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## Reflection-in-Action Teaching Strategies Used by Faculty to Enhance Teaching and Learning

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### Abstract

Scholars have suggested that reflective strategies are vital to teaching and learning (Brookfield, 1998; Dewey, 1964; Rogers, 2001; Schön, 1983, 1987; Zeichner, 1996). Additionally, accrediting institutions recognize the importance of reflective practice and include the requirement in their standards. However, little direction is given to faculty regarding reflective methods and processes, and it is unclear how faculty members apply the process of reflection. To elucidate these processes, this study explored the phenomenon of reflection-in-action regarding teaching from the perspectives of faculty from institutions accredited by the National Council for Accreditation of Teacher Education (NCATE), using Schön's (1983, 1987) concept of reflection-in-action as the conceptual framework and interviewing as the primary method of data collection. Analysis of the data allowed for determination that the participants practiced the reflective teaching strategies of (a) note taking, (b) requesting feedback, (c) setting up checkpoints, and (d) adjusting to improve practices while performing observation in practice. Participants also noted that partaking in the NCATE accreditation process encouraged reflective strategies for the improvement of teaching and learning.

### Introduction

Scholars have identified the practice of reflection as a critical skill for all educators and have noted the importance of reflective teaching strategies for instruction and learning (Brookfield, 1998; Drevdahl, Stackman, Purdy, & Louie, 2002; Risko, Roskos, & Vukelich, 2002; Rogers, 2001; Scanlan, Care, & Udod, 2002; Schön, 1983, 1987; Sparks-Langer, Simmons, Pasch, Colton, & Starko, 1990; Ward & McCotter, 2006). According to Dewey (1964), reflection is an important tool for teaching because "it enables us to know what we are about when we act" (p. 211). Expanding on Dewey's work, Schön proposed his theory of reflective practice, which describes reflection as a skill that validates the knowledge gained from

practitioner practices (York-Barr, Sommers, Ghere, & Montie, 2006), and identified two types of reflection: *reflection-in-action* and *reflection-on-action*.

Additionally, accrediting bodies identify reflection as a necessary skill. For example, NCATE includes reflective thought in four of its six standards as an ideal method to improve teaching practices. Central to NCATE's mission is accountability and improvement through meeting standards. Institutions that successfully meet the requirements of all six standards earn full accreditation. For us, the importance of reflection became more focused as our college was undergoing the NCATE accreditation process. We saw this as an opportunity to learn from other professors who

have experienced the NCATE accreditation process and successfully earned their full accreditation. Because NCATE -accredited institutions are held to a high standard related to reflection, discovering how faculty from NCATE-accredited institutions approach reflective thought provides insights into practices that enhance teaching and learning.

This study focused on examining “in-action” reflective teaching strategies based on Schön’s (1983) conception of reflection-in-action as a practice that “suggests not only that we can think about doing, but we can think about doing something while doing it” (p. 54). By examining these strategies, this study provides insight into practices that enhance teaching and learning and adds to the literature regarding faculty and reflection.

## Background

Dewey (1933) described *reflection* as an “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and further conclusions to which it tends” (p. 9) that allows individuals to think critically and scientifically. Schön’s (1983, 1987) perspectives on reflective practice have become the most widely adopted theoretical views of reflection in education since Dewey (Crain, 2005). According to Schön (1987), practitioners “exhibit a kind of knowing-in-practice, most of which is tacit” (p. 30) and engage in reflection-in-action when they reflect during an experience and make changes during an action. Specifically, when engaging in reflection-in-action, practitioners stop in the midst of action, make necessary adjustments, and, if necessary, alter their methods to improve their practice (Schön, 1983). Schön (1987) further explained, “What distinguished reflection-in-action from other kinds of reflection is its immediate significance for action” (p. 29).

