachers rated college-based learning experiences as less valuable than the others did, there is no evidence to support that they actually are less valuable.

Professional development activities that are conducted using active learning, critical reflection, and peer group conferencing seem to have taken hold in the training of new Arizona community college teachers. New teachers value professional development activities taught using these methods more than other types of professional development. They provide opportunities for constructive discourse, critical self-reflection, and the acquisition of knowledge and skills as described in Mezirow's (2012) descriptions of transformative learning. Even months after participating in these activities, interview informants participated in these activities were able to describe the activity and the informants reported that they had implemented in their classrooms what they had learned. These three types of professional development activities conducted using the principles of adult learning theory are considered more valuable to new teachers than more general faculty development activities, the content of those activities is more memorable to them, and what they learn is likely to be applied in the classroom.

Participants in the case study based professional development workshops conducted by Hughes and colleagues (2010) affirmed the value of the discussions with their peers that occurred as a component of the workshops. However, respondents to the survey portion of this study rated professional development activities conducted using professional development cases equally valuable, but not more valuable, to other professional development activities. The other three professional development activities under study were rated more valuable. Interview informants were able to elucidate somewhat more on the topic. The interview informants who had had formal, structured experiences with professional development cases were positive and enthusiastic about

their experiences. They also reported that they had implemented in their classrooms what they learned. However, two other informants did not recall having participated in professional development activities that used professional development cases, yet they still gave them ratings of slightly valuable on the survey. It is possible that other survey respondents were equally vague in their recollections of professional development cases but they answered the survey question regardless. These survey respondents would likely rate professional development cases using a context similar to the more general faculty development activities listed in the 26 learning experiences. This would explain the similarity in value ratings. If so, this is a limitation of this study. More research is necessary to determine the value of professional development cases in training new community college teachers.

Underlying Factors

Six factors underlie the process new Arizona community college teachers use to learn to teach. They are guidance from others, receptive communications, formalized teacher training, personal resources, experimentation and reflection, and student perspective.

Guidance from others. New teachers sought guidance from others immediately after starting to teach. Some had college-assigned mentors who were very helpful to them. Others connected more informally with other instructors. Some participated in peer observation as an observer, a teacher, or both. Regardless of the method, all new teachers reported seeking guidance from others as they learned to teach. These results confirm what Brennan (2004) found in her study of new occupational teachers located in an

unnamed Midwestern state: that new teachers relied on veteran instructors, department leaders, and college staff. New community college teachers seemed to feel an urgency to connect with their peers as they faced the challenges of their classrooms for the first time. If their colleges did not provide the opportunity for this connection for them, they would create the opportunity themselves.

Receptive communication. Coddington (2005) found that the new teachers he studied believed that their professional experience would compensate for their lack of teacher preparation. They prepared for their first class meeting mainly by reviewing course materials. The new teachers in this study continued to read journals, join professional organizations, and take part in other types of receptive communications as they learned to teach. Ideally, all teachers stay current in their fields using receptive communications. It may be that new teachers also used receptive communications as a way of coping with the shock of their first teaching experiences.

Formalized teacher training. All of the informants reported participating in formalized training, but the experiences varied widely. Some teachers attended workshops provided by their professional organizations. Others were given released time by their colleges to attend weekly professional development activities for one or more years. There appears to be very little consistency between Arizona community colleges in their approaches to faculty training.

Coddington (2005) found that new community college teachers did little or no research on teaching and learning prior to their actual teaching; none of the informants felt a need for this research. They believed that their knowledge of their subject area

would be enough to compensate for their lack of teaching preparation. After issues and concerns arose during their first few weeks of teaching, the informants described their lack of preparation in teaching as a weakness. In hindsight, informants in this study recommended that community colleges require some kind of teacher training prior to placing new teachers in the classroom. New community college teachers were willing to participate in formalized training after they had faced the challenges of classroom teaching, but they may not be as interested beforehand. If there were to be a change in the hiring practices of new community college teachers that included a requirement for previous training in instructional methods, the teacher preparation component would likely need to be enforced through certification requirements at the college, or through accreditation agencies. It seems doubtful that prospective community college teachers would embrace a requirement for teacher training before they had attempted to teach.

Personal resources. The researcher found no research that directly addressed the question of what personal resources new community college teachers use as they learn to teach. Coddington (2005) briefly mentioned that his informants took “personal initiative” to overcome lack of classroom support from the college, but none of the studies that described the process of learning to teach considered how teachers use personal resources as a distinct subject of study. However, in this study, personal resources were identified as a factor that explained 8.964% of the variance in how valuable new teachers found certain learning experiences to be. Each informant responded to the stress of their initial classroom experiences by reaching into their backgrounds and relying upon the personal resources that they had developed across their lifetimes. These resources were highly

individualized. Examples included knowledge of the workforce, time management, and a background in theater.

