Preservice Teachers' Conceptions of Effective and Ineffective Teaching Practices

By Judith Haymore Sandholtz

Given the focus on developing highly-qualified teachers to improve educa-tion (National Commission on Teaching and America's Future, 2003), teacher education programs face increasing responsibility to prepare new teachers who can effectively enhance learning in all students. Standards and assessment criteria developed by national organizations in the United States address the qualifications of beginning as well as experienced teachers and all emphasize student learning. The aim is that beginning teachers will not just manage classroom activities but assess and promote student understanding. However, the extent to which novice teachers can focus on instructional outcomes before mastering classroom man-agement is a matter of debate. Whereas some researchers propose that beginning teachers need years to move from concerns about management to concerns about student learning, others contend that a shift can occur during teacher preparation (Conway & Clark, 2003).

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This study explores this issue by examining preser-vice teachers' descriptions of effective and ineffective teaching experiences near the end of their preparation program. Using written documents collected over five years, the study specifically investigates the extent to which preservice teachers (1) focused on instruction or classroom management, (2) identified student

understanding in their descriptions, and (3) considered factors related to student learning in their reasoning about their actions.

Conceptual Framework

The conceptual framework for this study draws from two bodies of literature: the teacher development process and reflective practice. Teacher development research has highlighted beginning teachers' focus on management concerns and how these concerns shift over time to instructional impacts. Research on reflective practice suggests that critical reflection helps prepare beginning teachers for both classroom management and instruction. This study draws upon these two research literatures to examine the extent to which preservice teachers who are engaged in reflective practice consider instructional impacts by the end of teacher preparation.

Researchers contend that the process of learning to teach and to make professional judgments is developmental. Beginning with Fuller's stages of teachers' concerns (1969) and extending for decades, various theories have been proposed and examined to document teacher professional development (Berliner, 1994; Black & Ammon, 1992; Conway & Clark, 2003; Feiman-Nemser, 2001; Hall & Loucks, 1978; Mevarech, 1995). Although some researchers propose fixed, sequential stages, others suggest a more flexible stage approach to teacher development that takes contextual and personal factors into account (Richardson & Placier, 2001). A central premise of these developmental models is that teachers must deal with management concerns before they can focus on instruction and its impact on student learning.

Although classroom management and instruction are intertwined, Doyle's (1986) work provides distinctions between the two. Often equated with student behavior and discipline, classroom management refers to the process of establishing and maintaining an environment in which instruction and learning can occur. Doyle suggests that the focus of classroom management is "the problem of order and not the problem of learning" (p. 396); order can exist in a classroom without engagement by students in learning tasks. Classroom management focuses on "the actions and strategies teachers use to solve the problem of order in classrooms" (p. 397).

Changes in class sizes, school organization, and student needs have placed increased emphasis on effective classroom management, and researchers have examined and proposed a wide range of classroom management strategies and programs over several decades (see reviews by Doyle, 1986; Jones, 1996). Given that beginning teachers continue to identify classroom management as a prominent concern and an area in which they seek more preparation (Meister & Melnick, 2003; Melnick & Meister, 2008), teacher education programs need to prepare candidates to manage the classroom effectively while also shifting their focus to student learning. Some researchers suggest this process extends over several years, but others contend changes can occur within a one-year internship (Conway & Clark, 2003) and that the pattern of change is relative to the teachers' capabilities (Pigge & Marso, 1997).

They suggest that beginning teachers' development exhibits both an outward-oriented pattern (moving from a focus on self to tasks and finally to impact on students) and an inward-oriented pattern that shifts from personal capacity to manage a classroom to capacity for professional growth (Conway & Clark, 2003).

In preparing preservice teachers to foster student learning, teacher education programs are increasingly emphasizing systematic inquiry and reflective practice in courses and assessment strategies (Cochran-Smith, Barnatt, Friedman, & Pine, 2009). Analyzing and reflecting on practice is a valuable way to improve teaching and promote student learning. Dewey (1916) advanced a conception of teaching in which the process of reflection is intertwined with the process of education. However, reflective practice involves more than the inherent thinking that the act of teaching entails. Simply gaining experience is not equivalent to learning from experience. Reflective practice involves intentional inquiry, and, though based on classroom events, "yields knowledge about practice that does not arise from daily practice alone" (Dinkelman, 2003, p. 9). Schön (1983) distinguishes between reflection-on-action and reflection-in-action. Reflection-on-action occurs after the particular event, is consciously and purposely engaged in, and may involve documentation. Reflection-in-action takes place during the event and tends to be a response to surprising or puzzling situations. When reflecting in action, the teacher "becomes a researcher in the practice context," and generates "both a new understanding of the phenomena and a change in the situation" (p. 68).

