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Charlene Huntley  
*Oral Roberts University*

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## Supporting Critical Reflection in Pre-service Teacher Education

by Charlene Huntley

### Abstract

Reflection has long been identified by teacher educators as a highly-desirable characteristic for future teachers. It is considered one determiner for effective, professional practice. However, the definitions for what is meant by reflection, as well as best practices for developing and sustaining its use, have become problematic. This synthesis is a review of the various working definitions and frameworks proposed by experts and teacher education programs. Studies focused on developing and sustaining critical reflection are also reviewed. Suggestions for teaching and sustaining critical reflection in teacher education programs are made based on the reviewed studies.

### Background

Reflection has been a concept long associated with the practice of teaching and learning and has been discussed throughout history in a variety of philosophical contexts for a range of purposes. As a result of Dewey's (1933) and Schon's (1987) seminal works, the concept of reflection has pervaded the educational arena with a renewed intensity. As with all reform efforts, the definitions and terminology for it have become problematic in that they have transitioned into a catch-all term for a variety of instructional practices. Harrison, Lawson, and Wortley (2005) suggest that desirable instructional practices are determined by those who include a critical element of reflection that results in the development of problem-solving skills.

Terminology used interchangeably with reflection includes *metacognition*, *critical thinking*, *critical inquiry*, and *thinking*. According to Dewey, "Reflection is an active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds supporting it and future conclusions to which it tends" (1933, p. 6). Schon (1987) defines reflective practice as thinking while acting and responding to uncertainty, uniqueness, and conflict in professional context. His view not only addresses teacher education, but also professional education in general (Adler, 1990).

What has been agreed upon is that it is not enough to train teachers in how to teach using effective practices; teachers must also develop attitudes and professional habits of thinking, facilitating a more thoughtful application of instructional practice. Pre-service teachers come to teacher education programs with preconceived ideas based on their experiences as students. As a result, these preconceived ideas often need to be completely adjusted or modified (Yost, Sentner, & Forlenza-Bailey, 2000; Adler, 1990). One of the outcomes of the school reform of the 1980s was the idea that change in schools can only be realized if teachers learn to frame and solve their own problems (Ross, 1987). Hatton and Smith (1994) articulated these issues well:

There are a number of barriers which hinder the achievement of reflective approaches. These include existing preconceptions about teaching as a profession, the essential preconditions which allow student teachers to develop reflective capacities, their possible

responses to being required to undertake reflection, and the structural and ideological program milieu within which various kinds of reflecting are being encouraged. (p. 7)

In the past 25 years several models for broadly defining reflection have emerged for the purpose of developing reflective practitioners. Using his definition of reflective practice, Schon (1987) proposed a framework incorporating all levels of reflection. It is composed of *reflection-in-action* and *reflection-on-action*.” These are based on *knowing-in-action* and *knowledge-in-action*. Knowing-in-action refers to knowledge that is constructed or reconstructed from practice; it is derived primarily from experiences while under the guidance of an expert. It is context-bound and not easily reduced to guidelines and rules (Hatton & Smith, 1994; Adler, 1990). Reflection-in-action, which is considered an element of knowing-in-action, involves acting on situational context and variables by “thinking-on-the-run.” In order to do this, practitioners must draw upon their personal systems of values, theories, and practices (Ross, 1987). In other words, Schon believed in practitioner-based intuition, combining art and science through reflective dialogue (Fendler, 2003; Mohlman, Sparks-Langer, & Colton, 1991).