Experimentation and reflection. New community college teachers also used experimentation and reflection to help them navigate their first time teaching. Brennan (2004) and Campbell (2009) found that new community college teachers depended heavily on trial and error and modeling former teachers as they learned to teach. Every time their class met, new teachers were faced with the task of disseminating knowledge and teaching their students to understand and interpret what they learn. The new teachers in this study turned to experimentation, reflection, and modeling their former teachers to adjust and improve their teaching skills and build their own repertoire of instructional strategies over time.

Student perspective. The student perspective—student evaluations, cues and clues, and student characteristics—was an important part of learning to teach for the teachers in this study. They complained that the results of the student evaluations provided by the college were disseminated too late into the next semester, and that there was a low response rate from students, especially after the evaluations began to be offered online. The major complaint about student evaluations in Brennan's (2004) study was also that the evaluations were not returned in a timely manner. Many of the teachers in this study responded to the problem by creating their own student evaluations and then changing their behavior in response to the feedback they received from those less formal evaluations. The teachers in this study also learned to read their students' body language and to look for other cues and clues from their students about their teaching.

Coddington (2005) found that new community college teachers based their attitudes and beliefs about teaching in a community college on their own, or their children's college experiences. The teachers in this study also came to their first classes with the assumption that their community college students would be similar to the ways they were as students. The teachers projected their own college experiences onto their students' community college experiences. They were surprised to find great diversity in age, ethnicity, culture, and life experience. Each of the informants in this study expressed profound transformations in their perceptions of community college students. Instructional leaders should consider that one risk of not developing new teachers is inattention to cultural competence. New community college teachers may use their own cultural backgrounds as the norm against which to measure their students. Critical reflection exercises are essential in ameliorating this potential, culturally based inequality of the power structure in community colleges.

Transformative Learning

As reviewed in Chapter II, Cranton (2002) identified seven facets to transformative learning.

- An activating event
- Articulating assumptions
- Critical self-reflection
- Alternative viewpoints
- Engaging in discourse
- Revising assumptions

- Acting on those revisions.

Not all learners go through all of these phases, nor are the phases necessarily experienced in the order listed above. Adult learners may move back and forth through facets as they work through the process of transformation. New Arizona community college teachers worked through these facets as they learned to teach. Although the informants in this study were answering questions about the six underlying factors and the four professional development activities, their responses, as reported in Chapter IV, revealed a transformative process as they learned to teach.

Activating event. An activating event typically exposes a discrepancy between what a person has always assumed to be true and what has just been experienced, heard, or read (Mezirow, 2012). This discrepancy was often apparent in the first teaching experiences for new community college teachers. Chloe said, “You go in with a set of expectations of what you think might happen and the students dictate the rest.” New teachers initially react to this crisis by depending on their personal resources.

Articulating assumptions. The participants in this study articulated their assumptions: that is, they recognized the underlying assumptions about community college students that had been uncritically assimilated prior to teaching. An example of this is the surprise they expressed at the varying characteristics of their community college students. Emma made a representative statement. She said, “The people coming to my college for the most part are not like me.” This statement indicated that Emma recognized her underlying assumptions about the nature of community college students.

Critical self-reflection. New Arizona community college teachers engaged in

critical self-reflection; that is, questioning and examining assumptions in terms of where they came from, the consequences of holding them, and why they are important. The respondents to the survey valued most the learning experiences that are reflective in nature. Serena described a critical reflection experience that is representative of the reflective professional development activities reported by informants. “We were asked during some professional development activities to think of different experiences that we’ve had in the classroom and write them down and then talk with each other about them.”

Alternate points of view. New teachers are especially open to alternative viewpoints as they learn how to teach. They seek guidance from mentors, they take part in formalized teacher trainings, and they listen to student feedback where alternative viewpoints are expressed. Emma said:

If one or two students say this class is too hard I think, that’s their perspective. If an entire class says they feel like everything I tested them on we didn’t talk about in class, I take that very seriously. The next semester I stick to, “I’m going to cover this and I’m going to assess it. I’m not going to cover this and then assess that.”

Engaging in discourse. Participants in this study appreciated engaging in discourse, where evidence is weighed, arguments are assessed, alternative perspectives are explored, and knowledge is constructed by consensus. These interactions occurred most commonly through formal and informal peer group conferencing, critical reflection activities, and through receptive communications. Serena said, “You talk about it with your peers and you might also get a different perspective on it. They can challenge what you said, or maybe even agree with what you said and reinforce whatever you did.”