In connection with a student-learning focus, conceptualizations of teaching underlying the standards developed by national organizations emphasize reflective practice (Porter, Youngs, & Odden, 2001). To enhance effectiveness, beginning teachers need to develop the habit and capacity to reflect on not only their teaching but also outcomes of their practice (Moir & Baron, 2002). Systematic inquiry and reflective practice help beginning teachers to assess the effects of their decisions and actions in the classroom (Laboskey, 1994; Rock & Levin, 2002; Valli, 1993). Rodgers (2002) points out that reflection, which adheres to the rigor inherent in Dewey's conception, requires teachers to "confront the complexity of students and their learning, of themselves and their teaching, their subject matter, and the contexts in which all these operate" (p. 864). Reflective practice is a valuable approach for preparing preservice teachers for both instruction and classroom management. Given the emotions and fast-paced interactions that occur in cases of student misbehavior, classroom management decisions are often more intuitive than reflective (Calderhead, 1987). But candidates from programs based on reflective-constructive instruction, as opposed to technical training, learn to be more reflective, devise more solutions to management problems, and take responsibility for classroom events (Stoiber, 1991).

A fundamental capacity of effective teachers is the ability to think systematically about their practice and learn from experience (National Board for Professional Teaching Standards, 1999). Given differences in classroom contexts and the

unpredictable situations that arise in teaching, teacher education programs cannot prescribe appropriate strategies. Instead, the aim is to help prospective teachers develop the ability to analyze teaching and learning and adapt their practice accordingly. Reflective practice offers a strategy to build beginning teachers' capacity to assess teaching outcomes. Yet, according to developmental models, novice teachers may not have the ability, or the inclination, to determine the instructional significance of what they are experiencing and how to respond. A key question is whether programs that focus on reflective practice can help preservice teachers develop the capacity to not only manage classrooms but also consider instructional impacts.

Methods

Data Source

The primary data source for this study was written documents from 290 students enrolled over a five-year period in a combined teacher credential and master's degree program at a public university in southern California. The group consisted of 87% females and 13% males and included students with a range of ethnic backgrounds (59% Caucasian, 23% Chicano/Latino, 15% Asian-Pacific Islander, 2% African-American, and 1% other). Seventy-six percent of the students were preparing to teach at the elementary level, and 24% were preparing to teach at the secondary level.

The combined program was designed to be completed over 12 months and to provide opportunities for candidates to link theory and practice. Candidates began field experiences early in the program, completing approximately 70 hours in connection with foundation courses and progressed to student teaching assignments that extended over the academic year. Placed in cohorts at partner public schools, student teachers took on teaching responsibilities that gradually increased over the year. Since student teachers participated in university course work and practice teaching simultaneously, instructors could draw upon field work experiences to help student teachers make connections between theory and practice. Throughout the program, student teachers had opportunities to engage in reflective practice. At the schools, they reflected on their teaching in individual and group discussions with master teachers. In seminars, university supervisors guided them in evaluating their own teaching. The capstone course enrolled all candidates in the combined program and focused on analyzing teaching. Students completed activities and assignments in which they analyzed their teaching using data sources such as student work or videotapes. Before receiving a credential, candidates completed a performance assessment developed by a consortium of 30 universities. The assessment focused on the use of artifacts and written commentaries in which candidates analyzed their teaching.

In the capstone course, students completed an assignment that asked them to "describe a teaching experience that you would handle the same way again" and to "describe a teaching experience that you would handle differently if you could." The assignment also asked students to explain their reasoning. I developed the

writing assignment to serve as both a research tool and an instructional activity involving reflection on practice. I worded the prompt so as to avoid specifically focusing students on classroom management, instruction, or student understanding. I designed the assignment, as a research tool, to provide a window into their concerns and their conceptions of effectiveness without using the terms effective and ineffective. I wanted to avoid suggesting a connection between effective and ineffective strategies and particular content of the preparation program. To promote honest responses, I did not grade the assignment.

Data Analysis

The study adopted a social constructivist research paradigm in which the researcher examines the participants' views of the situation and aims to understand the subjective meanings of their experiences (Creswell, 2007). These meanings are negotiated socially and formed through interactions with others in a particular context. In this study, the focal context was the classroom, and the key interactions were those between teacher and students. I looked for patterns of meaning in the preservice teachers' descriptions of teaching experiences in public school classrooms in order to understand their views of effective practice. Data analysis followed qualitative research methodologies and included deductive and inductive strategies (Bogdan & Biklen, 1998; Miles & Huberman, 1994). The process centered on examining the written documents on three levels. At the first level of content analysis, I coded each student's description of effective and ineffective teaching experiences (a total of 580 descriptions) with a prespecified primary code: classroom management or instruction. To distinguish between the two, I used Doyle's (1986) definition of classroom management as "the actions and strategies teachers use to solve the problem of order in classrooms" (p. 397).

The second level involved identifying emergent sub-codes within the two primary codes. For each description, I identified the central issue, and then reorganized the data to form groups of related issues and to identify sub-codes that emerged from the data. The emergent sub-codes for classroom management included: *policies or procedures, teacher actions, student incident, class incident*, and *master teacher intervention*. The emergent sub-codes for instruction included: *planning and preparation, instructional strategies, standards and objectives, restructured lessons, student participation, student understanding, knowledge of students, subject matter knowledge,* and *time pressures*. At the third level, I looked across the full data set, organized by main codes and sub-codes, for references to student understanding. When preservice teachers referred to student understanding, I examined whether they were describing effective or ineffective practices and how they linked student understanding to classroom events. I examined the depth and complexity of their reasoning and connections between stated rationales and instructional decisions. After analyzing each individual description, I investigated patterns for each year and then for the total group. I looked for patterns related to the framing questions

of the study: To what extent did preservice teachers a) focus on classroom management or instruction, b) identify student understanding in their descriptions, and c) consider factors related to student learning in their reasoning about their actions?