It is well documented that reflective teaching strategies are important for instruction and learning (e.g., Brookfield, 1998; Drevdahl et al., 2002; Rogers, 2001; Schön, 1983, 1987). Many theorists agree that as reflection enhances the quality and depth of knowledge (e.g., Cunliffe,

2004; Koster, Brekelmans, Korthagen & Wubbles, 2005; Mezirow, 1981; Moon, 1999), quality teaching results from a process by which educators experiment, inquire, reflect, and consistently compare their teaching behaviors with their espoused theory of action (Dewey, 1933, 1938; Schön, 1983, 1987). According to Schön’s approach, “The process is reflexive in that the more one reflects on the mismatch between espoused theory and theory-in-use, the more information one has for reflective analysis, allowing one to improve one’s quality of reflection” (Torbert, 2009, p. 3).

In their research, Wubbles and Korthagen (1990) found that (a) the quality of relationships between students and faculty was enhanced by reflection, (b) relationships were more positive and constructive for faculty with higher levels of reflective thinking, and (c) reflection assists in achieving quality learning. In a similar study, Watts and Coleman (n.d.) indicated the important role of reflection “and the positive influence that reflection can have, in terms of, the process of good quality learning” (p. 8). Zeichner (2007) noted that when educators reflect, they are able to make improvements in the quality of instruction. These and similar findings led Ostorga (2006) to conclude that because reflection informs teaching practices, strategies that aim to enhance reflective skills should be developed and implemented.

Furthermore, national accrediting bodies, such as the NCATE, certification bodies, such as the National Board for Professional Teaching Standards (NBPTS), and recognition organizations, such as the Council for Higher Education Accreditation (CHEA), all advocate for reflective thought on teaching as a valuable practice for the professoriate and future educators. Even though much of the literature addresses the importance of reflective strategies, little of the literature provides faculty with direction regarding the application of reflective methods and processes, and few studies have examined the extent to which educators apply the process of reflection. To address these research gaps, this study aimed to identify and examine the “in-action”

reflective teaching strategies used by faculty, from NCATE- accredited institutions, to enhance teaching and learning by addressing the following two research questions:

1. What key reflective teaching strategies are used by faculty to practice reflection-in-action?
2. How do these strategies correspond to Schön's concept of reflection-in-action?

## Methods

### *Research design*

To conduct an in-depth exploration of the central phenomenon—reflection-in-action—the researchers used a qualitative research design, an approach that has been demonstrated effective in collecting data regarding individual perspectives and experiences with a phenomenon (Creswell, 2005; Heppner, Wampold, & Kivlighan, 2008). Specifically, a qualitative interview was designed. Some interviews were conducted face to face due to geographical location and some were conducted by telephone. The interviews were designed to take no longer than 60 minutes, however, the exact time of the interviews varied from one participant to another.

### *Participants*

In qualitative research, to achieve a better understanding of the central phenomenon, researchers intentionally select particular participants and sites (Creswell, 2005; Park, 2008). The participants were purposefully selected because they have experience with the central phenomenon. Criterion-based sampling is a strategy used in purposeful sampling. Within this strategy, participants are identified because they meet specific criteria (Park, 2008). Fifteen participants for this research study were selected because they had experience with the phenomenon being explored and they were all full-time faculty members working in NCATE-accredited universities.

The criteria for selection included that participants:

1. Taught in a higher education department for at least three years.
2. Currently teach in an NCATE-accredited institution.
3. Have experienced the NCATE accreditation process.

Maximum variation was used as a sampling strategy. Within this technique, participants were selected because they differ on some characteristic or trait (Creswell, 2005). Regarding maximum variation, Patton (2005) explained, "Common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared dimensions of a setting or phenomenon" (p. 235). Patton further stated that when common patterns and themes emerge from great variation, the data then become of particular interest in describing the core experiences and shared dimensions of the phenomenon. Particular to this study, varied differences included gender, time teaching in an NCATE-accredited institution, geographic distribution, and institution type (private-nonprofit or public). In exploring faculty's reflection-in-action teaching strategies from universities across the United States, it is more likely that multifaceted perspectives were represented (Creswell, 2005).

### *Data collection*

After the study received approval from the Institutional Review Board, participants were sent a letter stating the purpose of the study, the parameters of the study, and that participation is voluntary. The letter assured participants that their names would be kept confidential and they would be assigned pseudonyms.

Interviews, consisting of semi-structured questions, were the primary method of data collection. This approach allowed the participants to ask for clarification and the researchers to provide it when necessary.

