

## **Analyzing Teaching through Student Work<sup>1</sup>**

**By Judith Haymore Sandholtz**

As a parent and a teacher educator, I am acutely aware of the need to “practice what you preach.” Yet, in both roles, I often find it a challenging axiom to carry out. When I warned my eldest child about the latest research on sleep deprivation, I resolved to make adequate sleep a priority in my routine. Similarly, when I volunteered to develop and teach a capstone course for M.Ed. students based on analyzing one’s teaching, I determined to analyze my own teaching. In this article, I focus on one component of that ongoing self-study: my analysis of two M.Ed. students’ work in which they analyze two of their K-12 students’ work. Through this embedded design, I completed the identical assignment that I required of my students.

### **The Role of Self-Study**

There is increasing recognition of the role of self-study in building teachers’ knowledge base. As teachers make decisions about what and how to teach, they draw upon a knowledge base that includes numerous types of knowledge (Carter, 1990; Shulman, 1987; Tom & Valli, 1990). This knowledge base is not static, but rather changes and expands throughout one’s teaching career. An important method for expanding one’s knowledge base is through critical inquiry and reflection on one’s practice. The National Board for Professional Teaching Practice (NBPTS) proposes that “getting

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### *Analyzing Teaching through Student Work*

---

teachers engaged in a self-reflective teaching practice will improve the quality of teaching and improve student learning” (NBPTS, 1999a, p.7). The notion of learning from one’s own practice stems back to the work of Dewey who advocated “a special kind of professional education, in which a curriculum of theory-in-practice dedicated to the understanding of theory-for-practice was at its heart” (Shulman, 1998, p. 523).

When theory is linked to practice, teachers themselves can become a critical source of new professional knowledge. However, simply gaining experience is not equivalent to learning from experience. Prospective teachers, engaging in unanalyzed classroom experience, face a serious problem of coming to inappropriate conclusions “that will be reinforced by further unanalyzed experience on the job” (Feiman-Nemser & Buchmann, 1985, p. 68). Field experience for prospective teachers often serves to reinforce, rather than challenge, generic views of teaching gained through personal experience as K-12 students. Yet teaching involves complex, particular, and unpredictable situations. Ball and Cohen (1999) contend that teachers need to learn, both before and while teaching, how to learn *in* and *from* practice. Consequently, professional education should focus on systematic study of practice and “emphasize questions, investigations, analysis, and criticism” (p. 13). Given that every classroom and teaching situation is different, it is impossible for teacher education programs to prescribe appropriate strategies. Teachers need the skills and dispositions to analyze teaching and learning in order to adapt their practice.

Recent approaches to teacher assessment include reflective practice as a key component of effective teaching. Although specific approaches differ, the conceptualizations of teaching underlying the standards and assessment criteria developed by the Educational Testing Service (ETS), the Interstate New Teacher Assessment and Support Consortium (INTASC), and the National Board for Professional Teaching Standards (NBPTS) emphasize reflective practice (Porter, Youngs, & Odden, 2001). Reflective practice is considered essential for competent teachers, whether beginning or experienced. The ETS and INTASC assessments focus on beginning teachers whereas the NBPTS recognizes accomplished teachers who have taught at least five years. The ETS suggests that competent beginning teachers reflect on classroom events to plan subsequent teaching and to improve skills over time; similarly, INTASC identifies the need for beginning teachers to continually assess the effects of their actions (Porter, Youngs, & Odden, 2001). The NBPTS focuses on proficient teaching on five core propositions, one of which states, “Teachers think systematically about their practice and learn from experience” (NBPTS, 1999b, p. 7). In dealing with complex situations and often competing demands, proficient teachers “employ their professional knowledge of what makes for sound practice” and ground their decisions “in established theory and reasoned judgment” (p. 28). As “savvy students of their own teaching,” masterful teachers also serve as models of critical, analytic thinking for their students (p.29).

Reasons for teachers to engage in reflective practice similarly apply to teacher

educators. In addition to serving as exemplars, teacher educators need to prepare teachers to be “reflective professionals disposed to examine their teaching and their students’ learning critically” (Shulman, 1998, p. 515). Dinkelman (2003) offers a five-part rationale for self-study by teacher educators: (a) reflection is congruent with the activity of teaching, (b) self-study has the potential to produce knowledge valuable to both local contexts and the broader teacher education research community, (c) self-study is a tool to model reflective practice, (d) self-study, in some cases, involves students in the process of inquiry, (e) self-study has the potential to generate programmatic change. Self-study is not only a means of promoting reflective teaching but also a substantive end of teacher education.