Findings

In this section, I identify general patterns and then discuss specific findings related to effective instruction, ineffective instruction, effective classroom management, and ineffective classroom management. Table 1 summarizes the categories within each of the four areas. When describing a teaching experience they would handle the same way again, the preservice teachers overwhelmingly focused on instruction. Only 12% of the total group described experiences related to classroom management. When describing a teaching experience that they would handle differently, the majority, approximately 75%, again focused on instruction. These general patterns occurred for each of the five years. Only 21 of the 290 preservice teachers focused on classroom management in response to both prompts; for them, classroom management was likely a primary concern in their teaching. But most of the preservice teachers appeared to be concentrating on instruction near the end of their teacher preparation program.

Effective Instruction

Student participation. The factor that the preservice teachers most commonly linked to effective instruction was student participation. Approximately 77% of those who described an effective instructional experience included aspects related to student participation. Their responses reflect the principle that facilitating student learning involves more than placing students in educative environments; proficient

Table 1:
Emergent Categories

Effective Instruction	Ineffective Instruction
Student participation Student understanding Restructured lessons Standards and objectives	Instructional strategies Knowledge of students Planning and preparation Time pressures Subject matter knowledge
Effective Classroom Management	Ineffective Classroom Management
Policies or procedures Incident with specific student	Lack of policies or rules Teacher actions Situation with class Incident with student Intervention by master teacher

teachers must motivate students and engage them actively in learning (NBPTS, 1999). The preservice teachers recounted various strategies for involving students, highlighting the use of manipulatives, visual representation, realia, games, and hands-on activities. They described, for instance, how "almost every single student in the class participated in some way," how students were "engaged in the lesson because they were part of the lesson," and how hands-on activities were "engaging and accessible to diverse learners." Some student teachers took a different approach from their master teachers to promote student engagement. As one wrote,

> I was placed in a class where the master teacher was big on independent work and worksheets. The students had very little opportunity to engage in more hands-on or group work. I was able to bring in more interactive lessons to engage them and vary the learning environment.

With the master teacher's support, another student teacher "threw the book out" and "brought in visual presentations and hands-on experiments" in order to teach science.

Approximately 69% of the preservice teachers who highlighted the importance of student engagement identified it, in and of itself, as the reason the lesson was successful and failed to make a link to student understanding. For example, they wrote:

> It was successful in that I had 100% student involvement (doing the hands-on activities and participating in discussions).

> I would teach it the same way because every student was engaged and student interest was very high. I enjoy teaching lessons that the students are anxious to do again!

> The students were engaged and had fun. . . Engaging is key.

This group of teachers talked about how students enjoyed the activities, listened attentively, showed enthusiasm, and had fun, but the teachers failed to mention student learning. Although student engagement aids both instruction and classroom management, their reasoning overlooks the notion that classroom activities can be engaging without leading to student learning. Wiggins and McTighe (2005) point out that a common problem of activity-oriented design is that engaging experiences may "lead only accidentally, if at all, to insight or achievement" (p. 16). Activities may be fun and interesting for students but have little or no intellectual value; that is, they often are "hands-on without being minds-on" (p. 16).

Student understanding. Approximately 30% of the preservice teachers who described effective instructional experiences mentioned student learning or under-standing in their rationales. However, the majority made a simple reference to the fact that students learned. Only about a third offered a more detailed explanation about student understanding. These preservice teachers discussed factors such as

building on students' prior knowledge, connecting to students' experiences, checking for understanding, and addressing needs of all learners. A preservice teacher in a 2nd-grade dual-immersion classroom described checking for understanding by giving students miniature clocks and asking them to place the minute and hour hands on the correct numbers as she gave them specific times. The hands-on activity involved all students and made it easy "to verify which students were having difficulties with the lesson." Another teacher described a math lesson and how she used a variety of visual and hands-on strategies such as bringing in objects from the environment and building geometric shapes from toothpicks and gumdrops. She pointed out that students "really enjoyed the lesson and were engaged the whole time," and she then discussed how she attempted to address the needs of multiple learners and checked for student learning within the activity itself.

In a lesson on human disturbances in nature, a teacher implemented a lab that modeled a real-life situation from Puget Sound, an inland complex of waterways from the Pacific Ocean. In describing why the lesson was effective, she mentioned the hands-on nature of the activity but primarily emphasized student learning that resulted from the lab. In these cases, the preservice teachers identified student engagement as important but also considered factors that demonstrated student understanding in explaining why the lesson was effective. However, in another case, the teacher acknowledged a lack of student understanding yet still viewed the lesson as effective. Teaching a unit on money, she implemented a system for students to earn money and make purchases from a classroom store. She described students' active engagement and their interest in learning about money and spending their coins. Despite the fact that many students did not perform well on the unit assessment, she concluded that "a foundation had been built" and that the experience would "entice them to learn more about the subject matter." She recognized that student understanding is the primary goal and that she lacked evidence of it. Yet given students' high level of participation and engagement, she decided that she would teach this unit in the same way again.

