

**Toward Expert Thinking:  
How Curriculum Case-writing prompts the development of theory-based  
professional knowledge in student teachers**

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ABSTRACT

*This paper explores what—and how—student teachers may learn about theory and practice from writing cases, and examines some pedagogical features that may contribute to those results. Drawing upon data collected from our course, “Principles of Learning for Teaching,” including student cases from outline to final drafts and students’ course reflections, we found that students’ successive case drafts demonstrated a development from naïve generalizations to sophisticated, theory-based explanations of the issues at play in their cases. In particular, we suggest that students’ cases demonstrated some of the moves that Berliner (1986, 1991) has identified as characteristic of more “expert” thinking about teaching. We propose that reading theory in context with writing cases; sharing cases with peer readers; specific, theoretically-grounded, and concrete feedback from instructors; and providing multiple opportunities for revision may have been most useful in helping student teachers learn to think like a teacher.*

*In the course of writing, revising, discussing and receiving commentaries on my curriculum case, I have been able to see my teaching through a constructive lens. Being able to analyze my teaching with principles [of learning and teaching], in a strange way, has afforded me grace in a very challenging profession. Teaching can seem like such an emotional roller coaster with its surprising quick turns and scary dives into the unknown; grounding teaching in principles allows me to have a much smoother ride. I can learn from the surprises and recover more quickly from the falls.*

—Eleanor Wang, STEP student, class of 2000

Pre-service teachers often find it difficult to adapt the theories and concepts taught in their teacher education courses to the immediacy and vividness of their clinical work. Many find the theories and concepts they encounter too abstract to help address the specific problems they face in their teaching practice. As Goodlad (1990) explained in his studies of the state of the practice in teacher education, “teachers-to-be increasingly relied upon the regularities of teaching and of teachers already in classrooms. ‘How it’s done’ towered over research findings and principles espoused by leading figures in the field, past and present” (p.224). However, recent evidence suggests that some teacher education programs have developed approaches that seem to enable new teachers to more effectively apply theories and concepts addressed in their courses, in turn engaging in more sophisticated thinking and practices (Darling-Hammond & Macdonald, 2000; Merseth & Koppich, 2000; Miller & Silvernail, 2000; Koppich, 2000; Snyder, 2000; Whitford, Ruscoe & Fickel, 2000; Zeichner, 2000). Some argue that reading and writing cases may be a particularly powerful means for providing such scaffolding (Darling-Hammond & Snyder, 2000; Shulman, 1986, 1996).

This paper explores what—and how—student teachers may learn about theory and practice from writing cases, and examines some pedagogical features that may

contribute to those results. We draw upon data collected from a quarter-long teacher education course, “Principles of Learning for Teaching,” that is offered in the Stanford Teacher Education Program (STEP) and was developed over a decade by Lee Shulman and various colleagues.<sup>1</sup> In this course, case writing is designed to promote the application of learning theory to practical experiences in the classroom and serves as the central, culminating product of the class. (For a description of the process of developing this pedagogy, see Shulman, 1996).

The first section of this paper briefly describes the design of the course, focusing upon how we interwove key concepts of the course with work on cases throughout the quarter. The next section discusses what students learned from writing cases, by examining data collected including students’ cases (from outline to final draft), students’ final self-assessment essays, interviews with instructors, and interviews with a small sample of students. It also addresses the kinds of supports (such as instructor feedback, peer conferencing, and the design of the course) that appear to have influenced whether and how students developed their analytic and theoretical understandings in their cases. The last section of the paper addresses how we might design and teach the class differently, and then turns to some implications for teacher education and the use of cases as a means of helping student teachers bridge theory and practice.

### **The Principles of Learning for Teaching Course**

“Principles of Learning for Teaching” (PLT) is a course designed as one of three foundations courses in the STEP program created to help introduce students to key concepts, theories, and understandings that undergird the practice of teaching and the experience of learning (for a brief description of the STEP program see Hammerness &

Darling-Hammond, 2000). The course is preceded by “Equity and Democracy” during the Summer Quarter, which engages students in thinking about the development of equitable classrooms and schools, and “Adolescent Development” in the Fall quarter, which is designed to help students develop a more contextualized view of adolescents. The placement of PLT in the Winter quarter is a deliberate choice. STEP candidates serve as student teachers throughout the entire academic year, attending their school sites in the morning and in their STEP courses in the afternoons. The PLT course capitalizes upon the readiness that student teachers demonstrate as they gain experience over several months in the classroom and encounter questions and issues about learning. Concepts and issues about learning can thus be viewed from a particular context and with the concreteness of practice. The course met once weekly for three hours in the afternoon during winter quarter of 1999-2000. Most classes were divided into two sessions: a large group session combining demonstration, discussion and mini-lecture, in which ideas were discussed and elaborated, and small discussion sections led by individual instructors.

The PLT course focused upon the relationships among four fundamental aspects of the teaching and learning process: the subject-matter of the curriculum, the diverse capabilities and backgrounds of students, the contexts and cultures of the classroom and community, and the teacher’s challenges in designing and implementing instruction. We wanted to help students understand the challenge of teaching as the creation of bridges between the knowledge embodied in the subject matter, on the one hand, and the minds and motives of students, on the other hand. We hoped that at the end of the course, students would leave with a deeper understanding of their own students’ learning, of what

and how they could teach, and of the way that cultures and contexts can shape learning.

The diagram below shows some of the key concepts we explored with students:

[insert Figure 1. Diagram of Key Concepts]

### **The Curriculum Case**

To help students develop a deeper understanding of these issues, we asked the students to write a case about their own teaching. The “curriculum case” is a case about instruction in their subject matter that focuses on the teaching of a curriculum segment with specific goals, so that students will address central questions concerned with engaging students in the learning of subject matter. Students are asked to write about an incident in which they were trying to teach something “of consequence” in their subject matter— a key concept, problem, topic or issue that is central to the discipline, such as the concept of irony in English, evolution in science, pi in math, or the cultural differences in a foreign language. The incident may have been particularly successful, unsuccessful, surprising or revealing and should have the potential to serve as a site for examining learning and teaching and for exploring interesting dilemmas or questions.