Revising assumptions. Throughout all of these experiences, new teachers revised their assumptions and perspectives to make them more open and better justified. New teachers made revisions in response to experimentation and reflection. These revisions also occurred as a result of having worked through some of the previous facets. Emma described a change in her frame of reference about teaching:

When I came from the university it felt like, ‘we instructors are doing you a favor teaching you.’ Then at some professional development breakout sessions we’d have students come in and talk. They’d say, ‘just answer my questions like I’m not a total idiot. With some instructors I feel like I’m asking the best questions in the world, but with other instructors I felt like I wasn’t.’ I realized that the students are doing us a favor by showing up. We need each other so let’s be more respectful. I think I’m nicer than when I first started.

Acting on revised assumptions. Finally, new Arizona community college teachers act on their revised assumptions by behaving, talking, and thinking in a way that is consistent with their transformed assumptions or perspectives. Antonio learned some principles of andragogy through critical reflection professional development activities. Consequently, he changed his teaching methods to include group dynamics, interdisciplinary activities, and more active engagement from the students.

New Arizona community college teachers went through a transformative learning process when they learned to teach. New teachers entered the classroom with preformed ways of thinking about teaching. These habits of mind include what they imagine a community college teacher to be. They may include or exclude certain teaching practices based upon their frames of reference. Many new teachers imagined college teachers to be traditional lecturers—in front of the classroom imparting knowledge and wisdom to the students. Some teachers modeled themselves after their former teachers. Some may have

been influenced by habits of personality such as organization or creativity (Cranton, 2002). These ways of thinking were what informed the new teacher's first classroom experience, and when that first classroom experience began to unfold, the teachers were disturbed to discover that there was much more that went on in a classroom than simply telling war stories. Community college teachers were often surprised at the characteristics of their students. Many new teachers experienced a marked decrease in their confidence during the first few weeks of their first semester (Coddington, 2005). They expected their expertise to translate into teaching ability and they were shocked to learn that this was not the case. This realization was the first step in transformative learning for these teachers. It was the activating event that can lead to changes in their teaching behaviors. This disruption of the new teachers' ways of thinking allowed them to be more willing to accept points of view that differed from their own. The discomfort that accompanied the disruption brought awareness of their deeply engrained assumptions and predispositions. It caused the teachers to think critically about what good teaching was and to question their own practices. They sought guidance from their peers and they engaged in constructive discourse that sparked critical thinking about their own teaching behaviors and their assumptions about their students and their colleges. Eventually their teaching was transformed.

Implications for Practice

As we enter a new era of accountability, instructional leaders at community colleges must look at how teachers learn to teach, and whether the methods used to train

teachers are effective. If teachers learn to teach through transformative learning, then we must facilitate that process. If the formal methods that colleges use to prepare new teachers are effective, even if they are less desirable to new teachers, then the colleges must communicate to the new teachers the research that explains the value of these methods. If the methods that colleges use to train new teachers are simply a case of “we’ve always done it this way so we will always do it this way,” they must rethink that mantra and invest the time and resources to reconstruct professional development in higher education. Instructional leaders must discover which professional development activities result in behavioral changes in teachers that translate to improved student success.

Three methods of professional development were more highly valued by teachers than typical faculty development: active learning, critical reflection, and peer group conferencing. Teachers reported that they successfully implemented the concepts they learned by using these methods in their classrooms. However, these methods were less available to new teachers than other types of faculty development activities. As reported in Chapter IV, 100% of the survey respondents participated in faculty development activities but the availability of both the active learning and critical reflection activities was only 77%, and the availability of peer group conferencing was only 67%. Instructional leaders should consider increasing the availability of professional development activities that use active learning, critical reflection, and peer group conferencing.

Limitations

There were four limitations to this study, three related to the survey, and one related to the interviews:

1. The researcher was not given access to the contact information for new Arizona community college teachers. Therefore, the survey sample was one of convenience rather than a random sample.

2. The response rate was estimated rather than directly calculated. Invitations to participate in the survey were sent directly from the offices of the chief academic officers from each community college across the state. However, the chief academic officers did not distinguish between veteran teachers and new teachers. Nor did they report to the researcher how many invitations were sent from their offices. These two problems made it impossible to calculate an accurate response rate. In anticipation of the first problem, the first two questions on the survey filtered out veteran teachers and teachers working less than half time. The researcher mitigated the second problem by using the Integrated Postsecondary Education Data System to determine the number of new instructional hires in Arizona over a 5-year period. The survey response rate was then calculated by dividing the number of respondents (83) by the number of new instructional hires (224) resulting in an estimated response rate of 37%.

3. Although the factor analysis was within accepted norms, the high number of items (26) compared to the low number of respondents (83) means that care should be taken in generalizing the results of this study.

4. The researcher did not corroborate what the informants reported through

classroom observations or through any other evaluation method. Thus, results of the interviews were limited to the informants' accuracy in their descriptions. The quality of the data was dependent upon the informants' recollections of their behaviors and their perceptions.