Restructured lessons. A small percentage of the preservice teachers, less than 5%, described restructuring a lesson to address student confusion and increase understanding. While this typically involved making a change after reflecting on classroom practice, a few preservice teachers described what Schön (1983) refers to as "reflecting-in-action." They analyzed the situation while teaching and made on-the-spot decisions to change plans. One student teacher, for example, risked deviating from her master teacher's directions in order to explore a topic stemming from a high school student's question. The master teacher had instructed the student teacher to "get through as much [material] as possible and keep the discussion on track." But when a student asked a question "that didn't exactly relate to the primary source documents," the student teacher opted to explain the origins and significance of the Black Panther movement. She would do it again "because listening to the

students, validating their thoughts and questions is important, and it improved my relationship with them and helped the rest of our discussion."

Standards and objectives. Teaching in schools that emphasized standards-based curriculum and instruction, the preservice teachers frequently expressed the need to align their teaching with the standards and to cover established curriculum during a set time frame. In class discussions, they described the emphasis on content standards and accompanying tests, and when planning lessons, they focused on developing plans to address specific objectives and standards. In some schools, they encountered pacing guides, scripted lessons, and instructional time requirements. Despite this widespread focus on standards, only a minority of the preservice teachers, when asked to describe an effective teaching experience, mentioned in their rationale that their instructional activity met required standards. Only one person referred to objectives and standards as the sole reason the lesson was successful. They apparently recognized the emphasis on aligning instruction with content standards, but, at the same time, appreciated that effective teaching involves more than covering the content.

Ineffective Instruction

Instructional strategies. Approximately 53% of the responses about ineffective experiences focused on instructional approaches that didn't work. Lack of student engagement emerged as a key issue; preservice teachers often proposed that their instruction had "too much direct teaching" and not enough "hands-on activity." For instance, one person recalled teaching a science lesson "based solely on reading out of a textbook and following along by filling out a worksheet." Another taught a scripted spelling lesson in which the students would "re-write the spelling words on separate lines in a different order than they appeared in the book." Besides not enjoying these types of activities, students didn't grasp the key ideas. The teachers found that their selected instructional strategies often lacked depth or failed to provide concrete examples, and consequently hindered both engagement and their students' ability to conceptualize particular concepts. But simply including hands-on activities did not ensure either student interest or student understanding.

A preservice teacher in a 1st-grade class opted to use a hands-on instructional strategy that had worked effectively the day before but discovered the students "got bored very quickly." "They didn't want to measure boring school objects with their [centimeter] rulers because they had the skill from the day before [when they had measured objects with inch rulers]." In a different class, the teacher had students create lines, line segments, and angles with pieces of yarn. When examining their work, she thought the students understood the concepts; "however, when they applied the concepts to paper, it didn't transfer!" Another teacher involved students in creating three dimensional figures from clay. They not only "spent too much time creating the figures" but also "didn't create the figures perfectly so they couldn't

find the edges, vertices, and face," which undermined the main purpose of the lesson.

A strategy that proved ineffective due to implementation issues was group work. In retrospect, the teachers noted problems with group size and composition, individual roles and participation, the product, and students' preparation to work cooperatively. As one teacher wrote,

> I was supposed to implement cooperative learning groups, and in doing so, I sent the class into chaos. I was working with 1st graders who already have a difficult time working in pairs. In groups, they could get nothing done. I did not provide sufficient modeling for the roles of each group member, and I was not available to mediate for each group throughout the whole process.

Other instructional strategies lacked effectiveness because they failed to connect with students' experiences. For example, a preservice teacher in a class of English Language Learners discovered that students had "miserable" scores on spelling/vocabulary tests even after she used varied instructional strategies and devoted ample time to the selected words during the week. After analyzing the situation, she suggested that the process of asking students to listen to the target word, spell it, and define it was problematic because they needed to learn the words "in context and through association and daily personal use." Another teacher discussed students' mistakes in skills such as addition, subtraction, multiplication, and division, and proposed using more real-world mathematics to help them see applications and reasons for learning these skills.

In describing instructional approaches that didn't work, the preservice teachers pointed out how their selected strategies had led to student confusion, had not been effective for all students, or had been too difficult for the class. In some cases, they identified the problem but did not have clear ideas about how to teach the lesson differently. For instance, a teacher described being well prepared with multiple examples to teach a lesson on abstract nouns, but students could not grasp the concept and understand how something other than a concrete object—a person, place, or thing—could be a noun. She and the students struggled through the lesson, and the students' subsequent work confirmed their misunderstanding. But in recounting the incident, the teacher offered no alternative instructional strategies.