The type of reflective practice being advocated for teachers and teacher educators extends beyond reflection more generally. Dinkelman points out that Schon’s (1983) concept of “reflection-in-action” captures the thinking that teachers bring to their work in the moment of teaching” whereas self-study involves “intentional and systematic inquiry into one’s own practice” (2003, p. 9). The NBPTS approach involves teachers in systematic critical inquiry and recognizes that analytical teachers reflect on decisions made during the teaching day. Reflective practice is based on careful reasoning that involves “considering purposes, marshaling evidence, and balancing outcomes” (NBPTS, 1999b, p. 29). A key step in this reasoning process is collecting and analyzing evidence. One essential source of evidence about a teacher’s practice is student work, which can take multiple forms including writing, film, music, art, oral discourse, three-dimensional projects, or software (NBPTS, 1999a). In analyzing student work, teachers confront questions about if and how their teaching is addressing its primary aim: the growth of student understanding.

### **Analyzing Student Work**

As one component of my self-study, I analyzed two M.Ed. students’ work in which they analyzed two of their K-12 students’ assignments. Following the same process as my students, I selected work samples of two students who presented differing challenges to me. I used the same format and page guidelines as the M.Ed. students: a written commentary adapted from the National Board Certification Process includes four components: (1) instructional context, (2) analysis of planning and teaching, (3) analysis of student assignments, and (4) reflection. In my case, I focused on the M.Ed. students’ abilities to analyze their own teaching. The M.Ed. students focused on their K-12 students’ understanding of subject matter.

To conduct the analysis, I collected the following for each student: drafts of each of the four sections, the final version of the total written commentary, and written feedback from the assigned co-instructor. Feedback included comments sent by email as well as those written directly on the drafts and final version. I also drew upon information gathered in whole and small group discussions, instructors’ meetings, and informal conversations with students or other instructors. I began by

### *Analyzing Teaching through Student Work*

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focusing on their final written commentaries and looking for evidence of analytical thinking and self-reflection. I examined them across four key dimensions: explanations of the rationale guiding their actions, connections between instructional goals and classroom activities, use of evidence to support judgments, and multiple forms of self-reflection. I subsequently looked across data sources for additional evidence to confirm or disconfirm my initial judgments about each student's commentary (e.g., comments in class session and small group discussions). Next I examined their drafts and the feedback from the co-instructors to determine changes in their work from the initial draft to the final document. Finally, I examined the data for potential explanations for differences in these two students' work.

My analysis is reported in four sections. The first section focuses on the instructional context and provides background information about the course, the students, and the setting. The second section describes the planning and teaching related to this particular assignment and the connection to instructional goals. The third section includes descriptions of the selected students and analysis of their written commentaries, focusing on how the work demonstrates their developing understanding. The final section involves reflection on the success of the assignment and ways in which the assignment and my teaching could be adapted in the future.

#### ***Instructional Context***

*Analyzing the Practice of Teaching* (EDU 283) is considered the capstone course of the combined credential/M.Ed. Program at the University of California, Riverside. As such, the course builds on students' prior course work and current teaching experience. Students typically enroll in the course during the last quarter of their graduate program. The course was taught for the first time during Spring Quarter 2002.

All applicants to the credential program must have a bachelor's degree and passing scores on the requisite exams, and M.Ed. students are held to higher admission standards in other areas (e.g., a 3.2 GPA, completion of foundation courses, strong writing samples, outstanding letters of recommendation, high interview scores). The combined program is designed to be completed over 12 months. In combination with their university courses, students teach at assigned schools as interns or student teachers. Interns function as full-time first-year teachers with total responsibility for the classroom; student teachers teach part-time guided by an experienced teacher.

The 2002 M.Ed. cohort consisted of 33 students, 29 females and four males. The majority, 25 of the 33, were teaching at the elementary level with 18 as student teachers and seven as interns. The student teachers in the elementary program gained experience teaching at both the K-3 and 4-6 levels. At the secondary level, three were interns (one in math and two in science) and five were student teachers (three in English, one in social studies, and one in math). In the student teaching credential programs, student teachers are typically placed in cohorts at partner schools. Consequently, some students in this class worked at the same school as others. In contrast, the interns typically have no one else in the program at their schools.

A team of five co-instructors taught the course. As the university faculty member, I was the instructor of record and took the lead in designing the course, developing materials, and organizing class sessions. Four doctoral students (two male and two female) collaborated on the course, facilitated small group sessions, and provided individual feedback to students about assignments. In addition to pursuing doctoral studies, they were teaching full-time in public schools – two at the elementary level (first grade and fourth grade) and two at the secondary level (mathematics and English). One successfully completed the NBPTS certification process.