Conclusion

This study asked how new Arizona community college teachers learned to teach, how available certain learning experiences and effective professional development activities were, how valuable teachers perceived those learning experiences and activities to be, and if there were any factors that underlie the how new community college teachers learn to teach. All of the 26 identified learning experiences and four effective professional development activities were available to new community college teachers in Arizona. The perception of new Arizona community college teachers was that active learning, critical reflection, and peer group, conferencing, were more valuable than other more typical faculty development activities. The researcher expected that professional development cases would be rated more highly than typical faculty development activities; however, the survey respondents who reported participating in professional development cases rated them only as equally valuable to other faculty development activities but not higher. The researcher discovered six factors that underlie the process new Arizona community college teachers use to learn to teach. They are guidance from others, receptive communications, formalized teacher training, personal resources, experimentation and reflection, and student perspective.

New Arizona community college teachers were adult learners who learned to teach through the process of transformative learning. They valued learning experiences that were reflective and applicable to the classroom. They benefitted from professional development activities that used the principles of transformative learning theory such as active learning, critical reflection, and peer group conferencing. Learning to teach was a process for them that included challenging and changing their assumptions about what happened in a community college classroom. They adjusted their assumptions and their teaching behaviors with time and experience. Phil said, “When did we ever get the idea that standing up in front of a group of people and talking was the way that people were going to learn?” He made the progression from a novice teacher who thought college teaching was all about lecturing, to a more experienced teacher who was concerned about the success of his students.

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APPENDICES

Appendix A
Modified Survey

Modified Survey

Copy of the modified *Learning to Teach Survey*. The actual survey is an electronic survey administered by Survey Monkey software. What follows is a text version of the survey.

How Arizona Community College Teachers Go About Learning to Teach Survey Pilot

DIRECTIONS

Please answer the following questions about yourself. Remember that your questions are entirely confidential.

Part I

How many years have you taught at the community college level?
Zero to five years More than five years

Part II

Do you presently teach...

Six credits (90 clock hours) or more? Less than six credits?

Please indicate the highest level of education you have completed.

High school
Associate's degree
Bachelor's degree
Master's degree
Doctorate

What is the subject area of your highest degree earned? How many years of formal teaching experience do you have in settings other than a community college?

What is your primary teaching area?

How many years of non-teaching work experience do you have in your primary teaching area?

What brought you to teaching?

Part III

DIRECTIONS

Listed below are some learning experiences that may have contributed to the development of your teaching skills. Please indicate the value of each factor by choosing one and only one number for each statement.

How valuable are/were these factors in the development of your teaching skills?

Not valuable	Slightly valuable	Moderately valuable	Very valuable	Extremely valuable	N/A
-----------------	----------------------	------------------------	------------------	-----------------------	-----

Identifying and correcting my mistakes

Engaging in conversations with colleagues at professional meetings

Using formal course evaluations from students

Talking informally with fellow teachers

Networking with other professionals

Reading journals in my subject area

Making videos of myself in a teaching situation

Experimenting in a purposeful manner

Trying a variety of teaching methods using the trial and error method

Using my natural ability

Seeking guidance from mentors

Following school policies and procedures

Observing colleagues teaching

Receiving feedback from an administrative evaluation

Talking with my family members

Asking for guidance from chairpersons or directors

Working as a graduate assistant

Reflecting on my teaching process

Taking workshops on curriculum development

Attending seminars in my field

Applying my own experiences as a student

Improvising in response to unexpected situations in class

Part IV

Listed below are some professional development activities that have been shown to be effective. Descriptions of these activities are provided for your reference. Please indicate the value of each activity in which you have participated by choosing one and only one number for each statement. If you have not participated in an activity, please choose N/A.

Critical reflection involves analyzing assumptions, making accurate observations, looking for alternative ways of understanding a phenomenon, making meaning, understanding the personal and social contexts under which we make meaning, and questioning

Peer group conferencing is a type of collaborative professional development where faculty from different disciplines meet to discuss professional issues and to learn from each other.

Active learning professional development activities allow teachers to practice the pedagogical knowledge that they learn.

In the **professional development** instructors and administrators write up real world situations in narrative form. Anonymity is protected by pseudonyms. These narratives are then shared and discussed with groups of from four to ten instructors and administrators.

Not valuable	Slightly valuable	Moderately valuable	Very valuable	Extremely valuable	N/A
-----------------	----------------------	------------------------	------------------	-----------------------	-----

Professional development activities conducted using critical reflection

Professional development activities conducted using peer group conferencing

Professional development activities conducted using active learning

Professional development cases

Part IV

Was there a specific professional development activity (not limited to the items on this survey) that you found especially positive or negative? Please describe.

Thank you for your willingness to participate in this survey.

Part V

I am willing to be contacted for a follow-up interview.