In most cases, when the teachers recognized student misunderstanding and identified problems with their instructional approach, they also proposed ways to alter their teaching. Their suggestions reflected their assessment of what went wrong and included ideas such as giving more explicit instructions, breaking down concepts into smaller components, conducting pre-assessments, offering step-by-step explanations, or doing more modeling. For example, a preservice teacher taught a lesson on finding the area of a three-dimensional cube and "made the mistake of trying to explain the concept using the book." Reflecting on students' confusion, she suggested that it would have been better to use an actual cube and demonstrate

how to determine the length, width, and height and then calculate the area. Teaching a geometry unit in an elementary class, another teacher encountered "a sort of mind block" with the students:

> No matter how I seemed to present information regarding geometric figures, the students did not get it. I tried using several strategies including verbal and visual instruction. Looking back I believe it was the academic language that had created a barrier in student learning. If I were to teach the lesson again, I would spend much more time explaining new vocabulary using strategies like association.

As she described, her reflection-in-action and her attempts at alternate strategies failed to help students understand the concepts. Upon further reflection, she concluded that the problem was not the particular strategies but rather the language being used.

Knowledge of students. Approximately 17% of the responses about ineffective instruction involved issues related to knowledge of students. Most commonly, the preservice teachers misjudged students' abilities and prior knowledge. For example, they assumed that students could use procedures such as addition and multiplication, understood how to read timelines, had experience counting coins, or knew about the American Revolution. In some kindergarten classrooms, they discovered that students didn't know their own birthdays, didn't have the small muscle skills to work with certain items, or didn't have the self-discipline not to eat the experiment materials. In a 9th-grade biology class, a preservice teacher assumed students had particular mathematical skills and implemented an activity about measuring blind spots:

> I wanted students to use mathematical concepts most were not equipped to use; I didn't give them enough background knowledge or practice. I rushed through, not wanting to invest the time. Most students were lost, confused, resentful, or bored.

After reflecting on these types of classroom experiences, the preservice teachers realized that their students needed more background knowledge, more explicit directions, more modeling, or more individual assistance. A teacher in a 10th-grade world history class asked students to analyze Cold War primary sources during class. His objective "was to have the students analyze, evaluate, and synthesize information from the documents in order to get an idea of U.S. foreign policy." But he found that "the language of the documents was too difficult, and my students were only capable of gleaning a simplistic and biased perspective without my help." If teaching the lesson again, he would define more vocabulary, allow more time with the documents, and "possibly provide a handout with simple questions to get the student to begin thinking about the documents."

In a bilingual 2nd-grade class, the preservice teacher knew students had limited English and Spanish vocabulary, so she reviewed some vocabulary before reading a book in Spanish. But she had misjudged the extent of their knowledge and their ability to retain meanings of the words from a quick review. She reported that "stu-

dents did not have a clue what the story was about because of the vocabulary" and determined that she "would not consider reading something that was so difficult for my students again." In a contrasting situation, another teacher underestimated students' abilities: "At first I did not really know all of the students and I opted to not use any activities with manipulatives for fear of the class not being able to handle them. This caused the majority of the students to be disengaged and not really grasping the concept."

In some cases, preservice teachers struggled with how to offer differentiated instruction to meet a range of student needs. They often discovered that more advanced students were bored and needed to be challenged. In one embarrassing situation, a teacher was "instructing a beginning choir class at the high school on a work in Latin." He "called on a student to read part of the translation, yet she refused to respond." Later he learned she was a Special Education student who could not read the complex translation and suggested that he could have prevented the situation by "being more prepared for differentiated instruction." In all of these situations, preservice teachers' insufficient knowledge of students led to ineffective instructional approaches. In reflecting on what went wrong, they recognized that their own lack of understanding contributed to their students' misunderstanding.

Planning and preparation. Another problem, described by approximately 17% of those who wrote about ineffective instruction, was insufficient planning and preparation. For example, the preservice teachers failed to adequately plan the lesson, lacked the necessary materials, or didn't consider procedures. In a math lesson about weight and differentiating between heavy and light objects, one teacher relied primarily on direct teaching. In retrospect, she acknowledged that she failed to plan obvious learning activities, such as having students weigh different objects using an actual scale, and failed to gather necessary materials in advance. Another preservice teacher described a sequence of problematic events that resulted from insufficient preparation:

> That day, I was running around making copies of the presentation. This then made me late to the classroom. When I looked at the copies, they were not complete. I also had the projector and the overhead on at the same time. The setting of the classroom made it difficult to display both of these devices. I found that I was constantly giving my back to the students.

In another class, students worked with fraction circles in a lesson on mixed numbers. When checking their work, the teacher discovered that some circles had missing pieces, so she kept students in from recess to search for them. Later she learned that, because she hadn't checked the materials in advance, she had provided incomplete sets, thus undermining the effectiveness of the activity and setting up a situation in which she erroneously blamed the students. Similarly, in a science unit on plants, a teacher planned an activity using a worksheet from a resource book and purchased seed packets. She reported that "the lesson was going great until

I had 32 students coming up to me asking 'How do I find out how much water or sun my seeds need to grow?" As their confusion increased, she realized that "the seed packets I purchased did not contain all of the information that the worksheet asked for." Uncomfortable classroom situations highlighted the need for adequate preparation even with scripted lessons. One person who taught a scripted math lesson admitted, "I wasn't prepared and had to stall during the lesson to learn what I was supposed to be teaching! It was horrible." Across classrooms, student confusion coupled with the teachers' discomfort led to a common conclusion: "I will never be that ill-prepared again!"