### **Our Purposes for Using Case-Writing**

We hope that the use of cases will help students move away from naïve generalizations about their experiences towards more sophisticated understandings of the nuances of teaching and learning. In particular, we hope that such examination through cases will help them see connections between what they choose to teach, how they teach

the material, and what their students learn—in other words, to use research and their own experience to question, challenge, and examine their practice. In sum, we hoped students would come away from this case-writing having learned how to “think like a teacher”—to ask productive questions about how learning is shaped by students, content, context and teaching decisions.

Writing a case about one’s own experiences is different from analyzing a case written by someone else. We believed that making sense out of one’s own experience, as opposed to a description of an experience one has never had (i.e., reading about someone else’s class), might allow students to develop a particularly deep understanding of the issues at play. We wanted students to be able to relate theory to their experiences, both to help them learn to walk the bridge between research and practice and to illustrate the point – represented in the course literature – regarding the power of connecting learning to student’s own experiences. We also felt that asking students to examine their own experience might provide strong motivation; many students had already encountered challenges in their teaching that they were eager to examine more deeply.

### **Key Concepts Concurrent with Reading Cases**

We focused on key concepts that we felt were central to the learning process, such as cognitive processing, learning theories, transfer, metacognition, scaffolding, cognitive apprenticeship, formative and summative assessment, and culturally relevant teaching. At the same time, we interspersed theoretical readings with cases that illustrated the concepts we were exploring. So, for instance, the course began with an exploration of Jerome Bruner’s (1960) notion of intellectual honesty and the challenge of designing authentic curriculum to meet the needs of children at different ages. The other reading

assigned for that week was Deborah Ball's (1993) discussion of the dilemmas of teaching mathematics in an intellectually honest manner, which includes a set of three short "cases" of teaching mathematics in her third grade classroom and is accompanied by a video case. Along with readings on the concept of culturally relevant pedagogy (Ladson-Billings, 1996), students read Deborah Juarez's (1999) case, "A question of fairness: Using writing and literature to expand ethnic identity and understand marginality," in which she describes her efforts to help her high school students in Oakland, CA analyze and better understand their own and others' racial and ethnic identity. In many class sessions, we provided opportunities to discuss theory in concert with teacher-written cases students had read. In this way, we attempted to provide students with experiences that enabled them to discuss, interpret, and analyze instances of practice using theoretical principles and concepts.

### **Scaffolding Case-Writing**

Several aspects of the course were designed specifically to support students' case-writing. Students read cases written by other teachers, and they wrote an outline and two case drafts before they turned in their final draft. On each draft they received extensive feedback from an instructor and a peer, based upon a publicly shared and edited rubric. The rubric had been used and refined in different versions of this course. It described the elements that should be included in students' cases, such as "context" (meaning that the case needed to provide information about the school, community, and their particular students, as well as the curricular context); "interactions" (the case needed to include information about how and what the teacher did, said, acted and felt as well as how the

students responded); and "analysis" (the case needed to include a thoughtful exploration of what happened in the case that drew upon theory).

Halfway through the course, we asked students to refine the rubric to be sure that it captured what they felt were the qualities of good cases. Asking them to review and develop the rubric was a means to help students think analytically about “what makes a good case” and to look more systematically at their own case. As part of this process, students suggested several changes in the rubric. At this point, after an initial draft, the instructors felt that many students were not focusing sufficiently on student learning in their cases and therefore added emphasis on evidence of student learning in the rubric and in class discussions. The revised rubric guided feedback on students’ second drafts.

Third, we paired students with a partner who also read the case and provided feedback, including alternative perspectives as he or she began to understand the case almost as well as the author. Applying the rubric to each other’s cases helped students think more deeply about their own case as well. Fourth, students participated in two "case conferences" in which they present their cases orally to a small group of four to six classmates and a facilitator. In the case conferences, we encouraged students to discuss theories and concepts that might shed light upon the case; consider alternative interpretations of the case; and assist authors to identify aspects of the case that may need additional clarification or elaboration. The case partner served as a initial discussant in the case conferences. At the end of the course, the partner wrote a “commentary” on the case, formally adding another interpretation of the author’s case.

### **What Students Learned**

In their reflective essays at the end of the course, virtually all students reported that the case-writing had a significant impact on their understanding of teaching and learning. Half of the students (28 of 56) reported that writing the case had helped them understand what their students needed in order to learn well. As one student wrote:

The process of analyzing my case and receiving feedback helped me to recognize where the students fit into the equation. Without this deep work, I do not think that I would ever have thought about how the lack of scaffolding caused their disengagement, or even the simple fact that this was a class disinterested in more kinesthetic learning activities...I realized how important it is for students to deeply engage in a subject, to work with it, transform it, apply it to new situations, all under my coaching and guidance. If that is what I need for deep understanding, then my students need it as well.

A somewhat smaller number (18 of 56) described case-writing as an opportunity to better appreciate the relationship between theory and practice, helping them to recognize the value of using theory to explain and evaluate their classroom work. One student remarked,

Without different theoretical lenses to view teaching in practice, teaching would seem unpredictable and happenstance...through writing my case and reading other cases, applying theory to practice has led me to new insight into teaching

and learning...By using tools like theory, teaching is not the guessing game I thought it was.

Another student noted:

It is not that the cases taught me the theories and methods of good teaching; it is that they provide me an opportunity to apply what I have been learning. The cases would not have been meaningful without reading about the hard data on understanding and learning...the cases became an outlet for becoming flexible with educational theories.

Finally, about one-third of the students (17 of 56) felt that case-writing had allowed them to view their experiences through a more professional perspective, expanding their understanding of the case incident. In this student teacher's words, the experience of discussing and sharing her case idea with others was particularly helpful in deepening her understanding of the incident she described:

I saw how a 'not-so-great' teaching moment could be changed into a learning experience for me and other teachers through thorough analysis and applications of theory. Sharing my case with others, my case partner, and presenting it to a group of teachers heightened my learning experience. I watched my case progress into different stages; I saw it through multiple lenses due to new articles and theories.