Yes

No

If yes, please provide contact information below. By providing this contact information, you recognize that your answers to this survey will be confidential, but they will no longer be anonymous. The researcher will review these answers in order to find a purposive sample for follow-up interviews.

(For the pilot survey only)

If you have any comments regarding the content or design of this survey please write them in the space below.

Appendix B

Comments on Pilot Survey Design

Comments on Pilot Survey Design

Page 8, Q1. If you have any comments regarding the content or design of this survey please write them in the space below.

1. Simple and convenient!
2. I don't have any comments at the moment, but I'll think about it in case you contact me for a follow-up.
3. I was not provided a mentor, so I had no one to refer to, grabbing random instructors as I could. No consistent philosophy on how to approach the topic ended up being somewhat beneficial, as it afforded me the opportunity to take from many perspectives and create my own, without being indoctrinated into any one philosophy. It was stressful, but that's how it happened. I fell back upon my professional training and transferred that skill set, mostly.
4. Interesting Survey
5. Nicely done, easy to follow and user friendly.
6. Looks very good – I didn't see any items that were not clear or further explanations needed.
7. No problems. I'd be happy to participate.
8. The series of explanations of the different types of professional development was very confusing – we are here to make a quick response and that demanded not only figuring out what you were asking but reading backwards (as the list on top did not correspond to the list on the bottom).

Appendix C

Informed Consent Information

Informed Consent Information

Introduction/ Purpose Professor Scott Hunsaker in the Department of Teacher Education and Leadership at Utah State University is conducting a research study to find out more about how Arizona community college teachers go about learning to teach. You have been asked to take part because you are a resident faculty member teaching in Arizona, with five or less years of community college teaching experience. There will be approximately 225 total participants in this research.

Procedures If you agree to be in this research study, you will answer a survey conducted over the internet using survey monkey software. The survey will take approximately ten minutes to complete. At one point in the survey you will be asked if you are willing to take part in an interview conducted over internet conferencing software, or via telephone. If you agree to take part in an interview, and if you are selected as an informant, Carolyn Hamblin will conduct a 30 minute interview with you concerning professional development with community college faculty. The interview will be digitally recorded for eventual transcription. You will be asked questions such as: What experiences prepared you or strengthened you in your teaching? If you were to design a professional development activity for new faculty, what would it look like? What advice would you give newly hired faculty? The interviews will take place at a time and place in a private location of your choosing

Risks Participation in this research study may involve some added risks or discomforts. You might feel a certain amount of discomfort during the interview because Carolyn Hamblin requests that the interviews be audio taped for eventual transcription. However, there are no anticipated risks involved in this study.

Benefits There may or may not be any direct benefit to you from these procedures. The investigator, however, may learn more about professional development in community college faculty. This information may be of future benefit to Arizona community college faculty and instructional leaders.

Explanation & offer to answer questions Carolyn Hamblin has made herself available to you via email (chamblin@mohave.edu) or collect call (435 689-0481) to explain this research study to you and answer your questions. If you have other questions or research-related problems, you may reach Professor Scott Hunsaker at (435) 797-0386.

Voluntary nature of participation and right to withdraw without consequence Participation in research is entirely voluntary. You may refuse to participate or withdraw at any time without consequence or loss of benefits. The electronic survey includes an opt-out link.

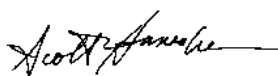
Confidentiality Research records will be kept confidential, consistent with federal and state regulations. Responses to the survey will be collected through the survey monkey software. This software will correlate your email address with their IP address. The IP address will become your ID number for the purposes of this survey. The investigator and Carolyn Hamblin will have access to responses only as identified by IP address.

Response data will be exported from survey monkey to Excel spreadsheets and to SPSS where appropriate.

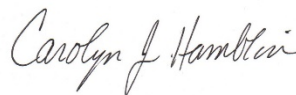
The exception to this is for those participants who voluntarily reveal their contact information as informants in the qualitative portion of this study. If you choose to provide this contact information, you recognize that your answers to this survey will be confidential, but they will no longer be anonymous. Only the student researcher will have access to the interview data which will be kept in a locked file cabinet in a locked room. Your name will only be known to the student researcher. When the student researcher transcribes your interview, the student researcher will assign you a pseudonym so that the transcripts will not contain your name. All your records and any identifiable information will be locked in a cabinet in a secure location to which only the student researcher has access. You will be identified only by ID number on spreadsheets. Pseudonyms will be used in the final report. The link between ID numbers and names, and digital recordings will be destroyed at the conclusion of this research study.

IRB Approval Statement The Institutional Review Board for the protection of human participants at USU has approved this research study. If you have any pertinent questions or concerns about your rights or a research-related injury, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu. If you have a concern or complaint about the research and you would like to contact someone other than the research team, you may contact the IRB Administrator to obtain information or to offer input.