Van Manen (1977) viewed reflection in three levels: technical, practical, and critical. At the technical level, the practitioner determines the best plan of action for a given purpose without considering additional possible consequences of the action. Technical reflection is focused on the effectiveness of a practice relative to a specific purpose. That purpose is not open to criticism or modification. The second level, practical reflection, includes examination of both the teaching practice and the goals or purposes. The third level, critical reflection, not only subsumes the previous levels, but also takes into account the social, moral, and ethical outcomes of decisions. This level of reflection considers whether professional activity is equitable and respectful of persons involved. It is the process of examining what is taken for granted and questioning its purpose and effectiveness (Mohlman, Sparks-Langer, & Colton, 1991; Hatton & Smith, 1994). Mohlman, Sparks-Langer, and Colton (1991) suggested that when pre-service teachers study ethics, morals, equity, and justice, they begin to consider the purposes for school within a given society. Hopefully this will result in scrutinizing routine practices—such as tracking, grading, and competition—through a new lens. As pre-service teachers continue to reflect and question current practices, they will begin to identify and articulate their beliefs regarding the purposes for education.

Zeichner and Liston (1987) proposed reflection on three levels that they referred to as technical, situational, and ethical. The first level focuses on the technical aspect of teaching strategies to determine their effectiveness to achieve certain goals; these goals themselves are not open to criticism. The second level takes into account the situational context of the teaching interaction such as the students, physical environment, and time of day. Practitioners should be able to articulate why they made certain choices, going beyond the question of effectiveness to include thoughtful consideration for the influences teacher decisions have on individual factors contributing to context. The third level embraces moral and ethical considerations. At this level, practitioners view their roles as contributing to or failing to contribute to a humane society (Sparks-Langer, & Colton, 1991).

Hatton and Smith (1994) suggested that an approach that supports critical reflection requires a break from traditional education that focuses on good models of teaching, an emphasis on competencies and unacknowledged conflicts between institutional ideals and the actual context of schools. All of the models described break from a utilitarian view of education, which supports training teachers in efficient teaching practices. Pre-service teachers can no longer be

viewed as passive receptacles of research-supported knowledge (Sparks-Langer, & Colton, 1991). Ross (1991) expanded the concept of teaching reflection into five categories: (a) recognizing an educational dilemma, (b) responding to a dilemma by identifying similar and unique characteristics of a specific situation, (c) framing and reframing the dilemma, (d) experimenting with the dilemma to determine consequences of various solutions, and (e) considering intended and unintended consequences in order to judge whether or not they are desirable. It is this process of higher-order thinking in problem solving that is commonly referred to as “critical reflection.” During this process, practitioners make sense of a challenging situation in order to identify areas needing further examination, designing goals and action plans for improvement of practice as well as considering its implications for broader moral and ethical issues. This process facilitates the understanding of professional practice (Yost, Sentner, & Forlenza-Bailey, 2000).

Sparks-Langer, Simmons, Pasch, Colton, and Starke (1990) designed the *Collaboration for the Improvement of Teacher Education* (CITE), which promotes pre-service teachers’ reflective thinking with regard to curriculum, teaching methods, and social and political issues. CITE was built upon the concepts of blocked classes and structured field experiences. In order to measure students’ ability to reflect on theoretical principles supporting instructional decisions and reasoning about classroom events, CITE developed the *Framework for Reflective Thinking*. This framework discriminates between seven levels of language and thinking and can be applied to both interviews and written responses.

Colton and Sparks-Langer (1993) also developed a framework for developing teacher reflection. Their framework incorporates (a) building a professional knowledge base; (b) developing an action component requiring teacher candidates to plan, implement and evaluate instruction; (c) providing opportunities to construct new meaning by interpreting reality through the lens of their professional knowledge base; (d) developing the four attributes of reflective decision-making: efficacy, flexibility, social responsibility, and metacognition; and (e) building a safe, collegial environment where relationships and dialogue can emerge.

### The Problem

Through all that has been learned regarding the nature of reflection and how to develop reflective practitioners, scholars have discovered that pre-service teachers must construct meaning by participating in structured field experiences while engaging in critical dialogue in order to scaffold new understandings (Hudson, 2004). When pre-service teachers are constructing meaning and learning, reflective practice occurs (Loughran, 2002) and they are more able to conceive new perspectives and challenge old assumptions. Dyke (2006) suggests that a framework for learning helps make sense of the practice teaching experience, which again, facilitates constructing new meaning. Dyke also suggests that learning is improved by considering context and reflecting on the experiences of others.