Several of these teachers suggested that their initial explanations of the case incident were insufficient and described how they had developed richer explanations that seemed to account for the more complex, layered nature of the case. For instance, John noted that he originally felt that all he needed to do to improve the teaching in his case

was a "little fine-tuning", perhaps to "add a day and try again," but by the end of the course he had a very different sense of the intricacies of the situation:

The experience of writing a case turned out to be a profound experience. When I finished teaching the unit in November I knew the lessons needed a little tuning...I talked to my CT about what happened and left it at that...Writing the case I was able to get a lot more out of what happened. I had my eyes opened to seeing the implications of time allotment, lesson sequencing, prior knowledge and pre-assessment, and making choices on the fly to ensure the success of a lesson. If I had not written and re-written the case as I did, I would not have the deeper insights I have...Before the development [of] my case study, I thought I would simply add a day or two and try it again...[but] I now know that I have to put more effort into my assessment of prior knowledge and concepts and that I have to not move on to new material until I am certain that I have achieved the goals I set out at the beginning.

Jessica's reflection showed similar deepening of her initial explanations:

What I have learned is that every teaching event...presents layers of complex and interactive difficulties, successes and failures...I learned that my case was more than not giving enough feedback. I learned that I didn't know my students well enough. I didn't realize that I had to scaffold every piece of the complicated unit so that they could handle the research, performances, the group work, content, and the ethics for the diseases they studied. I have to be careful of my assumptions about my students in any class.

Leslie's initial view that her case was about "time management" also changed:

When I first sat down to watch the video of my case lesson, I attributed my bewilderment in the unfolding of the poetry discussion to a need for better time management. While time management is always a factor in teaching, I began to see that there were other factors of the discussion that could be adjusted to create a more fruitful learning experience for the class. I began to wrestle with what this lesson was a case of. The readings [by] Bruner, Norman and Ball...spoke to the crux of my case.

The instructors in the course also felt that students' cases showed substantial growth and exhibited increasingly professional thinking about practice. To help us investigate our students' claims and our own impressions as instructors, we developed a more systematic analysis of students' cases to evaluate the extent to which drafts showed a progression from relatively naïve, layperson conceptions of teaching, learning and students to more professional thinking. In an initial analysis of eight papers, we saw students' thinking develop in four areas:

- Explanations and elaborations of the relationship between theory and practice;
- Descriptions of (and evidence for) students' learning needs, strengths, specific abilities, and developing understandings;
- Descriptions of context and the role it plays in learning; and
- Evaluations and explanations of practice and teaching events.

David Berliner's research on "expert pedagogues" (Berliner, 1986, 1991; Carter et al, 1988) suggests that some of these elements characterize expert teachers' thinking in comparison to novices. For example, when novices and experts look at classrooms, experts tend to generate more hypotheses about what they see, qualify their observations

and interpretations, weigh the relative importance of certain kinds of information, and “take into account the complexity of problems which exist in classrooms.” (Carter et al, 1988, p. 29) Experts describe more specifics that are linked to the intellectual work of the classroom, while novices often offer generic, “flat” descriptions of what is going on.

Building upon Berliner’s work, we identified five elements that appear to be characteristic of expert thinking, and added a sixth from our own experience:

- Sharing nuanced *details* about learners and their learning;
- Generating multiple *hypotheses*;
- Offering *connections* to theory and others’ experiences;
- Providing *elaboration* that expands upon those connections;
- Making *qualifications* of generalizations, observations or hypotheses; and
- Including concrete *evidence of student learning*.

We added “evidence of student learning,” because attention to learning is an important aspect of teacher development: As novices get beyond their concerns with self, they begin to focus on their students and to appreciate the difference between engagement and learning. We felt that the inclusion of concrete examples of student learning would serve as both a stimulus to and evidence of teachers’ learning.

We conducted a content analysis of 21 of 56 cases sampled randomly from three of the five sections and representing the range of grades received in the course. Our analysis suggested that students’ final cases did possess a substantial number of these six expert characteristics. (See Table 1.) In all the cases examined, students generated multiple hypotheses; offered multiple connections to theory and others’ practices; elaborated and expanded upon theory, often in relation to their own practice; qualified

certain statements and observations; provided specific details about learners and their learning; and shared concrete evidence of student learning. Many of the cases demonstrated a significant number of *all* of these features. Even the weaker cases demonstrated some evidence in each category of these “expert” moves.

We wondered whether the strongest cases might simply have demonstrated more connections to the course readings and theories—just one element of expertise. However, as we illustrate below, the analysis found that the students were also hypothesizing, expanding upon ideas, building upon concrete examples of student learning, and adding relevant detail about students as learners. We also wondered whether our perception of the strength of the cases was influenced by writing fluency or factors like language use and length; however, two of the strongest cases were as short as two of the weakest cases, and several of the weaker cases were quite lengthy. The strongest cases contained a higher “density” of expert moves.

[insert Table 1. here]

While this analysis revealed useful findings about the nature of student thinking as demonstrated in their final cases, we still wanted to evaluate whether these features were the result of a learning process associated with case writing. Could students’ initial cases have already possessed these qualities of expert thinking? Perhaps the cases did not demonstrate any real growth in understanding or thinking. Furthermore, it’s possible that the number of expert moves in a case analysis does not predict deeper understanding (Lundeberg, 1999). In order to investigate questions about the quality and development of

students' expert thinking, we examined from initial outline to final draft the development of two cases that emerged as very strong analyses, and we supplemented our analysis with an examination of instructors' feedback, interviews with the two students, and a review of their reflective essays. Our goal was to understand whether the process of case writing had in fact deepened students' thinking and if so, how.

**Sonya:  
From Naïve Notions of "Planning" to  
Expert Discussion of "Intellectual Honesty"**

**The Case**

Sonya, a student teacher in a ninth-grade English class, wrote a compelling case narrative in which she compared two lessons she taught from a unit on the play, Cyrano de Bergerac. Among a number of goals she articulated for the reading of this play, she particularly wanted students to begin to understand character development and motivation. She noted that she wanted students to be able to understand, for example, the character of Roxanne as not simply being shallow and superficial, but as a woman who may have had few options, limited by the kinds of decisions she could make.