Investigator Statement “I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered.”



Scott Hunsaker, Ph.D.
Principal Investigator
(435) 797-0386
Scott.hunsaker@usu.edu



Carolyn J. Hamblin
Student Researcher
(435) 689-0481
chamblin@mohave.edu

Appendix D

Comparison of Means, IQRs, and Standard Deviations

Comparison of Means, IQRs, and Standard Deviations

Comparison of medians, means, interquartile ranges, and standard deviations with sparklines of the frequencies of each of the learning experiences.

Table D1

Comparison of Means, IQRs, and Standard Deviations

Item	Median	IQR	Mean	SD	Sparklines
Reflecting on my teaching process	4	1	4.35	0.76	
Using my natural ability	4	1	4.24	0.835	
Seeking guidance from mentors	4	1	4.18	0.877	
Applying my own experiences as a student	4	1	4.17	0.881	
Discussing teaching strategies with colleagues	4	1	4.16	0.782	
Receiving feedback through informal discussions with students	4	2	4.1	0.903	
Experimenting in a purposeful manner	4	1	4.1	0.856	
Improvising in response to unexpected situations in class	4	1	4.09	0.892	
Seeking guidance from fellow teachers	4	1.75	4.02	0.889	
Modeling former teachers	4	2	3.86	1.046	
Working as a graduate assistant	4	2	3.76	1.234	
Trying a variety of teaching methods using the trial and error method	4	1	3.74	0.953	
Observing colleagues teaching	4	1	3.71	0.916	
Attending seminars in my field	4	1.75	3.64	1.128	
Networking with other professionals	4	1	3.6	1.087	
Attending seminars on teaching strategies	4	2	3.52	1.156	
Taking formal courses in education	4	1	3.48	1.2	
Reading journals in my subject area	4	1	3.47	1.095	
Taking workshops on curriculum development	4	2	3.45	1.171	
Participating in faculty development activities	3	1	3.38	1.062	
Receiving feedback from an administrative evaluation	3	1	3.37	1.058	
Using formal course evaluations from students	3	1.75	3.35	1.16	
Following school policies and procedures	3	2	3.12	1.144	
Asking for guidance from chairpersons or directors	3	2	3.08	1.189	
Talking with my family members	3	2	2.85	1.262	
Making videos of myself in a teaching situation	2	1.75	2.41	1.147	