The interview questions were provided to the participants prior to the interview after they signed a consent form. The primary researcher began each interview with a discussion

explaining that participation was voluntary and that the participant may opt out at any time. The purpose of the study was restated and permission to tape record each session was requested. After permission was granted, the interviews were conducted. To ensure the accuracy (reliability) of the subsequent transcription of data, the participants were asked to review and verify the transcripts of the interviews.

### **Data analysis**

After transcription of the data, analysis of the data began with the researchers performing the processes of bracketing and coding in order to identify themes. During the “bracketing” phase of a study, key statements that relate directly to the phenomenon are identified (Patton, 2005). The key statements are interpreted and then examined for what they reveal about the recurring characteristics of the phenomenon. When bracketing was completed, the data were aggregated according to the themes that had emerged.

To ensure interrater reliability, the primary researcher trained a second rater in the coding process for independent analysis of the data. Interrater reliability was established to determine the consistency of interpretations of the data. After the second rater independently coded one of the transcriptions, the primary researcher and the second rater met to assess and clarify the process of analysis.

After data had been analyzed, the primary researcher and the second rater met to discuss their findings and came to a consensus regarding the themes. The criteria by which a theme was categorized as a major theme were:

Repetitions appeared in and among participants’ transcripts.

The repetitions were identified by at least 60% of the participants.

## **Results**

### **Findings for research question 1: What key reflective teaching strategies are used by faculty for practicing reflection-in-action?**

The four themes (reflective teaching strategies) that emerged from the analysis of the data were (a) note taking, (b) requesting feedback, (c) setting up checkpoints, and (d) adjusting to improve practices. Figure 1 shows the four reflection-in-action strategies and the corresponding percentage of participants who identified each.

#### **Figure 1.**

*Reflection-in-action strategies and percentage of faculty that identified each*

Note taking	60%
Requesting feedback	87%
Setting up checkpoints	73%
Adjusting to improve practices	100%

The following data, using pseudonyms, were extracted from the interviews.

#### **Note taking**

The participants described note taking during action, a theme identified by 60% of the participants, as a means by which to develop a collection of ideas and examples from which they could later draw:

I always take notes . . . sometimes during class. I also take notes during conferences and while reading professional literature. (Grace)

Several participants described the strategy of note taking as a tool for reflecting-in-action that assists them in fulfilling the goal of future planning:

I spend some time looking at my notes. . . . I am always building my course for next semester. I always have a file open and

make notes about the current syllabus and how I can change it. (Keith)

When an idea occurs I write it down as quickly as possible and play with it a bit. (Ian)

The strategy of taking notes is not novel; however, what was revealed during the interviews was that faculty felt compelled to analyze their own work. It was evident that the participants had an inquiry-oriented attitude as they used the strategy of taking notes to assess their teaching practices and to make future improvements in their work. Schön (1995) demonstrated the process of *inquiry* with a quote from Dewey (1938), who observed that an ongoing inquiry process “institutes new ... conditions that occasion new problems” (p. 2). The process that Schön (1995) and Dewey (1938) referred to provides opportunities for educators to reflect on situations while devising the latest strategies for future improvements.

### **Requesting feedback**

The participants described requesting feedback, a theme identified by 87% of the participants, as a reflection-in-action strategy. Several participants described receiving feedback in both verbal and written forms from their students:

During class sessions I receive feedback from students. . . . I realize that I may need to reflect. ... I may have to change the approach. For example, I may have to give the students a break, get them involved in a role-play or start a dialogue about the topic. (Grace)

I reflect when students are engaged in scenarios . . . and conversations. (Francesca)

I realized I needed to back up a couple of steps during the class. ... Students were resisting and not understanding. . . . I reflected on their conversations and actions and realized that I needed to slow down. (Kathy)

One participant described eliciting comments from his colleagues:

We [faculty] mentor one another through observations and solicit feedback. (Anthony)