The first act of Sonya's case is a description of a day early in the unit that she felt was particularly unsuccessful. She had attempted to lead her students in reading the play aloud, engage them in the language of the play, and discuss the characters and their actions. After reminding her students of the film they'd seen of the play the previous day, she began to lead them in reading aloud. But quite soon, students' attention crumbled. She quickly lost many of her poor readers, and frustrated the stronger readers, and the class disintegrated into discussions of recent movies students had seen. However, she felt that she partially salvaged the day by spontaneously asking two of her more theatrical

students to act out the portion of the play they were reading. Though this "desperate move" (as she called it) seemed to engage her students and re-invigorate the class, she still felt discouraged at the end of the lesson. She sensed that her students left the class feeling bewildered and frustrated as well. It was the first day she had actually considered leaving teaching, she acknowledged in an interview.

In the second act of the case, she describes a lesson that occurs a week later in which she led her students to physically represent three stanzas in a speech from the play (a group of four or five students gathered for each stanza), invited them to write their own versions of the speech, and then debated the various perspectives and motivations they and the characters in the play may have had. During this class, a number of students made some perceptive comments about the characters in the play, demonstrated thoughtful insights about the form and tone of the language they had read, and made some connections to the speech's meaning through their own experiences. Sonya's thinking about this case developed in a number of arenas over the series of drafts she wrote.

### **The Case-Writing Process**

**Case outline.** In Sonya's outline, she attributed the unsuccessful lesson to "lack of planning." The more successful day, she wrote vaguely, was a result of "better structure" and "appropriate activities for the extra energy" of the class. She explained; "I had not taken into account the extra energy that accompanies a pre-lunch class and realized halfway through my lesson that it was not planned out well enough." Her analysis focused upon the fact that she simply needed to plan more the next time around: "The following Wednesday, I decided that I needed to really think through the lesson and design appropriate activities for the extra energy." She described the two classes without

much detail and did not compare or contrast the two days in terms of their success or failure in motivating, interesting, or supporting the learning of her students, reflecting the attributes that Berliner found characterized novices' descriptions of classrooms.

In feedback on this outline, her section instructor prompted Sonya to consider some of the theories that might help her analyze her case. The instructor suggested that Bruner's (1960) notion of "intellectual honesty," might shed some light upon her case. Bruner proposes that "the basic themes that give form to life and literature are as simple as they are powerful" (p.12), and that the central ideas that form the structure of the disciplines can be best taught by developing a deep understanding of the ideas and of children's interests at their stage of development. The instructor urged Sonya to think about the extent to which the activities from each day reflected intellectual honesty: "What is it about paraphrasing the speech by Cyrano that might allow students to get at some deeper understanding of the play? In what ways was this an 'intellectually honest' activity for them?" Her instructor also urged Sonya to elaborate and articulate the goals she had for the lesson, asking what she felt it was important for students to understand and learn from the play; "Why is it important for them to understand those ideas? What did you really want them to learn, to come away with from this unit?" Finally, her instructor asked her to provide more information about the curricular context for the content of the unit—to explain what students had been learning before this unit.

**First draft.** In Sonya's first draft, she began to better articulate her pedagogical goals and objectives for the unit, describing a clear, purposeful set of reasons for what she wanted her students to learn;

When I was planning the unit, I found that even though I had started off focusing on the idea of beauty and how [it] influences people, I really became more interested in the character development. My main goal for the unit, besides getting my students to understand the plot, was to have them think about and better understand the motivation behind why the characters act the way they do.

She added in some very detailed context for the unit; explaining what students had learned before and seemed to understand (as well as her goals for them in previous units). In this way, Sonya demonstrated a developing ability to contextualize and connect her curricular objectives, revealing a broader understanding of lessons as being part of a larger, purposeful curriculum.

Sonya did not yet in this draft consider the lessons' strengths and weaknesses in terms of how they engaged students and whether they were true to the text. In this first draft, she still attributed her unsuccessful lesson to "lack of planning," explaining that,

I felt that I had an OK lesson even though I knew I hadn't planned it out entirely thoroughly...My lack of planning, combined with the generally held sense that Jessica is the 'real teacher,' resulted in a general sense of chaos that was very hard to focus and move towards productivity.

The vague, unspecific nature of Sonya's explanation recalls Berliner's findings that novices tend to provide rather simple solutions to problems that are not grounded in classroom knowledge and that sometimes gloss over important dimensions of classroom incidents. Despite the fact that her instructor had suggested some readings and concepts that might shed light upon her experience—in particular, to the notion of understanding (see Perkins, 1997) and her role as a teacher in constructing understanding—Sonya did

not yet address these ideas in her first draft. Nonetheless, her later work suggested that her instructor's feedback may have planted some seeds that helped Sonya think about these key ideas.

The first case conference was held to discuss these drafts. Sonya noted in her interview that several of her peers urged her to focus more closely on the two contrasting days and to provide more detail. They also considered potential theories and concepts that might apply to her case, such as transfer and understanding. In addition, she met with her instructor to talk about her case, who again suggested that she might think about how she was teaching in a way that addressed both the needs of her students and the essence of ideas worthy of understanding about Cyrano: What was it about the activities she selected that made them more—or less—true to her subject and to her students?

**Second draft.** In the second draft, Sonya's thinking regarding her teaching had clearly evolved. Working from her instructor's comments and the requirements on the rubric, she provided much more detail in her second draft about the first lesson. She described her goals and purposes for the lesson, the activities she had selected (and why), and provided quotes and images to suggest how the students responded in each segment of the class. She hypothesized that her desire to have her students encounter the text in its "purest form (spoken, instead of read)" contributed to her decision to have students read aloud that first day. She also described the effects of that decision: "instead of reading the play in a fluent manner, students got confused by the format; the newer readers couldn't follow the strange layout and the more experienced readers got easily frustrated by the delays." She then described her spontaneous move to have students act out the play;

...about two thirds of the way through the class, I realized that reading aloud was not working and my students were not getting the character intentions, so I decided to try a different tactic. Enlisting the aid of Arnetha and Brad, two sophomores who were fairly strong readers, I had them act out the scene where Montfleury is chased offstage by Cyrano. Both are fairly theatrical and they gave a believable rendition of an irate Cyrano threatening the poor actor and causing him to go dashing into a corner... This seemed to capture my students' interest; they perked up with the visual element and seemed more engaged.