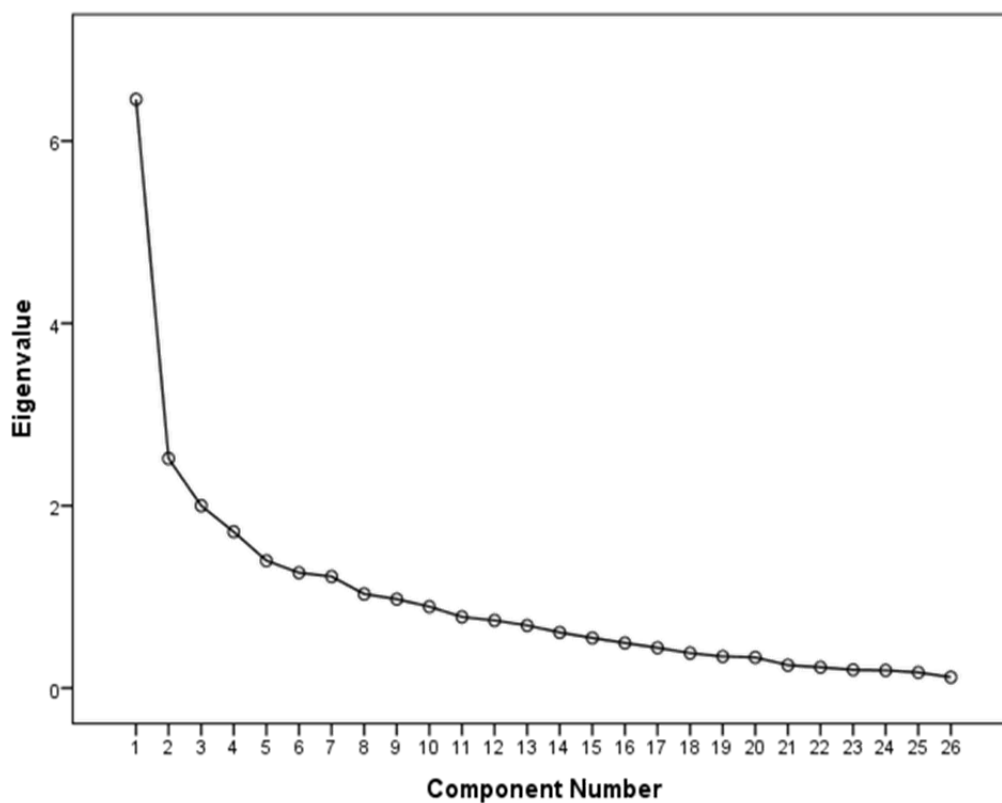
Appendix E

Eigenvalues, Variances, and Skree Plot

Table E1

Factor Names, Eigenvalues, and Variance

Factor number	Factor name	Eigenvalues	Variance
Factor 1	Guidance from others	6.350	13.150
Factor 2	Receptive communications	2.364	11.377
Factor 3	Formalized teacher training	1.991	11.215
Factor 4	Personal resources	1.675	8.964
Factor 5	Experimentation and reflection	1.388	8.132
Factor 6	Student perspective	1.274	7.327

*Figure E1.* Scree plot.

Appendix F

Sample Spreadsheet of Potential Informants

Respondent number	Teaching experience	AL rating	CR rating	PGC rating	PDC rating	Highest rated from survey	Lowest rated from survey	Comments
207	1 year high school					(6) Guidance from mentors	(4) Student evaluations	Years of experience within criteria. Has had positive experiences with all four effective professional development activities. Slightly more balanced answers to items than respondent #8.
	4 years experience outside cc: 2 elementary, 2 high school	AL – VV	CR – VV	PGC – VV	PDC – VV	Modeling former teachers	Seminars in field	
						Own experiences as a student	Following school policies	
						Natural ability	Reflecting	
						Talking w/ family		
						Working as TA		

Appendix G
Spreadsheet of Value Ratings

Value Ratings

Informant number	AL rating	CR rating	PGC rating	PDC rating	
279	EV	EV			
278	VV	EV		VV	
241		SV	SV		Was chosen as extreme negative case. Also scored critical reflection and peer group conferencing lower than other respondents.
223	VV	VV	VV	VV	
207	VV	VV	VV	VV	
177	VV	EV			
163		VV	MV		
161	EV	EV		VV	
157	VV	VV	EV	SV	Everything was positive <u>except</u> the professional development case. This respondent may be able to explain why he/she found the professional development case activity specifically to be only slightly valuable.
129	EV	EV	EV		Extreme positive case.
118	EV	MV		VV	
119	EV	VV			novice teacher.
103	VV				
81	VV	VV			
61	EV	VV	MV	VV	
39	VV	VV	VV		
37	VV				has only 2 years' experience, both at community college
35	EV	VV	VV	EV	Less than 5 years' experience, and has experienced all four methods of professional development.
22	EV	VV			
16	EV	EV	MV		
14	EV	SV	MV		Rated critical reflection as only slightly valuable, but rated active learning as extremely valuable and peer group conferencing as moderately valuable. The other respondent to mark critical reflection low also marked everything else low. This respondent may be able to explain why he/she found the critical reflection activity specifically to be only slightly valuable.
12	MV	VV	MV		

Appendix H
Interview Protocol

Interview Protocol

Interview questions: How Arizona Community College Teachers Go About Learning to Teach

Begin each interview with housekeeping

Permission to record the interview

The informant received a physical copy of informed consent that we reviewed together

A reminder that the researcher will use pseudonyms for both the informant and their college

An explanation of member checking: the informant will receive a transcription of the interview via email. They can then review for corrections, additions and/or deletions

A request to follow up with additional questions if needed

1. What brought you to teaching?
2. How would you describe your school?
3. Tell me about your experience with name the Effective Professional Development Activity relevant to this informant.
4. How did you try the instructional method that you learned in this activity?
5. What kind of responses did you get from your students?
6. Listen for references to the six factors. If any factors are not addressed ask: what was your experience with Factor?
7. How did your experience with factors improve your teaching?
8. (Checking for predisposition: For extreme cases) What types of professional development experiences do you think would help you?

(For negative extreme case)

What would it take to make a professional development experience valuable? (For positive extreme case) What would it take to make a professional development experience not valuable?

CURRICULUM VITAE

CAROLYN J. HAMBLIN

EDUCATION

Ph.D. Instructional Leadership, Utah State University, Expected graduation Spring 2015
 Emphasis: Curriculum and Instruction
 Dissertation: How Arizona Community College Teachers Go About Learning to Teach

M.S. Psychology, Utah State University, 1997
 Emphasis: School Counseling

B.S. Mathematics, Southern Utah University, 1986
 Computer Science Minor
 Secondary Education Minor

EXPERIENCE

Campus Dean, North Mohave Campus (NMC), Mohave Community College (MCC), July 2010 - present
 Chief operational officer for the North Mohave Campus
 Responsible for crisis management, risk management, facilities, and strategic budget planning, Title IX investigations, overseeing instruction and student services on NMC
 Authored Mission and Integrity chapter for HLC accreditation self-study
 Current chair HLC accreditation criterion 4, Teaching and Learning: Evaluation and Improvement
 Responsible for leadership/management training for 53 managers at MCC