In spite of the growing body of knowledge for developing reflection, there is cause for concern. Fendler (2003) argues against frameworks imposing a hierarchy for reflection because all layers can be considered equal. Fendler suggests that a clear description of a classroom is no less descriptive than a description based on theory. If this is the case and the tool for measuring reflection is flawed, then what is the basis for the findings in studies using this instrument? Loughran (2002) suggests that reflection is too often a created subject rather than a naturally evolving process created by learners. Simply encouraging reflection without emphasis on

examining context and ethical issues is likely to be as meaningful as a lecture on cooperative group work without the experience of participation (Loughran, 2002). As previously indicated, pre-service educators must be given opportunity and guidance from a “more expert other” in order to frame and reframe problems in specific contexts and to draw on their schemata to determine and apply solutions while at the same time evaluating the effectiveness of the solutions.

Another cause for concern is the risk for what may be misconstrued as reflective practice which, in reality, serves only to rationalize current practices. Reflection should lead to reframing dilemmas and cause a change in instructional practice. Reflection is effective when it facilitates the construction of new meaning so that attitude regarding reflection is impacted. This, in turn, makes possible the development of true wisdom-in-practice as the knowledge gained is both recognized and articulated (Loughran, 2002).

Hatton and Smith (1994) emphasized the importance of designing longitudinal studies that follow teacher candidates into their first few years of teaching for the purposes of identifying whether reflective approaches are being retained, developed, or lost. In essence, as with any educational practices, instruction often misses the mark by focusing on the tools, rather than the intended outcomes. Also, training focused on teaching techniques without considering the teaching context often has short-term effects, but lack “staying power.” This propensity in educational practice raises the question for how effective reflection is supported and sustained in pre-service teachers.

### **Review Methods and Materials**

According to Yost, Sentner, and Forlenza-Bailey (2000), two important components are essential for critical reflection to occur: structured field experiences under the guidance of a coach and a knowledge base in education that can enable pre-service teachers to connect their knowledge to their experiences. The following 10 studies were selected for review because they meet these conditions and because they focus on developing and sustaining critical reflective practices. This review reveals five over-arching themes present in these studies: (a) journal writing, (b) field experience, (c) coaching/mentoring, (d) case studies, and (e) critical inquiry using action research. Table 1 provides a list of these studies organized by the five categories or themes.

#### *Studies of Journal Writing*

Studies show that writing is used in many teacher education programs to encourage teacher-candidates to make meaning by connecting content, theory, and practice—in essence fostering reflective abilities. Writing is also a social learning tool, whereby an expert mentor leads the student along the reflection continuum (Yost, Sentner, & Forlenza-Bailey, 2000). The following three studies used journal writing as a means to improve, as well as measure, reflection.

Bain, Mills, Ballantyne, and Packer (2002) designed a six-week study involving 35 student teachers in structured journal writing. Each student received individual feedback focusing on either levels of reflection with regard to their writing or addressing teaching issues students raised. They were also divided into groups in order to systematically provide feedback that varied according to levels of questioning and challenge. Results indicated all students reported positive aspects of the support they received; however, feedback focusing on levels of

reflection was more effective for improving reflection abilities than feedback addressing teaching issues. The study concluded that feedback designed to challenge the student-teacher and support for consideration of alternative perspectives provided the most effective strategy for encouraging the use of journal writing as a tool for thinking.