She concluded, "even though I left class feeling unhappy and unsuccessful on a number of levels, I needed to think about what had happened and where things went wrong."

At this point in her case-writing, she moved from emphasizing her unpreparedness to describing the assumptions she had made about her students; "I realized that I had been inadequately prepared for the lesson, but I also realized that I had made a few erroneous assumptions and that these assumptions had contributed to the day's frustration." In this second draft, she details these assumptions, explaining she had believed that,

...teaching in an intellectually honest manner meant that I should present the material in its purest form, the text itself. Going with the notion that plays are meant to be heard, I thought that having students read through the play would automatically give them access to it...I didn't take into account that most of my students are not equipped to jump right into a text and create their own visuals, and that throwing them into this situation would leave them frustrated and uninterested.

Although Sonya had been urged by her instructor to consider the notion of intellectual honesty much earlier, Sonya did not address this idea until her second draft. Perhaps she needed time to think through the experience, and the case-writing with its various drafts gave her time to do that thinking. In addition, her understanding may have deepened with repeated discussion, reflection and reading. In addition, her developing ability to take the students' perspective—to engage in “cognitive empathy” (Cerbin, 2000)—seemed to have helped her consider the limitations of her initial ideas.

Sonya's second draft reveals a growing sophistication about teaching and learning. Without prompting, in this second draft, Sonya began to explore her own reasons for her choices about the play, speculating for the first time that her own interest in the play might not necessarily be shared by her students. She realizes that she had assumed that, “since the play appealed to me on so many levels, it would also appeal to my students on many levels as well; by presenting the text, I would be encouraging them to make their own connections and relate to the play on their own terms instead of imposing my interpretation on them.” She shares a recognition that, “Once confronted with the fact that I hadn't adequately taken my students' needs into account, I stumbled upon one moment of intellectually honest teaching, more out of sheer desperation than any sort of careful planning.” She suggests that by asking two students to act out a scene,

I provided my students with visual access to the play....in this repackaging of the text, I had come across an concept that was more intellectually honest to their needs; I had presented them with the material in a way that gave them access on a deeper level and got them thinking about the key concepts we were focusing upon, namely what motivated Cyrano (and other characters) to act the way he did.

She concluded, “Inadvertently, I had discovered how effective Bruner’s idea of intellectual honest truly was in helping students better understand and tackle difficult material that didn’t seem to have much direct relevance to their current lives.”

This analysis of her “desperate” move, with its more sophisticated thinking about students’ needs and how to reach her goals for their understanding, moves beyond a simple rephrasing of comments that her instructor had written on her previous draft.

Sonya’s ability to articulate what made her second Wednesday so successful revealed her growing understanding of her practice, of learning theory, and of students’ needs:

Taking my lesson piece by piece, I saw that I had done a much better job of presenting the material in a way that was true to my students’ needs and interests, giving them an opportunity to visualize, relate more intimately to the characters, and interact with the text on a less threatening level. I incorporated several strategies instead of focusing upon one approach (reading aloud)...some kinesthetic activity, some writing and higher-order thinking, and quite a bit of verbal communication....These diverse activities allowed more students better access to the material, in giving them a chance to move between representations, I also gave them very different ways of accessing the material. All of these activities offered some intellectual insight into the play because I had taken into consideration my students’ needs and tried to fashion the material in ways that would best suit their learning strengths.

Sonya was able to recognize the power of using various approaches for her diverse students. She had learned that various “forms of representation” of material may engage students in different ways. These reflections represent development in her thinking, as opposed to a simple elaboration of incidents or addition of details.

**Final case.** By the final version of her case, Sonya’s thinking had developed from a simple description of an unsuccessful moment as "lack of planning" to a theoretically informed explanation showing her understanding that the *kind* of planning is important—especially representing a concept in a way that engages and addresses students’ needs and interests. Sonya’s explanation demonstrates her more expert understanding of the concepts and theory and of her classroom. Her connection to Bruner’s notion of intellectual honesty is augmented with other key principles of learning about which she shares original insights and makes appropriate connections to her own experiences.

In this final draft, she suggests that her second lesson, in which students acted out the speech, was more effective because it engaged the different learning styles of her students and in fact was more true to the "pure" form of the text than simply reading it aloud. She explains that, “There is a delicate balance between presenting the material in a pure form ... and shaping the material in a way that is comfortable for them and inspires them to dig deeper.” In a particularly insightful paragraph that was not in her previous draft, she explains that she now understands that,

...by offering the material in a context that was different but not completely far-fetched, I allowed them to see the play as something more dynamic than just words on a page and I gave them an ‘in’ they hadn’t seen themselves. This, to me,

is intellectually honest teaching: noticing the ‘ins’ that will capture your students’ interest and coax them into making the connections you know they are capable of making....

Sonya’s final draft shows that she has made the notion of intellectual honesty her own, creating a general principle of learning and teaching that can inform her decision-making:

One of the cores of good teaching...is truly having a sense of what your students need: this is one of the cores of intellectual honesty as well.... Students need to be engaged with the material before teaching can really happen, and presenting it in an intellectually honest way will help them make the leaps and connections that they didn’t realize they could.

### **Outcomes of the Process for Understanding**

In her reflective essay, Sonya wrote about the impact these ideas had upon her practice: “Writing my case and thinking more deeply about how I plan my lessons has made me more aware of being intellectually honest and trying to present ideas in a way that relates to my students. Good teaching is all about getting students involved in learning and presenting concepts in a way they can understand; it is all about understanding (or trying to get a sense of) where they are mentally and intellectually and using that information to help them move to where you think they should be or what you want them to know.”