Throughout the 10-week quarter, the class met once a week from 4-7 p.m. The class was structured so that students met in small groups for approximately 1-1/4 hours a week. Because a primary function of the groups was to foster sharing and critical analysis of teaching, students selected and formed their own groups of eight or nine students with one of the co-instructors. The self-selection generally led to mixed groupings in terms of elementary or secondary level, subject areas, teaching positions (interns or student teachers), and existing collegial relationships. However, one group consisted entirely of bilingual females who were student teaching in grades K-3. They also happened to know each other well, and all had taken a course previously from the co-instructor leading their group.

#### ***Analysis of Planning and Teaching***

The framing question for this course was: How can we design (and redesign) curriculum and instruction to advance student understanding? This particular assignment focused on analyzing one's teaching through student work and was adapted from the NBPTS certification process. The M.Ed. students selected an assignment from their K-12 practice that demonstrated how they were developing student understanding in a specific content area. The assignment could be one that they created, selected, or adapted for use in their class. They collected work samples for this assignment from two students who represented different kinds of challenges. In analyzing their students' work, the M.Ed. students completed a 10-13 page written commentary that included four sections: instructional context of the classroom; analysis of planning and teaching; analysis of samples of student work; and reflection. For each section, questions were posed to guide their analyses.

We included the analysis of student work assignment in the course for three interrelated reasons. First, the assignment supports the overall focus of the course and demonstrates the general approach to teaching this topic. Second, it requires the beginning teachers to analyze their teaching in relationship to students' work. It focuses their thinking on how planning and teaching are connected to student understanding and prompts them to draw evidence from specific samples. Third, the assignment provides an introduction to the types of analyses included in the NBPTS certification process. Although the specifics vary, candidates in all NBPTS certificate fields are required to analyze student work as part of their portfolios.

The analysis of student work assignment fit into the overall teaching plan of

### *Analyzing Teaching through Student Work*

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engaging students in critical analysis and self-reflection. Students participated in both group and individual analyses. The group analyses were completed during the class sessions and drew upon data primarily in the form of case studies or videos of classroom teaching. The case studies focused on classroom teaching, but the case study authors ranged from university faculty to experienced teachers to student teachers. The groupings for these analyses varied each week and, depending on the activity, ranged from pairs to groups of four or five students. Each pair or group received prompts designed to focus discussions around particular issues and to extend students' thinking. As part of the discussions, each group compiled a single, collaborative summary of responses. The entire class then examined key issues stemming from students' responses. Our reasoning was that examining someone else's teaching offered a natural segue into analyzing one's own teaching.

The individual analyses centered on three components of the M.Ed. students' teaching practice: (a) student work, (b) a teaching episode, and (c) a curriculum unit. Prior to completing these analyses, students compiled a brief description of the broader context in which they were teaching, including student, school, community, and state characteristics. We believed that the broader context description would not only assist the reader in understanding students' subsequent analyses but also help students recognize that the context shapes one's practice. We purposefully arranged the analyses in the order of student work, teaching episode, and curriculum unit. We reasoned that, as beginning teachers, M.Ed. students may view examination of student work as more concrete than examination of teaching and less threatening to discuss as a group. The curriculum unit was last in order to build on the readings and design process outlined in a course text, *Understanding by Design* (Wiggins & McTighe, 1998).

The three main assignments were completed in phases in order to develop the depth of the analyses. Each student brought a draft of one section of the assignment on a specified date. In the self-selected small groups led by a co-instructor, students shared all, or part of, their work and received feedback from others in the group. These discussions were not intended to center on one's teaching effectiveness but rather on ideas for analyzing one's planning and teaching and drawing upon specific evidence. In addition to suggestions stemming from the small group discussion, students received individualized comments and feedback on their drafts from their co-instructor. The students had the option of revising each section before submitting the total written commentary for the assignment. This process of revising based upon further reflection and comments from others enhanced our goal of developing students' analytical thinking and supported our overall teaching plan.

The overall aim for the assignment was for students to begin to analyze their teaching and student understanding by drawing upon specific evidence. The specific aims closely aligned with the four components of the assignment itself. Students were asked to: (a) identify relevant features of and describe the instructional context of their classroom, (b) determine how the selected assignment

supports their specific and overall instructional goals and teaching plan, (c) use student work samples to analyze student understanding, and (d) reflect on how successful the assignment was and how it and their teaching of this topic might be adapted in order to improve student understanding. These specific aims supported the overall goals for the course: (a) to develop students' analytical thinking and self-reflections, (b) to make the act of teaching public, (c) to create an environment where candidates felt comfortable engaging in collaborative inquiry and accepting the assistance and appraisal of peers, and (d) to establish a foundation for self-reflective teaching practice and collaborative inquiry that students would build upon throughout their teaching careers.