Table 1  
*Research Studies of Critical Reflection*

Study Type	Study Authors	Population	Design	Duration	Context	Measurement Instrument
Journal Writing	Bain, Mills, Ballantyne, & Packer (2002)	35	Qualitative	6 weeks	Student Teaching	Interview
	Bean & Stevens (2002)	25	Qualitative	5 weeks	Literacy Methods Course with Field Experience	Debriefing, Online Reflections
	Campoy & Radcliffe (2002)	110	Descriptive	1 semester	Assessment Course	Written Assignment
Field Experience	Castle, Fox, & O'Hanlan Souder (2006)	91 teacher-candidates	Quantitative and Qualitative	5 semesters	Professional Development School	Student Teaching Evaluation Forms & Portfolio Presentations
	Giovannelli (2003)	55	Quantitative	1 semester	Student Teaching	Surveys
	Dinkelman (1998)	3	Qualitative	1 semester	Secondary Student Teaching	Observation, Field Notes, Interviews, Written Artifacts
Coaching/Mentoring	Walkington (2005)	240 first year primary & secondary pre-service teachers	Qualitative	1 semester	Cohort	Record of Thoughts
	Williams & Watson (2004)	12	Qualitative	1 semester	Student Teaching	Debriefing, Journal Writing
Case Studies	Makanie & Allen (2005)	81 undergraduate students	Quantitative and Qualitative	5 semesters	Student Teaching	Survey
Critical Inquiry Using Action Research	Smith & Sela (2005)	31 4th year students	Action Research/Qualitative	1 year	Induction year (9 hours weekly)	Questionnaire

Bean and Stevens (2002) studied the online written reflections of 25 pre-service teachers. Weekly online reflections were scaffolded and challenged by the course professor in order to encourage more in-depth discourse. Findings suggest that pre-service teachers had a propensity to rely heavily on their personal belief structures and the course materials. Also, the discourse

largely served to reflect existing ideologies rather than question and challenge underlying assumptions of these notions. Analysis of online reflections reveal that most students' responses addressed local and societal discourses but made no reference to institutional or district discourse. In addition to providing explicit support in modeling reflective practice, this study suggests that scaffolding allowed students to focus their reflections (Bean and Stevens, 2002).

Campoy and Radcliffe (2002) designed a study using descriptive research to compare levels of cognitive development and reflective development of both pre-service and in-service teachers. Rather than conduct interviews, each participant was given a written assignment that was then analyzed in terms of knowledge and reflection. Findings do not reveal differences between groups with respect to how each thinks about the nature of knowledge. There does not appear to be a link between the understanding of knowledge and the years of education. The results imply that both groups would believe what they read or heard without discriminating and discerning biases and context. Most scored higher in justification and reflection than knowledge. However, the low scores for knowledge suggest there is little intellectual stimulation in schools to support higher levels of reflection and cognitive growth. The results indicate that both undergraduate and graduate students need experience in defending educational beliefs and approaches with regard to biases, perspectives and context, all of which imply critical reflection (Campoy & Radcliffe, 2002).

### *Studies of Field Experience*

Research reveals that beliefs about teaching become the basis and rationale for pre-service teachers' instructional practices (Yost, Sentner, & Forlenza-Bailey, 2000). If these beliefs remain firm, reflective practices may be rejected by pre-service teachers, causing them to fossilize at the initial stage of reflection. These students must be exposed to situations fostering disequilibrium in order to challenge existing belief structures. Structured, supervised field experiences provide opportunity for such an occurrence. The premise for Giovannelli's study (2003) is that learning and experience must be integrated using reflection that results in the merging of theory and practice. In a study involving student teachers, Giovannelli asked field instructors to evaluate their interns' effectiveness as teachers. These data were compared to scores initially obtained by using a questionnaire designed to rate the teacher-candidates' propensity to reflect. The results suggest that the more reflective the student-teacher, the more effective the instructional practice is judged. This implies the importance of providing ample experiences in teacher education that foster development of pre-service teachers' abilities to reflect. Given some concerns suggesting that reflection may not be easily learned, these findings also support creating a balance for results of grade point average (GPA) and attention to teacher-candidates' dispositions in the admissions process (Giovannelli, 2003).