One component of using feedback is the strategy of asking questions and applying the responses to engage in improvement and further reflection. This practice aligns with a constructivist view of teaching (Piaget, 1972; Vygotsky, 1962), which emphasizes engaging the learner in the process. When teachers use a constructivist approach, they involve students in experiences rather than simply transmitting knowledge to them. When the participants described asking their students questions about course content or teaching strategies, they were describing a means by which they actively engaged their students in their own learning, after which they collected student feedback to determine the appropriate next steps. Lucien described how he practices Schön’s (1987) concept of reciprocal reflection-in-action with student teachers:

When I am working with a student teacher and, possibly, I’m complimenting her teaching skills and she is taking it in a negative manner . . . I reflect on how to say things to her. I want to make sure she understands. I check for understanding and then possibly see if there is something else going on with her that I may need to address.

In this example of reciprocal reflection-in-action, the participant reflects on what the student teacher reveals regarding knowledge or difficulty to determine the most useful feedback. Furthermore, by soliciting questions for feedback, the participants are able to question and challenge their existing paradigms. This process leads to *double-loop reflection* (or double-loop learning), which Schön (1987) described as an important process of reflection involving a higher level of cognition that can lead to a shift in the way that strategies are framed and eventually implemented. When double-loop learning occurs, the person critically examines the underlying value or message and makes a change in his or her action and in the governing variable (Schön, 1987). Therefore, the action and the variable have changed. For

example, when Lucien was engaged with the student during discourse, he began to question his approach to determine the best way to assist the student resulting in a change of action. If he made a change of action, only then did single-loop learning occur. If Lucien changed his action and the underlying variable behind the action, then double-loop learning transpired.

### ***Setting up checkpoints***

The participants described setting up checkpoints, a theme identified by 73% of the participants, as a means of establishing a systematic series of checkpoints within their reflective strategies. For example, Elizabeth described engaging in frequent progress monitoring while engaging with her students, while several other participants described using student responses to inform their reflection-in-action. Their practices reflect Schön's (1983) concept that reflection-in-action "suggests not only that we can think about doing, but we can think about doing something while doing it" (p. 54). Several participants described reflective processes that included engaging in purposeful inquiry during practice:

As you are going through the materials you are not quite sure if students are grasping what they need to. I set up quick breakouts during class, and a concluding activity so I can see if they actually grasped the concepts. (Brianne)

Using some kind of a systematic process check (such as setting up check points) for reflection changes reflection from a haphazard occurrence to an intentional strategy. "Intentional acts originate from careful thought and are accompanied by consideration of their potential effects" (Epstein, 2007, p. 4). It seemed that when participants were intentional in setting up situations that addressed students' understandings, they had a goal in mind. The participants' responses illustrated a need to be intentional about their reflective practice and an awareness of the value of soliciting comments from students. It was apparent to us that the participants' followed Vygotsky's theory of social constructivism. Vygotsky, a social constructivist, believed that cognitive

development is enhanced through social interactions with a more advanced peer or an educator (Berk & Winsler, 1995; Crain, 2005; Thomas, 2005), similar to the participants' recollections of their interactions with students. For instance, they intentionally posed questions to elicit inquiry from their students. Their questions and/or the students' feedback led them to further questioning, reflection, and solutions. This process promoted curiosity, joint problem solving, and reflection on the perspectives of others (Berk & Winsler, 1995). Most importantly, through conversation, the quality of relationships are enhanced when faculty offer students the opportunity for reflective thought (Wubbles & Korthagen, 1990).

### ***Adjusting to improve practice***

The participants described the practice of improving practice, a theme identified by 100% of the participants, as a means of analyzing their teaching approaches to determine the effectiveness of their strategies. Several described the means by which they apply this practice:

When I am teaching . . . if students . . . look uninterested this is a clue that I need to change things. (Grace)

I am always thinking about ways to improve. I am always thinking about what would make this better. (Ian).

Contemplating the consequences of your actions . . . and using the contemplation

in thinking about how to change what you planned to do. (Catarina)

Reflection helps me to do self-evaluations. I have always tried to make sure that I am self-improving. (Francesca)

This finding was consistent with the literature, as scholars have noted that one goal of reflective practice is to help practitioners improve their teaching (e.g., Killion, et al., 1991; Rogers, 2001; Schön, 1983, 1987; Zeichner, 2007). The idea of improvement further connects to Schön's (1983) thinking. He declared that when reflecting-in-action, the

goal of the reflection should be improved pedagogy.