#### ***Analysis of Samples of M.Ed. Student Work***

In deciding which students' work to analyze, we aimed for contrasts. The two students, assigned the pseudonyms of Julie and Carla, represent contrasts in several areas. Julie completed a bachelor's degree in English and was a student teacher in the English department at an urban high school. As a student teacher, she worked closely with a cooperating teacher and, by spring quarter, had teaching responsibility for three class periods, all 11<sup>th</sup> grade American literature. Carla, who completed a bachelor's degree in business administration, was an intern teacher assigned to first grade in a suburban K-5 elementary school. As an intern, Carla was under contract with the district and functioned as a first-year teacher who, though not yet credentialed, had full responsibility for her classroom. As credential students, both had university supervisors who visited their classrooms regularly and met with them in weekly seminars.

The two students presented contrasts in terms of effort devoted to course work, demeanor in class, and comments during discussions. Carla attended class every week and submitted her assignments on time. In contrast to many other students' work, her initial drafts appeared more like a final version, in terms of both content and writing conventions. In class, she appeared upbeat, engaged, and interested in the activities. Her comments made it evident that she had completed the readings and was connecting the content to her own teaching as well as the situations in the case studies. In the small group discussions, she was a thoughtful participant who often raised an alternative perspective or interpretation of the evidence being examined.

Julie conscientiously attended class, arriving on time and explaining in advance the circumstances for her one absence. With one exception, she submitted her assignments on time. However, her assignments revealed a lack of effort, evidenced by spelling and grammatical errors, very short length, and failure to re-write. In class, Julie frequently appeared sullen, and her body language suggested that she was disinterested in or disengaged from the discussions. When she chose to comment, she digressed into complaints about student teaching or assignments. For example, she frequently complained about conditions at her school and how student teachers were not paid for their teaching. In one small group discussion, she



### *Analyzing Teaching through Student Work*

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indicated she had done analysis and reflection on teaching in an undergraduate class, suggesting she had little to gain from repeating the experience in this course. When asked if she had been an observer rather than a teacher as an undergraduate, she acknowledged the difference in roles but saw no differences in how that might alter the analytical process.

The contrasts between Julie and Carla extend into their written analyses of their own students' work. As described above, Julie's work suggests a general lack of effort on her part, but her actions were puzzling. For example, in one small group discussion, she volunteered to go first and asked for specific feedback on her draft, yet she never incorporated those suggestions. Her written work also fails to demonstrate the subject matter knowledge one would expect from a student teacher with a degree in English. For example, Julie made basic grammatical and punctuation errors in her written work such as "after I have got [sic] the rest of the class. . . " or "my instructional goals for this assignment was [sic] to make." She failed to catch these errors even when reading the section aloud in her small group. Although she mentioned correcting her students' errors in their drafts, one sample of student work still contained minor errors. In describing her teaching of poetry, she used little detail about elements of poetry and focused on one aspect of scary poems — using a repeating word or phrase. Similarly, when describing how the assignment furthered her overall instructional goals, Julie identified basic curriculum sequence — "allowing me to move from scary poems to ghost stories and then to short stories" — rather than student understanding of poetry. The reader is left with little sense of her overall instructional plan.

Julie's written commentary demonstrates shallow understanding of how to analyze her teaching and student work. She included relevant elements in her description of context sections — such as student background, language ability, and special needs — but often left out details, using instead phrases such as "the school is mostly" or "a significant number." Throughout her analysis, Julie offered generalizations rather than specific statements. The following excerpts illustrate this pattern:

With most of my class performing below grade level. . . I focus a lot on reading and writing.

I thought that by [sic] writing their own scary poem. . . would help them connect to the literature better.

In addition, she made assumptions without supporting evidence. For instance, Julie stated that one of her students had included a sense of mystery in her poem, but she did not explain any further or point out evidence from the poem itself. In her analysis of planning and teaching, she wrote that she discussed with the class what can make a poem scary. In the next sentence, Julie stated, "After the students understood why the poem was scary, they were able to write their own be [sic] replicating those elements in their poems." She apparently assumes students under-



stood based on her actions — the fact that she *told* them the main elements — rather than student actions.

In her draft analysis of student work, Julie identified two students and described how they present differing challenges to her as a teacher, suggesting that she recognizes and has reflected on student differences and the connections to her teaching. In analyzing their understanding, she identified aspects such as vocabulary, rhyme scheme, and the focus of the poem; but she focused primarily on two aspects — if they followed directions and if they used the technique described in her lecture. Julie appears to understand how to begin analyzing student work but, at this stage, her analysis is superficial. Since she did not act on the written suggestions of her co-instructor, it is difficult to determine the extent of her developing understanding.