Time pressures. Approximately 8% of responses about ineffective instruction focused on decisions the teachers made in response to time pressures. For example, preservice teachers reported that they rushed through material, attempted "to cram all of the information into one lecture," and decided to lecture rather than use models or manipulatives. Due to limited time, they resorted to coverage, which Wiggins and McTighe (2005) describe as one of the twin sins of traditional design, but later realized that it hindered student understanding. The press for time resulted from factors including inexperience in lesson planning, school assemblies and other interruptions, and school or district pacing guides. Some teachers dropped planned activities such as review, modeling, and guided practice, but their adjustments proved counterproductive by leading to student confusion and a need to re-teach. As one teacher noted, "It was so bad [that] I re-did the lesson the next week," spending time that could have been used in other ways.

In other cases, the teachers didn't alter plans, but instead attempted to complete all planned activities. As one teacher stated, she "had all of these good ideas on how to enhance the lesson" and rushed through the activities, but later realized that "it would have been much more effective if I had split it up into two or three separate lessons." One preservice teacher, who finally secured a one-hour block of time to teach a science lesson in an elementary classroom, incorporated a variety of teaching strategies but later acknowledged that "even though the lesson was interesting to students, there was too much information and. . . the students did not benefit much from it." As happened with others, she ended up having to re-teach some concepts. But some teachers couldn't alter their schedules to re-teach. For instance, a teacher who was required to follow the district pacing schedule described her frustration when she realized students did not understand the concept and she "could not go back and re-teach" the next day after finding an alternative strategy. Instead, she "had to move on knowing they didn't understand." Another student teacher wanted "to include more hands-on activities and try to spend more time on each lesson to ensure that students were grasping concepts and were really ready to move on to the next level," but she was required to teach one mathematics lesson from the book each day.

Subject matter knowledge. Approximately 5% of the responses about ineffective instruction focused on issues related to insufficient subject matter knowledge. In

some cases, preservice teachers lacked knowledge about a particular topic, leading to situations such as using the wrong terminology in a math lesson, doing a sample problem the wrong way, or trying to teach themselves the material while simultaneously teaching the students. As one person wrote, "I was trying to do something that I wasn't comfortable or confident about doing because I was supposed to do it just like my master teacher. Much of the content of the lesson was foreign to me." One student teacher simply skipped a lesson on phonemic awareness when she realized that she didn't know how to sound out some of the words. After attempting to teach about the first American industrial revolution to 8th-grade students, another teacher recounted, "I had very little experience with the topic and my students knew it. They could smell 'blood in the water.' The lesson was a total disaster." Looking back over the incidents, the preservice teachers recognized that their own lack of knowledge hindered student understanding. One high school teacher proposed that his students' lack of understanding extended throughout the year:

> My biggest failure. . . would be teaching my students how to find roots of a polynomial. I got confused, and my students got confused and I had to start all over, but my kids had given up and it was just a mess. I now know that I could have approached the problem differently by working backwards or showing the graphs of the functions. . . my students are still not strong in that area.

Without sufficient subject matter knowledge, preservice teachers discovered that their instructional decisions proved ineffective due to their own lack of understanding.

Effective Classroom Management

Only 12% of the preservice teachers focused on classroom management when describing a teaching experience they would handle the same way again. Approximately 54% of those responses involved an incident with a particular student, and 46% focused on procedures or strategies. They explained, for example, how management procedures worked as intended or how they implemented new procedures or routines in response to a specific classroom situation. In some cases, the teachers sensed that students were testing them, and by following through with established procedures, the preservice teachers reinforced their classroom authority and prevented ongoing behavior problems. As one student teacher explained, "I let them know that my expectations of them were just as high or higher than their other teacher and I will enforce the rules that I had established." In describing incidents with a particular student, the preservice teachers highlighted how they handled the issue in an appropriate, consistent, and sensitive manner. For example, they explained how they stayed calm, took into account the particular student's needs, and talked with students in private. As one person wrote,

> I took the time to talk to her when she needed it and referred her to a school counselor. She thanked me often for caring and listening. I saw a positive change in her as she made friends and became more comfortable in her new environment.

Another teacher described her decision not to emphasize the classroom rules:

> A student walked into my classroom late with tears in her eyes. I allowed her to enter without making a big deal about her tardiness. While teaching, I discreetly dropped off some tissues on her desk. After class, I was able to talk to her and let her know that I cared. She started crying. . . I think that this [incident] helped me remember that the rules (tardiness) are not as important as people, and that I have to make good choices at a moment's notice and that affects the students.