A study involving three secondary student teachers (Dinkelman, 1998) supports the notion that critical reflection can be intentionally developed through field experience and actually sustained across semesters. Factors influencing this reflection (ranked in order from most effective) included journal assignments, study participation, observation visits, peer observations, and return-to-campus seminars. Castle, Fox, and O'Hanlan Souder's study (2006) compared student teachers participating in professional development schools (PDS) and non-professional development schools (i.e., traditional pre-service education). Professional development schools were identified as those schools forming a partnership with a teacher education program in order to provide authentic contexts for teacher candidates to build an educational knowledge base grounded in experiences. Those student teachers participating in

PDS-based teacher preparation programs out-performed those in the comparison group. PDS teacher-candidates received more supervision and feedback which contributed to taking ownership of their learning and reflecting on their teaching practice. They were able to reflect and question practices at a more thoughtful level when compared with traditional teacher-candidates. Castle et al. (2006) suggest that further research is needed on whether PDS graduates produce greater student learning gains than those taught in traditional teacher education programs.

### *Studies of Coaching/Mentoring*

Research shows that teacher education programs must begin to shift from merely providing information about teaching practices to actually transforming pre-service teachers' thinking through dialogue focused on teaching experiences (Yost, Sentner, Forlenza-Bailey, 2000). Teacher educators and mentors need to intentionally facilitate links between theory and practice and also promote problem-solving and inquiry through collaboration. Peer discussions facilitated by teacher educators promote reflection among teacher candidates (Yost, Sentner, Forlenza-Bailey, 2000).

In a study of 240 pre-service teachers, Walkington (2005) suggested that teacher education programs should use a consultative mentoring model to help teacher-candidates establish an identity with regard to teaching. This model creates the basis for responsible professionalism and critical reflection. Fostered by mentor/mentee relationships that build upon trust, the consultative mentoring model facilitates instructional activities and empowers teacher-candidates to explicitly build upon, as well as challenge, existing belief structures. The result is a teacher-candidate who will be able to fit into any context and possess the skills and confidence to make decisions that will have a significant impact. This study supports the consultative mentoring model as being more effective in the development of teacher identity than traditional supervision models (Walkington, 2005).

Williams and Watson (2004) used delayed debriefings following lesson observations as a means of facilitating deeper reflection on the part of teacher-candidates. In this study, six delayed debriefings were compared with six immediate debriefing events. The delayed debriefings also included time for structured, written journal reflections. Results suggest that a combination of both of these factors (i.e., delayed debriefings and written journal reflections) contributed to higher levels of reflective analysis when compared with immediate debriefing events.

### *Case Studies*

Studies reveal that the uses of case studies in education are based on the assumption they provide opportunities for teacher candidates to discuss and reflect on how theory can guide practice. The hope is that teacher candidates will not only be better prepared when they actually enter the classroom, but they will also be able to critically reflect on their students' learning in order to purposefully apply solid theories to instructional practice (Malkani & Allen, 2005).

There is no question the ability to reflect can be developed through the use of case studies; however, there is question for how long this reflective practice can be sustained. Malkani and Allen's (2005) study focused on using case studies in education with the intent of determining whether this practice has "staying power." Eighty-two students, as well as their cooperating teachers and university supervisors, were surveyed regarding teacher-candidates' levels of reflection-in-practice during student teaching. The results indicate those students participating in case study discussions and reflective journal groups demonstrated greater

reflective practitioner qualities than those taught using traditional lecture. The findings also suggest promise of having lasting effects, though more research is needed to support this conclusively.

### *Critical Inquiry Using Action Research*

The purpose for using the inquiry approach is to facilitate reflection on the pre-service teachers' behalf regarding improvement of their teaching practices (Yost, Sentner, Forlenza-Bailey, 2000). This approach also accentuates learning as a life-long process, continuing throughout one's career. In order to be critically reflective, teachers must learn the skill of inquiry in order to problem-solve. Action research fosters the concept that effective teaching is reflective inquiry (Ross, 1987).