Julie's overall written commentary offers little evidence of sustained self-reflection. She apparently did not consider, and consequently did not explain, why she took particular actions in her teaching. For example, she did not explain why she chose a lecture approach, why she engaged students in peer editing, or why she asked students to decorate their poems to make them look scary. In the reflection section, she indicated she would not adapt the assignment in any way because "it worked well the first time." In considering how she would change her teaching of this topic, she suggested two ideas: having students read a greater variety of scary poems and having them brainstorm potential topics for their poems. But again, she didn't reflect on nor explain the reasoning behind these changes.

In contrast to Julie's written commentary, Carla's work demonstrates a more well-developed understanding of how to analyze her teaching. Key differences in their work are that Carla consistently explained the rationale behind her actions, connected instructional goals with classroom activities, supported her analysis with evidence, and displayed multiple forms of self-reflection. An important feature of analyzing one's teaching is determining and explaining the reasoning behind one's decisions and actions. Carla did this throughout her written commentary. For example, after describing the range of student abilities in her class, Carla went on to explain why she uses peer tutoring and collaborative grouping and how she formed groups with "at least one high student, a few average students, and one low student so that they could learn from one another." Describing her instruction, Carla wrote:

I believe that practice and reflection help students become better writers. Writing assignments are practically a daily occurrence in my classroom. I also try to give the students the opportunity to read what they wrote in front of the class whenever they are really interested in the assignment. This gives them the opportunity to hear and later revise mistakes that are often only found when we reread our own writing.

As she explained her rationale, Carla also demonstrated connections between her instructional goals and classroom activities. In describing the purpose of the assignment, she included multiple, interrelated goals such as correlating themes

### *Analyzing Teaching through Student Work*

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from the readings with the students' writing, providing an avenue for students to use their imaginations and creativity, reinforcing the use of description in writing, and allowing her to assess progress in "writing, understanding of themes from a book, penmanship, use of the required elements of writing, and phonetic spelling." Similarly, she made connections between instructional goals and activities when considering how she would adjust the assignment before using it again. She suggested requiring students to do two different writing assignments about their paintings: a descriptive essay and a narrative story about what was happening in the painting. Carla pointed out that this would "challenge the students to think about the type of writing they were expected to do" and also allow her to evaluate creative writing abilities and usage and understanding of standard writing conventions.

Another way in which Carla demonstrated her understanding was by supporting her analysis with evidence. For example, two areas Carla examined in analyzing her students' work were punctuation and capitalization:

His first draft also shows that he understands the need for punctuation and capitalization. He started every sentence with a capital letter and ended each with a period. Each sentence was a complete idea and he correctly spelled many sight words such as was and there. However, he did not capitalize the name Destroyer. This shows that he does not fully understand that names or proper nouns need to be capitalized.

She later pointed out that the student had failed to proofread because his last sentence was "To kill him 100,00,000 men." He realized his mistake when he read his essay aloud during a teacher conference and "fixed it to read 'To kill him will take 100,000,000 men.'" In addition to illustrating her use of evidence, this incident exemplifies Carla's rationale that reading aloud helps students to catch mistakes previously overlooked.

Carla's work also displays multiple forms of self-reflection. In one section, Carla acknowledged her limited knowledge and training in teaching English Language Learners and that it was difficult "to tailor my instruction to meet the language needs" of those children. When describing one student, she pointed out differences between his abilities and his classroom performance, proposing that this situation creates a challenge for her "to engage Hubert in his learning and get him to work to his potential." In the reflection section, Carla indicated that the assignment was "fairly successful in facilitating the growth of student understanding of writing" and then made specific and insightful suggestions for adjusting both the assignment and her teaching. She offered reasoned ideas about how the adjustments would aid student understanding. Though not specifically requested by her co-instructor, Carla also added information in her final version. A class or small group discussion may have prompted her to reflect upon and explain her grouping strategies.

The M.Ed. students' primary sources of feedback on their work included their small groups and their assigned co-instructor. Each week, they received immediate

verbal, and in some cases written, feedback from other group members about their drafts of assigned sections. The extent and nature of feedback from peers varied across groups and from week to week. Carla and Julie received written, individualized comments from their co-instructors on their drafts of each section. Given the high quality of her drafts, Carla received relatively few suggestions for improving this assignment from her co-instructor. The suggestions, which she addressed in her final version, centered on additional details for the context sections and minor grammatical errors. In contrast, Julie's drafts yielded extensive suggestions from the co-instructor that focus primarily on the content of her analyses. Some, but not all, of the numerous grammatical errors were flagged as well. Throughout the drafts, the co-instructor suggested that she explain the reasoning behind the actions, be more explicit in her statements, and connect her observations to the evidence. Typical comments included: "Why is this? How does this demonstrate understanding? What kinds of work do students do? How do you know the students know? What does this mean? How does this support your overall teaching plan?" Despite the detailed suggestions, Julie chose not to make any revisions to her drafts. She was the only student in the entire class who did not revise before submitting the final version.