Ineffective Classroom Management

Approximately 18% of responses about ineffective classroom management focused on a lack of policies or rules. The preservice teachers commented on the need to have "clear expectations and consequences set up before I taught" and "my set of rules so the students wouldn't try to manipulate me . . . [and which] would have eliminated confusion and debate." A preservice teacher in a kindergarten class acknowledged: "During the beginning of my teaching experience, I was so overwhelmed and intimidated that the effectiveness of my lessons was shadowed by my lack of control." In approximately 35% of the responses about ineffective classroom management, preservice teachers had plans in place, but described problems with their own actions, such as failing to follow their established rules, losing their temper, or making empty threats. They described regret about not only aggressive actions, such as responding "with a kind of sarcastic question" or getting so frustrated that they "screamed really loud and got really upset," but also passive actions such as deciding "to talk over the noise" or ignoring "i-pod or cell phone use" or acting like "a friend instead of a teacher." They realized that, instead of eliminating problems, their actions often created more problems.

In 25% of the ineffective classroom management responses, preservice teachers described management issues with the class, such as students talking, not paying attention, or being disruptive. One person realized that when the equipment mal-functioned, she "let my students' criticism get to me," and "turned red, began stuttering and stumbling." The preservice teachers pointed out ways to handle the issues differently, including being prepared with alternative teaching activities, preparing students to properly use materials, and keeping disagreements from escalating. In some situations, the preservice teachers suggested that they erred by disrupting instruction and involving the entire class in a management issue that centered on a few students. For example, several teachers had all of the students begin searching for items that one student reported missing. In other cases, teachers regretted not taking advantage of a "teachable moment" to address topics such as name calling or racist remarks.

Approximately 17% of the teachers who described classroom management problems focused on incidents with a particular student, such as a defiant, confrontational student or one frustrated about grades. For example, one person described an incident as a substitute teacher:

> I lost my temper in a 7th-grade classroom and called a student 'pathetic.' While the student did need discipline, I acted on pure emotion and adrenaline. This 'outburst' did not teach the student anything *except* that she could provoke me.

In another class, a student teacher spent a significant portion of instructional time trying to reason with an argumentative student as other students became restless. Thinking back on the incident, she noted, "I took 20 minutes of my students' time to argue with a student" instead of "telling the student to stay after class or discuss any further questions with me later." These incidents with a single student prompted the teachers to consider issues of power and authority. One teacher contended that the student teacher role contributes to classroom management issues:

> It is different when it is your own class because the students understand your role, but as a student teacher (by 3rd or 4th grade, they know the difference), they see you as a learner, friend, or babysitter. . . The students become adjusted to one form of teaching and anything different is seen as foreign or wrong.

A less common situation, identified in only 5% of responses about ineffective classroom management, also related to authority. Preservice teachers described intervention or actions by the master teacher. For example, a master teacher reversed a student teacher's decision to place a student in "time-out" and the student teacher wished she had spoken up "about her supporting my decisions and not undermining my authority in class." In another case, a master teacher yelled, from across the room, at a student who had volunteered to lead the class but then felt reticent to talk. The student teacher, who was attempting to handle the situation differently, felt she "could not speak up" in opposition to the master teacher's actions.

The preservice teachers who focused on classroom management in their descriptions of effective and ineffective teaching experiences revealed a concern about classroom management but not a lack of awareness. They demonstrated an ability to recognize the problem, to analyze what went wrong, and upon reflection, to propose alternative strategies.

Conclusions and Implications

Analysis of the preservice teachers' descriptions and rationales leads to four interrelated conclusions about their conceptions of effective and ineffective teaching practices. First, in the final stage of the program, the majority of the preservice teachers were not focused on classroom management, but rather highlighted instructional practices when describing effective and ineffective experiences. Those who did focus on classroom management acknowledged problems with their own actions and proposed ways to handle the situations differently.

Second, in addition to focusing on instruction, the preservice teachers appeared to be developing the personal capacity and inclination to concentrate on issues related to student understanding. They mentioned student understanding more frequently when describing ineffective instruction rather than effective instruc-

tion, suggesting an inclination to recognize signs of students' misunderstanding. For beginning teachers, signs of student misunderstanding are likely more obvious and apparent during classroom instruction, particularly when many students in the class exhibit them and planned activities can't be completed. Across classrooms and grade levels, students' confusion served as the most common indicator of a lack of understanding due to ineffective teaching practices. In terms of effective instruction, the preservice teachers focused on student engagement and assumed a link between engagement and learning. Although standards occupied a central role in curriculum development and instructional planning, the preservice teachers recognized that their teaching could address the standards yet not be effective, in terms of either student interest or learning. Their rationales emphasized student participation and fostering student interest to promote learning. However, most of the preservice teachers described teaching practices that engaged the students without clarifying how engagement fostered learning. Those who did discuss student learning as part of effective teaching practice first described students' engagement and then, instead of just assuming a connection, identified factors that demonstrated student understanding.

Third, upon reflection, the preservice teachers determined alternate approaches to reduce students' confusion and enhance their understanding. Although few teachers described situations in which they analyzed student difficulties and shifted plans during the act of teaching, their rationales showed that, when critically reflecting on the experience after the fact, they considered contributing factors and identified ways to alter their teaching. Removed from the immediacy of the situation, they could view incidents differently and formulate alternatives that they did not think of at the time. Rather than placing blame elsewhere, they typically took responsibility for their actions, acknowledging how their decisions contributed to students' lack of understanding.