Director, Student Services, Mohave Community College, 2003 – 2010
 Arizona Advising Articulation Task Force representative - 6 years
 Created college-wide enrollment process
 Co-wrote college retention plan
 Wrote student grievance policy
 Created articulation agreement with Southern Utah University (Gen Ed and Business)
 Created articulation agreement with Dixie State University (Gen Ed and Business)
 Evaluated, adjusted, and implemented college-wide student services initiatives in orientation, advising, retention, grievances, FERPA training, and student handbook
 Coordinated student services on the NMC including the Student Government Association, academic advising, disability services, enrollment services, testing, and tutoring
 Served as campus administrator in the absence of the campus dean

Associate Faculty, Mohave Community College, 1990-2003
 Mathematics, Psychology, Computer Information Systems

School Counselor, Kanab High School, 1997 – 2003

Utah School Counselor Association Distinguished School Counselor of the Year
2003

Visiting team chair for Northwest Accreditation. Area of expertise: use of instructional best practices Implemented Utah Comprehensive Guidance Plan district-wide

5-County Tech Prep Steering Committee

Evaluated school counseling programs for the State Office of Education in the southwestern 5 counties

Responsible for guidance and counseling, assessment, student records, Student Education Occupation

Plans, internships, crisis intervention, large and small group presentations

Served concurrently as Vice Principal 1997, 1998

Vice President/Co-Founder, Kanab Center for Field Studies 1998 - 2003

Kanab Center for Field Studies (KCFS): An educational non-profit organization with emphasis on careers in science. Took groups of high school students and teachers into the wilderness to observe scientists doing fieldwork in the Grand Staircase - Escalante National Monument (GSENM). KCFS was folded into the Friends of GSENM in 2003.

Responsible for incorporation as 501(c)3, creation of bylaws, filing of IRS 990's and other legal paperwork, and taking student groups into the field

KCFS broadcast a live event to students in schools throughout Utah and North Carolina. The students interacted with a paleontologist in the field with a rare dinosaur discovery. The next year, the Discovery Channel broadcast a similar event to schools nationwide.

District Math Specialist, Kane County School District, 1995, 1997

Responsible for disseminating information from the State Office of Education regarding core testing

District liaison with the State Office of Education

Member of the Utah Textbook Adoption Committee

Responsible for approving local grant proposals in math and science

Eisenhower Grant administrator

Mathematics Department Chairman, Kanab High School, 1990- 1997

Responsible for textbook selection, technology grant writing, mathematics scheduling and school wide competency testing

Instituted more stringent graduation requirements in mathematics, added calculus to the curriculum, added AP calculus to the curriculum, and introduced the use of graphing calculators in the curriculum

Teacher, Kanab High School 1986-1997

Taught Mathematics, Computer Science, Psychology

Presidential Award for Excellence in Math and Science Teaching, Nominee

Master Teacher 7 years

Certificate of Honor awarded by the Kane County Centennial Committee

PRESENTATIONS

Advising Polygamists: Challenging our Cultural Competence, Presentation to the National Academic Advising Association, Region X conference March 2010

HONORS / AWARDS

Utah Distinguished School Counselor of the year, 2003
 Presidential Award for Excellence in Math and Science Teaching, Nominee
 Master Teacher 7 years
 Certificate of Honor awarded by the Kane County Centennial Committee
 MCC Dreamographer March 2009

COMMITTEES

Administrative Committees

President's Council, Dean's council, Management Council, Campus
 Communication Council

Chairmanships

HLC Accreditation Criterion One Committee, Academic Diversity Task Force,
 Strategic Planning North Mohave Campus, Math and Engineering Curriculum
 Department Process Leader, NMC Cultural and Civic Affairs Committee

Student Support /Academic Committees

Curriculum Committee, Academic Standards Committee, Title III Subcommittee,
 Distance Education Curriculum Sub-committee, Engineering Degree
 Development Committee, Instructional Technology Group

Other College Committees

Fee Committee, Crisis Management Team, Safety Committee, Finance and Audit
 Committee, IT Advisory Committee, Facilities Managers Committee, NMC
 Foundation Board of Directors

Other Non-College Committees

Utah/Arizona Attorneys General Safety Net Committee, School Administrators
 Group, Chambers of Commerce for St. George City, and Kanab City

PROFESSIONAL AFFILIATIONS

The Professional and Organizational Development Network in Higher Education (POD)
Peer Reviewer, conference proposals 2012, 2013
 American Educational Research Association (AERA)
 National Association of Branch Campus Administrators (NABCA)
 Utah Rural Development Council