### **Reflection**

Focusing on the work samples of two students limits my conclusions about the value of this assignment. When I consider the class as a whole, I believe this assignment effectively facilitated students' growth in analyzing their own teaching. The differences between students' drafts and their final analyses offer evidence of increased understanding. However, when I consider the work of these two students, I see less evidence that the assignment furthered their growth. Rather, it seemed to provide an opportunity to demonstrate their immediate abilities. In Carla's case, she produced drafts that demonstrated analytical thinking and self-reflection and added only slightly more information to her final version. Julie, in choosing not to revise, left open the question of whether or not she learned from the process.

I plan to use the Analysis of Student Work assignment again because, judging by the work and evaluations of the larger group of students, it effectively addressed the aims for the assignment and furthered course goals. By completing the assignment myself, I recognize its value as well as areas that need to be revised. I would adapt the assignment in three ways. First, I would revise the questions under Section 2, Analysis of Planning and Teaching to incorporate a brief description of the assignment itself, to eliminate the redundancy, and to clarify the wording (e.g., "Why did you choose to give this assignment to your students?" rather than "Why did you choose this assignment?"). Second, though it seems out of order, I would have students analyze samples of student work and then complete the analysis of planning and teaching. The M.Ed. students seemed to be more comfortable and productive in analyzing actual samples of student work, and I think, through that process, could be led to consider the questions related to instructional goals and

### *Analyzing Teaching through Student Work*

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teaching activities. Third, I would combine the broader district and community context and the classroom context into one section. I think students would have less difficulty distinguishing relevant elements of both contexts and understanding how they are embedded if they wrote about them at the same time.

In addition to adapting the assignment itself, I would change the teaching related to analyzing student work in at least four ways. First, I would contact students the quarter prior to this course, perhaps through their university supervisors, so they could collect student consent forms and select their samples before this class even begins. This would give the M.Ed. students more options in their selections, aid them in focusing on analysis, and allow us to adjust the time line somewhat. Second, now that we have a collection of M.Ed. students' analyses, I would incorporate a class activity that involves reviewing and analyzing examples using the related rubric. Through this activity, students would see models, recognize essential elements of the assignment, gain introductory experience with analysis, and review the rubric.

Third, I would assign fewer students in each small group and incorporate one-on-one peer review earlier. The size of the groups made it difficult for each person to participate actively in the discussions and for the instructors to devote sufficient attention to each person's work. One-on-one peer review, which was started later in the quarter after building group relationships, proved to be a successful strategy for both promoting individual student's analytical thinking and providing feedback. Perhaps it isn't necessary to build trust in the small group first. Working in pairs may expedite those relationships. Fourth, I would devote an instructors' meeting early in the quarter to sharing student drafts (rather than waiting for final versions of the assignment) and discussing ideas for providing feedback. I am convinced that collaboration is a vital activity for us, as university instructors, as well as for the beginning teachers.

### **Enhancing Learning through Self-Study**

Reflecting on this approach to self-study, I see three elements that enhanced my learning in ways extending beyond prior experiences with self-analysis. First, because I committed to systematically analyze my own teaching, I found that I was particularly sensitive to and aware of decisions that I was making about the course. I was constantly asking: Is this a reading, process, or activity that I would find useful in my own analysis? As I made decisions about the capstone experience, I, in turn, ended up making decisions about the process I would use in my analysis. For example, since I felt it was important for my students to engage in small group discussions and analyses with peers, I decided to find a way that I could be part of a small group. Thus, I recruited four doctoral students to work with me. Besides serving a teaching function, the doctoral students provided an important source of additional data and offered differing interpretations and critiques of classroom events, thus simulating the way the M.Ed. students critiqued their peers' work in

small groups. In addition, we shared a vested interest in our students' learning. In essence, I created a course within a course: doctoral students preparing to become teacher educators with M.Ed. students preparing to become teachers.

Second, completing the identical assignment that I gave my students increased my connection to their perspectives. In particular, I gained a clearer sense of potential sources of misunderstanding and instances where students might have difficulty. Aspects of the assignment that seemed straightforward and clear to me in developing it became ambiguous when I began to complete the assignment myself. I could relate to students' questions from a different perspective. An important part of pedagogical content knowledge is the ability to predict and understand preconceptions and common misconceptions students may hold (Wilson, Shulman, & Richert, 1987). One way for teachers to learn more about student difficulties and misunderstanding is through the process of planning, teaching, adapting instruction, and reflecting on classroom experiences. In my case, engaging in the same activities as my students added a valuable dimension to my reflective practice.