Sonya also reflected that writing the case helped her trust her instincts and appreciate what she had done “right” in the classroom:

Writing my case has given me an opportunity to closely examine my own teaching in a way I hadn’t previously....getting the chance to apply specific ideas

to my own teaching is something that I haven't had yet in STEP; this is the first chance I had to take something we had learned and actively apply it to my teaching methods... Often this past year I have felt overwhelmed by this ideal of a perfect teacher who manages to run every class wonderfully and meet every kind of student need. Getting a chance to examine my own teaching showed me that I have some of the skills necessary to become a good teacher; it also provided me with some necessary reassurance, the reassurance that even though I have a lot to learn, I'm starting off on somewhat firm ground.

**Mika:**  
**From Seeing students' Failures to**  
**Appreciating their Needs**

**The Case**

Mika, a STEP teacher also student teaching in a ninth-grade English class, wrote her case about her efforts to help her students succeed on her vocabulary tests. In the final version of her case, she describes her belief that students need to develop a strong academic vocabulary, that it will offer them a powerful advantage in the future:

I wanted vocabulary to be an essential part of our learning experience because it is one of the building blocks by which we expand our personal lexicon and a vehicle which is used by many to then read a more diverse pick of literature. Vocabulary is also the marker of the arrival at academia, and if one can talk the talk, so to speak, one is often hailed as "educated," "literate" and "academic." I want to offer my students this very advantage when I make vocabulary a part of our class; to make it more connected to their curricular study, I pick words that come out of the texts we read.

### **The Case-Writing Process**

Like Sonya, Mika's case writing from outline to final draft reflects development from a more naïve formulation of her practice to a much more sophisticated, probing treatment of her teaching. The analysis also suggests that questions and comments from her instructor may have led to Mika's increasingly detailed and thoughtful responses, the elaboration of Mika's thinking, and the development of her ideas beyond naïve conceptions.

**Case outline.** Mika's early drafts focused upon the students' failures, framing their lack of success as their "problems." In her outline, she listed four problems her students had around the vocabulary tests:

1. Kids weren't studying;
2. Kids didn't know how to guess given context clues;
3. Kids didn't know parts of speech;
4. Kids didn't know how to figure out a word's part of speech given the way the word looks.

She noted with frustration and puzzlement that students told her, "We're never going to use these words anyways! Why do we need to know them? These quizzes don't do anything for me." She noted that few students received "good grades" because the majority didn't study. ("I asked them" she noted).

Her instructor's response to these descriptions and her list of four "problems" suggested Mika think about the relevance of the activity to the students' own lives, as well as what might motivate students to be interested in the activity: "I also wonder whether there are questions here about the value of the activity (motivation), the link to the literature the words came from or to any other real world context (relevance)—and about opportunities for practice..." her instructor noted in the margins of the outline.

**First draft.** In Mika's first draft, she began to describe in more detail exactly what she was doing, what students were having trouble with, and under what circumstances; she described students' inability to write sentences using vocabulary words correctly, and noted that few students seemed to be studying. She also described students "whining about how little time there was" and "complaining about the time crunch." In response, her instructor wrote, "You seem to see the problems as their failures. Are there aspects of your teaching or testing methods that should be considered as part of the problem?" Mika's section leader urged her to examine her teaching as something that could potentially shape students' responses and success—rather than looking at students as the source of all problems.

In addition to this urging, her section instructor also prompted Mika to talk about the contexts within which the words were being studied, asking questions like, "Where did the words come from? Did they relate to your readings? Did you teach them in groups that showed root words or prefixes/suffixes? What was the rationale and meaning context for the words?" In response to Mika's observation that students did not seem to be studying or using the words after the test, her instructor queried, "Were there specific occasions for them to do this?"

Thus, Mika's initial draft of seven pages clearly revealed the persistence of naïve formulations about students and teaching, for instance, that students' failures were solely "their fault" and that the problem was simply that students were not studying. And, while her first draft included two or three brief references to theory or concepts from the course (for instance, she mentioned that she was engaging her students in a "metacognitive

process" of making explicit how they guessed words), she did not yet use those concepts as a way to make meaning of her experiences.

**Second draft.** In her second draft, Mika examines the experience more fully—not just blaming the students, but questioning the situation she has created as their teacher. So for instance, while she wrote in her first draft, “they failed to manage their time well,” she writes in her second draft,

Here another question was raised. Was it that they had too little time? Or was the culprit that they had not studied adequately? They could not apportion out the time they had in order to finish the test on time....[Or] perhaps it was because I had not prepared them for this situation; after all, nothing in our class is timed and as pressured as this. Most of the activities in our class tended to be more student-centered, and this quiz was a frightening contrast to all that they’d been used to.

Mika also expressed an understanding—which seemed to have been prompted by her instructor’s questions—that she was not necessarily giving her students experiences in using the words in class. She explained in her second draft that, “Granted that there were no specific occasions for students to actually use the words orally in class after the test, I still hoped that in their papers I would see some vocabulary words used.” Her instructor’s probing seemed to have helped Mika to see the context in which she was teaching the words—helping her to articulate and recognize what she was providing and not providing for them in terms of scaffolding.

In response to her instructor’s questions and the ongoing readings and discussions in class, Mika began to articulate a more complex view of her students and their needs. In

her second draft, she considered that the vocabulary words might not have relevance to their lives outside of school. She notes,

Because they stopped short of seeing learning the words as the beginning of a lifelong accretion of knowledge, it makes sense that they saw no relevance to the words as related to their lives.

The section instructor's questions about what students "could and couldn't do" in her feedback on the first draft seemed to prompt Mika to talk about the abilities of students in more detail and with more attention to individual variation. In her second draft, she thus wrote about the fact that students had trouble applying knowledge to new situations that were quite different from past situations, using the course concept of "transfer" in a thoughtful way; "I could tell my students had trouble engaging in 'high road transfer'; they could engage in low road transfer, however." She elaborates, "they could apply the concepts they had learned in the same contexts, but no one had asked them to engage in higher order thinking."