Smith and Sela (2005) designed a study involving novice teachers in their fourth year of teacher education requiring each to design and carry out an action research study. Their findings suggest that students viewed action research as a way to scrutinize their practice in order to improve, thus achieving very practical results. Pre-service teachers also saw it as a connection between theory and practice. Just as important, a majority of students indicated their self-identity as educators was changed for the better. The action research also provided them with tools for designing questionnaires and systematic reflection. Most novice teachers valued learning the process for action research stating it would be helpful in solving future problems and increasing their academic knowledge (Smith & Sela, 2005).

## **Discussion**

Unless teachers are thoughtful and watchful students of education, they may continue to improve with regard to the motions and mechanics of school routines, but they cannot grow as professional educators with heart to both inspire and become a director of the soul-life (Giovannelli, 2003). The 10 studies examined indicate there is no question that reflection can be taught and supported through intentional teaching practices. There is also evidence that critical reflection can be sustained for more than one semester (Malkani & Allen, 2005; Dinkelman, 1998). As noted throughout, reflection in these studies focused on higher levels of analysis and thinking, which should have greater influence on teaching practice than thinking focused on technical issues.

Several practices are identified as developing and supporting critical reflection. Journal writing and written reflections had three studies in support (Bain, Mills, Ballantyne, & Packer, 2002; Bean & Stevens, 2002, Campoy & Radcliffe, 2002). Feedback that is focused on reflective writing was proven more effective for developing reflective ability as well as encouraging the use of journal writing as a tool for thinking (Bain, Mills, Ballantyne, & Packer, 2002).

Also, students need scaffolding in order to focus their reflections. They benefit from explicit support in modeling reflective practice (Campoy & Radcliffe, 2002). Based on the coaching and mentoring studies (Walkington, 2005; Williams & Watson, 2004), teacher candidates are more likely to establish a teacher identity if taught using a consultative, mentoring model where relationships are built on trust and existing belief structures are challenged through instructional conversations. Teachers with a strong identity will be in a solid position to engage in critical reflection.

Williams and Watson (2004) note that delayed debriefings with the use of structured journal responses facilitated higher levels of reflection. The use of case studies (Malkani &

Allen, 2005) not only promotes critical reflection by providing opportunities to connect theory and practice, but they also have promise of having lasting effects, though more research is needed to support this conclusively. Three studies support the use of structured field experiences. Learning and experiences must be integrated through the practice of reflection, resulting in the synthesis of theory and practice (Giovannelli, (2003). This practice will indirectly foster more effective practice. Indeed the more reflective the teacher, the more effective the practice. Also, field experiences integrated with journal assignments, study participation, observation visits, peer observations, and return-to campus seminars all contribute to greater reflective practices, with long-lasting effects (Dinkelman, 1998).

Participation in professional development schools, where the university forms a partnership with schools to provide quality teacher education, supports higher levels of reflection than traditional student-teaching field experiences (Castle, Fox, & O'Hanlan Souder, 2006). Action research has also been identified as developing reflective practice in pre-service teachers. It is proven effective for connecting theory and practice, as well as providing opportunity for developing an educational self-identity, creating a solid foundation for critical reflection (Smith & Sela, 2005).

As these studies show, pre-service teachers' reflections do not improve with mere practice because that tends to make the reflective practice merely routine. Instead; they must be put into situations where existing belief structures are challenged, with the support of a more expert other in a relationship built on trust. Teacher education programs all agree on the benefits of reflection as a quality of effective teaching; however, additional studies are needed to fill in the gaps in this body of research. Such questions might include, the impact of reflection on teaching practice, to what level reflection can be promoted, consequences of reflective teaching, long-term effects of reflective teaching, and the effects of reflection on learning.

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*Charlene Huntley is an Assistant Professor in the School of Education at Oral Roberts University where she teaches undergraduate reading and pedagogy courses. She has more than 20 years of experience in special education and elementary classrooms. She has also worked as a literacy consultant and staff developer for public and private schools. She may be reached at [chuntley@oru.edu](mailto:chuntley@oru.edu).*