Third, conducting an in-depth analysis of two students' work focused my attention on the understanding of individual students and caused me to confront failure. When we assess our teaching by considering the class as a whole, we can more easily overlook or excuse the lack of understanding of one or two students. Although I knew Julie was less engaged in the class, I didn't comprehend the extent of her disengagement until I began analyzing her work in detail. Though Julie may have gained from her overall experience in the class, the bottom line is that I have no evidence of it. Despite positive feedback about the course, I continue to worry about my failure in Julie's case and puzzle over what I could have done differently. It would be easy to conclude that because of institutional constraints, such as large classes held once a week for only a 10-week period, I am simply unable to know every student and address individual needs. Alternatively, I could conclude that it is Julie's problem because students at the higher education level should be responsible for their own motivation and learning. But to do so leaves me in the position of failing to practice what I teach.

I am reminded of two excerpts from course readings. Greene (1978) described the fate of two characters in a novel who failed to reach their aspirations and placed the blame elsewhere. Drawing parallels with teachers, she wrote, "And that is another model of bad faith, not unknown among teachers: the habit of blaming ineffectuality on the institution, on circumstances, and the times" (p. 30). Schon (1983) drew upon the work of Tolstoy in distinguishing method and art in teaching:

An artful teacher sees a child's difficulty in learning to read not as a defect in the child but as a defect of 'his own instruction' . . . And because the child's difficulties may be unique, the teacher cannot assume that his repertoire of explanations will suffice, even though they are 'at the tongue's end.' He must be ready to invent new methods and must 'endeavor to develop in himself the ability of discovering them.' (p. 66)

Whether Julie's difficulty stemmed from a lack of motivation or understanding, I must resist the tendency to place the blame elsewhere and work to discover a solution.

### **Implications for Teacher Education**

As a form of case study, self-study results are not intended to generalize across populations. Self-study emphasizes personal and subjective experiences in a particular context. This mode of inquiry offers in-depth descriptions which foster understanding of complexities involved in teaching and teacher education. This can be especially helpful in leading to deeper understanding about demands that innovative practices place on instructors and students. Dinkelman (2003) argues that self-study not only helps the individual approach problems in her own immediate context and teaching situation but also produces knowledge that "teacher educators in other settings can draw on and adapt to their own teacher education settings" (p.11). The self-study reported in this article supports research and practice in teacher education in three related areas.

First, this study reinforces the notion that teaching a process differs from teaching a specified body of knowledge. In teaching the process of reflective practice, professors must think carefully about teaching strategies and the ways in which students learn to enact that process. Case-based instruction in teacher education serves three purposes related to reflective practice by (a) providing examples of desired professional practice, (b) offering opportunities to practice analysis and consider action, (c) stimulating personal reflection (Merseth, 1996). Analyzing cases of other teachers' practice aids the transition into analyzing one's own practice. In addition to reading, analyzing, and discussing cases, constructing self-reported cases helps students develop skills involved in reflective practice (Richert, 1991; Shulman & Colbert, 1989; Shulman, 1991). Choosing the focus of one's case, developing it, and learning what to emphasize are key elements of reflection (Richert, 1991). Teaching strategies that engage students in analyzing their own practice also present opportunities for authentic assessment of student understanding of the process.

Second, this self-study underscores the importance of collaboration not only in teaching but also in assessing innovation. Differing interpretations are vital in pushing our thinking and evaluations of our own work. Learning communities are increasingly recognized as important for teacher professional development, and researchers document the need to organize schools to support and promote collective inquiry and problem-solving among teachers (Ball & Cohen, 1999; Darling-Hammond & McLaughlin, 1999; Little, 1999). Teacher educators foster collaboration among prospective and practicing teachers. Yet in university settings, professional autonomy tends to be valued more than collaborative working arrangements. The type of collective inquiry recommended for our students is difficult to arrange for ourselves. As noted in this self-study, having multiple

instructors of the same course offered unusual opportunities for implementing innovative teaching strategies, evaluating teaching, and assessing student understanding. In addition to participating in weekly instructors' meetings and compiling written individual reflections, each instructor conducted an independent analysis of Julie's and Carla's written commentaries. The cross-case analysis, which is in process, affords another way of structuring collective inquiry and drawing upon multiple interpretations to assess teaching and learning.