Mika began to recognize how to look at things from the students' perspective—displaying the kind of "cognitive empathy" in her writing that Sonya's case demonstrated. She saw that the decontextualized nature of the assignment might have shaped the outcome. She reflected, "Unfortunately because the words were without context and I had not made the connection between the game and the usage of the words explicit, the connection was lost to most students, resulting not only in poor quiz grades but also a dismissal of the words after the quiz." The critical role of context in learning was a key concept in the course, and Mika began at this point to apply it to her case.

**Final case.** Mika expanded her thinking even more in the final version of her case: “In order to delegate authority in a way that causes my students to want to learn and use vocabulary, though, I also have to create a meaningful context in which they can use the words...” She also added that most of their vocabulary time was separate from the rest of the class time:

What message is that sending to the students? Am I reinforcing that vocabulary is indeed just a part of our curriculum, but not really an essential tool to our literature study? Or am I telling my students that the value of vocabulary is priceless and therefore I want them to have access to such a treasure?

By looking at her own implicit messages about curriculum and the way she presents and structures her time—what messages students may be receiving from her—Mika demonstrates an even more sophisticated understanding of her teaching.

### **Outcomes of the Process**

Mika recognized her own development into more expert thinking. In her reflective essay, she wrote, “throughout STEP, I have been waiting for something like this course to happen but I just didn’t know it.” She explained that she has developed a deeper understanding of how to scaffold for a particular skill.

I have begun to think about this more and more as I lesson plan...In order to hook kids into becoming learners and students, I must be able to appeal to them at their level. I don’t necessarily see it as dumbing it down, but as seeing how I can create a lesson that is authentic to my students’ needs.

Mika felt that “looking at my practices has made me a more reflective educator because I must look at what I do in my classroom and how it exactly promotes understanding.” By looking at vocabulary, she was able to “see how difficult it really is to teach something that is decontextualized from content matter.” She took this insight to a school curricular level, asking “Why is vocabulary so detached from the reading or the writing we want our students to produce?” commenting that, “I think it made me aware of how often terms and concepts in the curriculum are divorced from actual content.”

Mika also felt she learned a number of important lessons about teaching, learning and reflection from writing the case. She suggested that being prompted to recall specific aspects of the incident made her think about “why I made changes, why I thought that was in the best interest of my students, and what I left out.” As she put it, “Remembering the details really brought out what I should have been doing metacognitively as I structured this part of my curriculum.” Mika felt that the instructor’s questions and probing for articulation of the particular aspects of her curriculum, such as why she chose to teach certain ways, how students responded, what moves she made to relate to her students, helped push her thinking towards a more "metacognitive" approach to her work.

Mika concluded that,

This project truly helped me look at my curriculum, my practice and my philosophy as an educator. I am finding for myself where my values lie, and how those very values inform what I do day to day. I am learning how to become a more reflective, equitable educator, and this class helped me clarify what I believe about teaching. Most important, this class has helped me articulate what I believe about effective teaching. This very articulation has given me principles that I

might in the future utilize in order to become an independent and effective practitioner in a community of educators.

Our examination of the development of Sonya and Mika's cases confirmed that they did not begin with the kind of sophisticated thinking about teaching displayed in their final cases. The expert understandings they finally demonstrated developed over time until, by the end of the course, their final cases illustrated a substantial number of the expert moves we identified.

### **Learning to “Think like a Teacher”**

The cases of Mika and Sonya, along with evidence from other students' reflective essays, provide a glimpse into students' growing expertise in thinking about learning and teaching. These students did not simply replace one explanation with a new one. Rather, as one student explained, they were able to “watch their cases progress” and view their cases “through multiple lenses due to new articles and theories.” Students began with a simplistic explanation of their dilemma or challenge, often offering a first order solution that did not involve theory: they hadn't planned enough; they didn't organize their lessons correctly; their students misbehaved; they did not have enough time. They often also began with a focus upon themselves and their own teaching and planning, with little attention to student learning.

Opportunities to use and apply theoretical concepts from the course enabled students to re-frame the problem, complicating and deepening their analysis of the issues involved, moving beyond practical or personal explanations to theory-based explanations. They were able to consider factors regarding subject matter, context, students (e.g., prior knowledge, cultural backgrounds and experiences, readiness), and pedagogical choices.

Sonya's case, for instance, while focused around the concept of intellectual honesty, also gave careful consideration to the ways that students' learning styles and interests may have shaped their response to her curricular choices and to class activities. She also hypothesized that representations may have played a role in student learning.

When prompted, students were able to generalize from their cases, moving beyond their specific, immediate experience to consider how these experiences might inform their teaching in the future, to draw broad lessons about student learning and teaching, and to link their particular experiences to those other teachers might encounter. Mika, for example, developed her understanding in ways that helped her articulate her goals and rationale for teaching vocabulary, appreciate the way her teaching might have shaped students' responses, and recognize how her students' strengths, backgrounds and needs might shape what they do and how they learn. She moved beyond a focus upon the immediate, particular incidents occurring in her classroom to an exploration of these issues at a curricular level.

Our analysis suggested that a number of features of the course may have contributed to students' developing thinking. First, we saw how students responded to and built upon instructors' feedback in the various iterations of their drafts. Writing an outline and three drafts allowed students to mull over and analyze the problem while they were reading about a variety of theories and getting multiple forms of feedback. The combination of time, purposeful and specific feedback, and multiple drafts may have been particularly effective in supporting student's thinking about practice.

One critical aspect of this feedback was the constant reference to concepts in the course. Without this connection to knowledge about teaching and learning, students'

cases might have remained personal and idiosyncratic explorations of their own experiences. However, instructors built their comments, questions, and probes upon a body of research, frequently referring to particular articles, concepts, theories or issues from the professional literature we were reading in class. Students were able to build upon the theoretical connections and links seeded by instructors, in turn, pushing their cases beyond mere personal exploration towards more powerful explanations.