Fourth, though they didn't demonstrate the in-depth reasoning of accomplished teachers, the candidates showed potential to critically examine their practice and sharpen their judgment. They demonstrated a developing capacity to learn from experience by thinking systematically and analytically about their teaching. They began to engage in a process of pedagogical reasoning that includes critical reflection and leads to new comprehension of the purposes and subjects to be taught, of pedagogical processes, and also of the students (Shulman, 1987). Their descriptions of effective and ineffective practice focused on instruction but did not draw upon specific evidence of student learning in the way that accomplished teachers do.

The findings of this study hold implications in two main areas. First, the study supports the notion that preservice teachers, during their initial year of teacher preparation and classroom teaching, are capable of considering both classroom management and instructional issues. The teachers in this study recognized the importance of classroom management, but they were not overwhelmed by discipline issues in the final stage of the program. Classroom management concerns

naturally arise with changes in classroom contexts, even for experienced teachers, but they may not be the central focus nor extend for the period of time suggested by early stage models of teacher development. Conway and Clark (2003) propose that, rather than a linear progression, novice teachers likely follow a cyclic pattern in which similar concerns emerge and dissolve each year for a period of years. As other researchers contend (Grossman, 1992, Rock & Levin, 2002), preservice teachers have the ability to not only manage classroom activity but also to consider implications for learning. Grossman (1992) proposes that, rather than a primary focus on classroom management, teacher education curriculum "must integrate management skills with substantive and ethical concerns" (p. 177). This study supports the perspective that preservice teachers have the ability to view classroom management and educational aims as interrelated aspects of teaching practice and that teacher education programs should highlight this interdependence. However, it is possible that the relative lack of management concerns reflects the types of students enrolled in the program (Harrison, Dymoke, & Pell, 2006; Watt & Richardson, 2008) or their situated views of teaching (Lave & Wenger, 1991; Putnam & Borko, 2000) stemming from their experiences in this particular program and their K-12 school settings.

Second, this research underscores the potential value of preparing preservice teachers to engage in reflective practice focused on student learning. The complex and particular situations that arise in teaching require teachers to analyze each distinct situation and come up with context-specific approaches. The teachers in this study described classroom situations in which they struggled, but, upon critical reflection, they typically could formulate plans to remedy or prevent the situation. By analyzing their classroom experiences, they were better able to learn from experience. Standards and assessment criteria suggest that competent beginning teachers should continually assess the consequences of their actions and reflect on classroom events to plan subsequent teaching and improve teaching skills (Porter, Youngs, & Odden, 2001).

Teacher education programs are critical in helping beginning teachers develop skills and dispositions needed to engage in intentional and systematic inquiry into their own teaching. A central focus of this type of inquiry needs to be student learning. In this study, the preservice teachers observed students' confusion and consequently realized that their instructional approaches had been ineffective, but they were less inclined to look for specific evidence of student understanding. Their rationales about effective instruction often focused more on student engagement than student learning. Teacher educators are in a key position to help candidates learn to assess student progress through multiple methods, to draw upon evidence of student understanding, and to maintain a focus on student learning. The aim is not simply to encourage reflection but to help beginning teachers consider the outcomes of their practice, question implications for student learning, and propose ways to adapt their teaching to foster student understanding (Cochran-Smith et.al., 2009; Moir & Baron, 2002; Schulz & Mandzuk, 2005).

Throughout the teacher preparation program, teacher educators can help prospective teachers not only to be reflective but also to assess student learning. In initial observations of other teachers' classrooms, preservice teachers can use guided observation protocols that direct their attention to both teaching strategies and corresponding evidence of student understanding or misunderstanding. In selecting and discussing course readings, instructors can emphasize outcomes of teaching practices and specific implications for student learning. To shift preservice teachers' thinking from classroom activities to outcomes of their practice, teacher educators often guide preservice teachers in using a backward-design approach (Wiggins & McTighe, 2005) to develop instructional plans. With this approach, teachers determine "specific learnings sought and evidence of such learnings" before considering what to teach and how to teach it (p. 14). In follow-up sessions after teaching observations, mentor teachers and university supervisors can reinforce the student learning focus by discussing various sources of collected evidence. When reviewing reflective journals, teacher educators can provide feedback focused on student learning that, in turn, prompts additional reflection by candidates. Building on community of practice models, preservice teachers can engage in group analyses of student work and videotapes with a specific aim of examining teaching and proposing changes to build student understanding. Performance assessments of candidates similarly can emphasize collection of artifacts, analysis of teaching, and evidence of student learning. By infusing reflective inquiry focused on student understanding into teacher preparation, teacher educators can help preservice teachers build greater depth and complexity in their reasoning.

Reflection is not an end in itself but rather a tool (Rodgers, 2002). Effective teaching is not based on implementing routines, managing classroom activities, engaging the students, and covering the curriculum. It is possible for teachers to successfully accomplish those actions yet not promote student learning. In order to reach its potential as a strategy for improving teaching and learning, reflective practice ultimately must be focused on student understanding.

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