Third, documenting and sharing professors' work broadens the pool of resources for enhancing teaching and learning. University faculty tend to make research public through presentations and publications while teaching remains private, confined primarily to students in courses. The problem with this situation is that "those who engage in innovative acts of teaching rarely build upon the work of others; nor can others build upon theirs" (Carnegie Academy for the Scholarship of Teaching and Learning, 2000, p.2). Shulman proposes that, as scholars and educators, teacher educators have a professional responsibility to make our teaching public and to share what we experience and discover in working with our students. The scholarship of teaching requires a public account that is open to critique and evaluation in a form that others in both the scholarly and general community can use and build on (Hutchings & Shulman, 1999). By sharing our work in multiple public forums ranging from discussions with colleagues to conference sessions to journal articles, teacher educators can gather valuable feedback that provokes and challenges our thinking. Some of the most probing questions and novel resources may come from faculty in other disciplines, who in turn recognize implications for their own teaching. Conducting in-depth analyses of several students' work is not a common practice; but across disciplines and educational levels, it offers a powerful way to examine teaching in connection with student understanding.

## Note

<sup>1</sup> Author's note: I began this self-study as part of my participation as a fellow in the Carnegie Scholars Program, Carnegie Foundation for the Advancement of Teaching and Learning. Findings, conclusions, and recommendations are mine.

## References

- Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In L. Darling Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco: Jossey-Bass.
- Carnegie Academy for the Scholarship of Teaching and Learning. (2000). *Information for application*. Menlo Park, CA: Carnegie Foundation for the Advancement of Teaching.
- Carter, K. (1990). Teachers' knowledge and learning to teach. In W.R. Houston (Ed.), *Handbook of research on teacher education* (pp. 291-310). New York: MacMillan.
- Darling-Hammond, L., & McLaughlin, M.W. (1999). Investing in teaching as a learning



### *Analyzing Teaching through Student Work*

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- profession: Policy problems and prospects. In L. Darling Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 376-411). San Francisco: Jossey-Bass.
- Dinkelman, T. (2003). Self-study in teacher education: A means and ends tool for promoting reflective teaching. *Journal of Teacher Education*, 54(1), 6-18.
- Feiman-Nemser, S., & Buchmann, M. (1985). Pitfalls of experience in teacher preparation. *Teachers' College Record*, 87(1), 53-65.
- Greene, M. (1978). Teaching: The question of personal reality. *Teachers College Record*, 80(1), 23-35.
- Hutchings, P., & Shulman, L.S. (1999). The scholarship of teaching: New elaborations, new developments. *Change* 31(5), 10-15.
- Little, J. W. (1999). Organizing schools for teacher learning. In L. Darling Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 233-262). San Francisco: Jossey-Bass.
- Merseth, K. K. (1996). Cases and case methods in teacher education. In J. Sikula, (Ed.) *Handbook of research on teacher education* (2<sup>nd</sup> ed.) (pp. 722-744). New York: Macmillan.
- National Board for Professional Teaching Standards. (1999a). *NBPTS: Middle childhood/Generalist assessment and scoring kit*. Arlington, VA: Author.
- National Board for Professional Teaching Standards. (1999b). *What teachers should know and be able to do*. Arlington, VA: Author.
- Porter, A.C., Youngs, P., & Odden, A. (2001). Advances in teacher assessments and their uses. In V. Richardson (Ed.), *Fourth handbook of research on teaching* (pp. 259-297). Washington, DC: American Educational Research Association.
- Richert, A. E. (1991). Case methods and teacher education: Using cases to teach teacher reflection. In B. R. Tabachnik & K. Zeichner (Eds.), *Issues and practices in inquiry-oriented teacher education* (pp. 130-150). London, UK: Falmer.
- Schon, D. (1983). *The reflective practitioner*. New York: Basic Books.
- Shulman, J. H. (1991). Revealing the mysteries of teacher-written cases: Opening the black box. *Journal of Teacher Education*, 42(4), 250-262.
- Shulman, J.H. , & Colbert, J.A. (1989). Cases as catalysts for cases: Inducing reflection in teacher education. *Action in Teacher Education*, 11(1), 44-52.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Shulman, L. S. (1998). Theory, practice, and the education of professionals. *The Elementary School Journal*, 98(5), 511-526.
- Tom, A.R., & Valli, L. (1990). Professional knowledge for teaching. In W.R. Houston (Ed.), *Handbook of research on teacher education* (pp.373-392). New York: MacMillan.
- Wiggins, G., & McTighe, J. (1998). *Understanding by design*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Wilson, S. Shulman, L., & Richert, A. (1987). 150 different ways of knowing: Representations of knowledge in teaching. In J. Calderhead (Ed.), *Exploring teachers' thinking* (pp. 104-124). Sussex: Holt, Rinehart, & Winston.