Two other features of the course also seemed to have contributed to the development of students' thinking. First, many students felt that the case conference, in which a small group of peers discussed their first drafts, was particularly useful in generating explanations and hearing alternative interpretations of their cases. Second, students had an opportunity to use and revise the rubric, which meant that they had a chance to evaluate other teacher-written cases and think about the features of good cases. Revising the rubric also allowed the instructors to more strongly emphasize student learning. This focus on student learning may have contributed to student teachers' more complex understandings of the experiences they faced in their cases. Requiring student teachers to include evidence of student learning (in the form of quotes, dialogue, and student work samples) provided case authors with concrete examples to analyze using theory. Using such evidence seemed to move student teachers away from an "I did this, then I did that" approach to an examination of particular responses and hence, to a focus on student thinking and learning.

The case partners seem to have been important in supporting many students' thinking in their cases. While some students had mixed feelings about the usefulness of the case partners and the case commentaries, a number felt that there were features of

partnerships that were particularly helpful. For instance, when case partners shared disciplinary background, understood one another's school sites, had opportunities for frequent feedback and found opportunities to converse outside of class about their cases, students felt their cases benefited from their colleagues' perspectives.

### **Implications**

This analysis of student work illustrates the kind of learning students may gain from writing cases. While evidence exists that reading cases may be a fruitful means of helping student teachers develop in their thinking and reasoning about teaching and learning (Lundeberg, 1999), this analysis suggests that case writing can provide an opportunity for pre-service teachers to examine assumptions, frame problems, and develop their pedagogical muscle in their own particular contexts. The focal students examined in this paper demonstrated in their successive case-writing drafts that they learned to re-frame problems in ways that moved beyond lay wisdom and common sense, drawing upon appropriate theory and research (as well as upon the clinical experiences of others) in order to develop more fully articulated, complex understandings of their classroom experiences. They learned to think about their students in ways that moved beyond simple assumptions, developing an appreciation for the contextual nature of student learning, students' individual differences and strengths, and the relationship between learning and students' own lives and experiences. They learned to elaborate, examine and challenge their own goals and objectives for their students, clarifying their reasons for teaching certain concepts, problems, topics and issues. Finally, they demonstrated an ability to think beyond their current, particular problem, drawing lessons for their future teaching and about the nature of teaching and learning.

### **The Pedagogy of Case-Writing**

While we are mindful that this investigation focused on a small number of students, several insights we derived about the nature of case-writing in this course may be useful for others using case-writing in their teaching. First, the context of the case-writing may play a significant role in the development of students' thinking. Students were writing their cases while reading and discussing theories about student learning and understanding. This seems to have fostered the interplay of the practical and the theoretical and supported the connections between the two that we hoped to foster.

Second, students were able to hear about and read cases written by their peers. Through case conferences they benefited from colleagues' hypotheses, insights about teaching, and perspectives on which theories seemed best to relate to their own work. The experience of sharing cases with other student teachers, with instructors, and in concert with cases written by other teachers may have created what Ann Brown (1992) has called "multiple overlapping zones of proximal development" in which students are pushed to think and are supported in a series of developmental arenas.

Third, our analysis suggests that the timing and nature of feedback is critical. For instance, the period between the first draft and the second draft, when feedback was offered and the case conference occurred, was when much of the re-framing of the problem occurred for these particular students. This suggests that when working with students on cases, the use of multiple drafts may be particularly beneficial, especially if instructors use the opportunity to provide serious, theoretically-grounded feedback that will help students pose new questions and consider alternative explanations. The most productive feedback was specific and concrete: When instructors referred to particular

articles or concepts, students' theorizing deepened appropriately. However, when feedback remained general—"you need to develop your analysis"—the students' cases did not deepen as much. In addition, many students felt that the case conference provided a generative forum for re-framing the way they defined the problems and issues in their cases. And, just as issues of readiness were at play in our students' cases, they likely play a role in students' learning in their case-writing as well.

Finally, it has been helpful for us to examine the ways in which students' thinking develops during case-writing. We have been able to identify a set of arenas, such as qualifications, hypotheses, and connections, in which students' thinking can develop through cases. This framework will enable us to both assess students cases more pointedly and purposefully, and will contribute to the development of a more sophisticated rubric for course use. This framework may also enable us to pursue fruitful analyses of thinking across a wide variety of teacher-written cases.

### **Learning through Case-Writing**

Coupled with a deeper understanding of the pedagogy of case-writing, this investigation also helped us to better understand the nature of student teachers' learning through case-writing. In this paper we have argued that students do not just learn to write a longer paper about teaching, but they learn about teaching. The nature of feedback may contribute to their learning. Mika's reference to "remembering the details" may reflect the usefulness of asking students to develop the particularities of their situation (what students said, did, and produced; what purposes student teachers had in making particular choices or responding to students), which may provide rich evidence that enables them to

go deeper in analysis and reflection. It may also lead to more opportunities to consider multiple interpretations and competing factors at play in one's experiences.

Student teachers' readiness may also be a factor. Studies of teacher development (Veenman, 1984) have suggested that new teachers first begin their work with a focus upon themselves and their actions in the classroom. Considering students and their learning comes later. While many of our students' cases began with a focus upon their own teaching, most moved to a thoughtful consideration of their students' learning. Perhaps the case-writing comes at a particular point at which they are indeed, ready to engage with these ideas. Perhaps it even supports their development in this arena.

### **Conclusion**

The goal of this assignment is not to write a publishable case (although some student teachers do), but rather to learn to consider, gather evidence, reflect, infer, and hypothesize about practice like a skilled practitioner. We hope that our students develop the ability to evaluate their practice, to understand their students as learners, and to become strong, purposeful, teachers who think about teaching in ways that reflect the complexity and intellectual and emotional challenges of the work. Our experience and our analysis support our conviction that case-writing, with its multiple opportunities for feedback, discussion, revision and elaboration, through opportunities to bring theory to bear upon their classroom work, may be one particularly powerful means of helping student teachers learn to think like a teacher.

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<sup>1</sup> Many of the materials described in this paper, including the case outlines, drafts and final copies of students described in this paper, an archive of additional STEP students' cases, copies of instructors' feedback, the case rubric, a description of the case conference format, the course syllabus, and additional resources about cases in teacher education, can be accessed at the "Learning from Cases" website, <http://kml2.carnegiefoundation.org/users/khammerness>.