In addition, this finding resonated with the NCATE standards, which depict reflection as a necessary tool for educators to use to improve their practice. NCATE (2008) recommends that educators should monitor and refine their work with continuous in-depth reflection for the purpose of improvement.

### ***Findings for research question 2: How do these strategies correspond to Schön's concept of reflection-in-action?***

Analysis of the data regarding the second research question led to identification of the two themes of (a) observation in practice, which 100% of the participants described, and (b) inquiry during practice, which 73% of the participants described. The following sections present information and conclusions related to these themes.

#### ***Observation in practice***

The participants' descriptions of their reflective processes during their interactions with students clearly indicated that they practiced reflection-in-action during observation:

While engaged in a conversation with a student I may be reflecting on how I can restructure my questioning so she understands what I am saying. (Lucien)

I always think about what I am doing and how the students respond and if I need to change while reflecting-in-action. (Catarina)

Observation in practice is an important aspect of reflection because it enables practitioners to assess their own practice and to make changes if necessary (Schön, 1983). For example, Daniella recalled, "While I was teaching I sensed that I was moving too quickly. I could just feel it. I sensed it while it was happening."

By reflecting on their intuitive knowledge while engaged in action, these participants practiced Schön's (1987) concept of reflection-in-action. As such, they would agree with Schön that during their observations and "in the midst of action . . . our thinking serves to reshape what

we are doing while we are doing it . . . when we can still make a difference to the situation at hand" (p. 26).

#### ***Inquiry during practice***

Reflection-in-action was apparent when participants described their reflection processes that included inquiry during practice:

Oftentimes the questions I ask during teaching, to develop critical thinking skills in students, become an avenue for reflective thought within me. (Sally)

Several of the participants added to the inquiry concept by modeling effective teaching strategies and including a dialogue about why adjustments were being made:

Just yesterday, I had to reflect during the experience . . . during conversations in class. . . . I believe in questioning students and having a dialogue about what went well and what didn't go so well . . . then I model for them and point out to students what I am doing and why. (Abigail)

I model teaching strategies for students, but I have to make it very explicit why I am changing in the midst of action. I wouldn't just model it for them. (Cinzia)

Schön (1987) argued that for deep learning to occur, educators must do more than simply describe or model an action. He explained that deep learning only occurs when educators explain *what* they are doing and *why* they are doing it. Such explanation should occur not only between teachers and students but also among teachers, for as York-Barr et al. (2006) noted, "By sharing newly constructed knowledge among colleagues, the impact on effectiveness can be multiplied" (p. 16).

#### ***Discussion***

This study aimed to identify how faculty from NCATE-accredited institutions approach reflection-in-action strategies. By investigating these strategies, this study provided insight into practices that enhance teaching and learning and added to the literature regarding faculty and reflection. Analysis of the data

collected from the 15 participants led to the identification of four reflective teaching strategies, (a) note taking, (b) requesting feedback, (c) setting up checkpoints, and (d) adjusting to improve practices. An unexpected outcome also revealed that participating in the NCATE accreditation process actually promoted reflection. For Grace, it made reflection more purposeful for herself and her students. Brianne stated that it made her document students' reflections, which she may not have otherwise done. We viewed Abigail's comment as inspiring, as her institution created a resource center for new faculty after it participated in the NCATE accreditation process. Through the resource center the institution assists new faculty with teaching strategies and approaches that encourage reflective work. These reflection-in-action teaching skills aligned with the literature by stating how the strategies support the learning processes of faculty and students.

When engaged in the four reflective strategies, the participants described being able to evaluate their own teaching with an inquiry-oriented attitude, adjust practice for improvement, and model reflective practices while explaining why they are making adjustments. Evaluating their own teaching through reflective strategies thus assists them in analyzing their teaching approaches and the effectiveness of their strategies, providing them with information with which to improve their pedagogy and increase student learning.

The participants' responses clearly indicated that they maintain an inquiry-oriented attitude. According to Dewey (1938), the process of inquiry is dynamic, as an ongoing inquiry process does not simply solve one's problems but also "institutes new . . . conditions that occasion new problems" (as cited in Schön, 1995, p. 2). Maintaining an inquiry-oriented attitude thus provides educators with opportunities to reflect on situations while devising the latest strategies for problem solving.

Making changes to practice for the purpose of improvement directly relates to reflective practice, which both Dewey (1933) and Schön

(1983) considered a central component of reflective thought. Dewey (1933) asserted the importance of testing ideas, which allows for further responses and possible changes. To do so, one must think things through for change to occur. Schön (1983) explained that as

The practitioner allows himself to experience surprise. . . . He reflects on the phenomenon before him. . . . He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation. (p. 68)

The participants' responses clearly indicated that practicing reflection-in-action drove them to analyze their own practice, which resulted in improvements in their teaching and student learning. Their responses also indicated that the participants understood the importance of modeling their reflective strategies and the effectiveness of intentionality. Remarking on the significance of explaining the *why* behind the thinking process, Schön (1987) noted, "Inquirers can sometimes figure out how to solve unique problems or make sense of puzzling phenomena by modeling the unfamiliar on the familiar" (p. 186).

Reading the statement about explaining the *why* behind the *what* was a life-changing experience for the authors. As we were beginning our own discovery of how to reflect more deeply, with the ultimate goal of advancing student learning, this idea struck a chord. Explaining the *what* and *why* behind a practice is now an adopted strategy. Since adopting this strategy, the researchers have witnessed students making a connection from practice to theoretical views. We have also observed students making more informed choices and creating meaning from the action. For example, we were teaching a group of students about the processes of planning for children through an emergent curriculum. The emergent process includes presenting a hypothesis to children, creating conditions in which children can explore and test those ideas, observing and documenting, and then posing a new hypothesis to the children. As we were lecturing, we realized that by modeling

the process for the college students with an explanation of the *why* behind it, they would be able to make a deeper connection to the content. Adopting this strategy with our students has made a difference in how we teach and in their learning.

Relating to the four reflection-in-action strategies, the participants made it clear that intentionality was key to reflective thought. Whether they were taking notes during class, requesting feedback from students, setting up checkpoints for self-reflection, or making adjustments to their teaching, their behaviors espoused intentionality. Participants stated that they felt compelled to reflect for the purpose of improving their teaching and ultimately enhancing student outcomes. We have learned the significance of being intentional with reflection. Reflection does not happen by chance. Reflection-in-action occurs through the process of observation in the midst of an action, adjusting the action and applying the new action. As Dewey (1933) stated, reflection is not haphazard it must be a persistent habit that includes careful thought. We approach this by informing our college students of the necessity of continuous reflection. In the past, we expected our students to reflect during their student teaching experience without giving them adequate background on reflective definitions or strategies. Today, definitions of reflection are addressed along with approaches to accomplish the task. We inform students about why they need to be cognizant of reflection strategies, how to make reflection a habit, and then how to implement their findings in their own teaching with children. Making reflection intentional is similar to Dewey's concept of reflection in that it becomes a habit of the mind, including a plan that is well thought out and purposeful. This is an important step in the continuous process of enhancing teaching and learning.

For educators, learning how to reflect and how to teach students the fundamentals behind reflection is vital. The strategies presented here are not an exhaustive list of reflective strategies; however, they provide insight into the understandings of reflective strategies used

by faculty. This study also adds to the practical understanding of professors teaching artistry through reflection by addressing their approaches and strategies. Because reflection is seen as a tool to be used continuously for problem solving, planning, and decision making (Darling-Hammond, 2006; Dewey, 1933; Schön, 1983, 1987), faculty may use these strategies as a guide to assist in planning for teaching and learning.

Noting the lack of research specific to faculty (e.g., Drevdahl et al., 2002; Palmeri, 2006), scholars have called for further research into reflective practices (e.g., Beauchamp, 2006; Crain, 2005; Scanlan et al., 2002). By offering new perspectives on reflection-in-action, this study helps fill this research gap by adding to the literature on faculty and reflection.

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