

**WHEN IN ROME ...
: INFLUENCES ON SPECIAL EDUCATION STUDENT-TEACHERS' TEACHING**

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Student-teaching is the foundational professional experience for most special education teachers. We investigated the influences on preservice teachers' decision-making during their student-teaching through a two-part study. In the first phase, six undergraduate student-teachers at a large Midwestern university participated in focus group. Participants indicated that they made instructional decisions in five main areas (i.e., planning, teaching style, teaching methods, behavior management, and handling of a difficult moment) that were primarily influenced by their cooperating-teacher, previous experience, and university coursework. We then generated a survey on which 51 special education student-teachers from the same university rated the degree to which these three sources influenced the five areas of instructional decision-making. Cooperating-teachers were perceived as a significantly greater influence than university coursework in handling a difficult moment, teaching methods, and planning; and were a significantly greater influence than previous experience in behavior management and planning. Previous experience was significantly more influential than university coursework in relation to teaching style and handling a difficult moment. Implications for teacher preparation and bridging the research-to-practice gap are discussed.

Student-teaching is traditionally considered the paramount experience in teacher preparation programs (Davis & Davis, 1980; Goodlad, 1991; Joyce, 1988; Osunde, 1996). Prior to embarking on what for many preservice teachers is their first classroom teaching experience (i.e., student-teaching), student-teachers have been toolled in the theoretical knowledge and best practices of their field in university classrooms, primarily by hearing or reading information about teaching from others. Research on cognition suggests that practical or situated knowledge (derived from *doing*) must be acquired before one can competently apply what has been learned (Cervero, 1992; Talvite, Peltokallio, & Mannisto, 2000). Accordingly, student-teaching has long been touted as the occasion through which future teachers come to use and *own* their knowledge so that, when the time comes, they have the ability and confidence to effectively apply it in their own classrooms (Beyer & Zeichner, 1985; Zeichner, 1980).

Student-teaching, then, is not only an important experience because it culminates pre-service training, but also because it serves as the *launching pad* of teachers' professional lives by providing the experiential base upon which new teachers will draw throughout their careers (Cook & Cook, 2004). Accordingly, practicing teachers have reflected that student-teaching is the *most valuable and helpful component of the total preparation program* (Watts, 1987, p. 151; see also Guyton & McIntyre, 1990). In fact, in comparison to those who completed student-teaching, new teachers who did not undergo a student-teaching experience are approximately twice as likely to leave the profession within 5 years (Darling-Hammond, 2003). As Hoy and Spero (2005) noted, the significant influence that student-teaching has on teachers' subsequent careers can be explained by Bandura's (1997) theory of self efficacy, which suggests that teaching efficacy is most malleable during one's initial learning experiences.

Because student-teaching plays such an important role in shaping future teaching behavior, it may also represent a unique opportunity to address one of the most prominent problems in contemporary special education—bridging the research-to-practice gap (see Cook, Landrum, Tankersley, & Kauffman, 2003; Espin & Deno, 2000; Greenwood, 2001). The existing gap between instructional practices that have been shown by research to be effective and what is typically implemented in classrooms is particularly

distressing in special education, because students with disabilities require the application of the most effective techniques to meet their goals and attain their potential (see Vaughn & Linan-Thompson, 2003). Bridging research and practice has proven to be a problematic issue—once teachers have established their teaching routines, it appears difficult, labor-intensive, and expensive to change their behavior and support the long-term adoption of evidence-based practices (Gersten & Dimino, 2001; Sindelar & Brownell, 2001). If beginning teachers leave student-teaching with a strong practical base in the most effective instructional techniques, the need for expensive supports to facilitate teachers changing their instructional practices can be obviated.

Given the significance of student-teaching, it is important to investigate the sources of influence on the instructional thinking and behaviors of special education student-teachers. In other words, why do student-teachers in special education choose to do what they do? What aspects of their training and experience can teacher-educators target to optimize student-teaching experiences? It is generally assumed that cooperating-teachers exert the strongest influence on student-teachers' instructional decisions (e.g., Osunde, 1996) and that university coursework has relatively little impact on future teaching (e.g., Zeichner & Gore, 1990). Indeed, most of the research that has directly examined this matter has supported the prevailing assumptions (see Boger & Boger, 2000; Karmos & Jacko, 1977; Richardson-Koehler, 1988). However, it should be recognized that much of the voluminous scholarship regarding student-teachers is theoretical (e.g., Zeichner & Tabachnick, 1981); focused on anecdotal reports or case studies (e.g., Shen, 1995); and/or pertains to outcomes such as the attitudes, (e.g., Holcomb, 1970; Quinn, 1998), confidence (e.g., Davis & Davis, 1980), relationships (e.g., Talvite et al., 2000) and ideologies (e.g., Tabachnick & Zeichner, 1985) of student-teachers. Relatively little research has specifically focused on the sources of influence on student-teacher's teaching.

It is also important to note that the research literature is not unequivocal on this question and suggests that university coursework may hold more sway over student-teachers' instructional choices than their cooperating-teachers in content areas such as mathematics. For example, Bush (1986) reported that student-teachers in secondary mathematics identified their textbook and methods course content as a source for their decision-making during their student-teaching more often than their cooperating-teachers' performance. Ball (1990) proposed that methods courses have a greater influence on preservice teachers in areas like mathematics in which *the continuity of experience* related to *teaching and learning* (p. 12) must be interrupted. That is, in order to emulate best practices, most student-teachers must learn new approaches and methods that differ from their pedagogical experiences as students. Pre-service teachers appear to be more likely to learn these new methods from their textbooks and university courses than cooperating-teachers.

Moreover, special educators should recognize that the vast majority research regarding student-teaching has been conducted on general education student-teachers (Brownell, Ross, Colon, & McCallum, 2003). As Sindelar, Bishop, and Brownell (in press) concluded, research literature in general education *is distinct in many important ways* from that in special education; and without research that is specifically focused on *special education teacher preparation, we are vulnerable to both our critics and to policy makers who must decide how best to expend the limited resources available for training*. Similarly, Conderman, Morin, and Stephens (2005) recommended, *further research on the special education student-teaching experience is necessary to extend the knowledge base ... and contribute to improved practices* (p. 7). Indeed, we could find no published research examining the degree to which different sources influenced pre-service special educators' instructional decision-making during what is generally agreed to be the most important experience of their teacher preparation (i.e., student-teaching).

The lack of relevant research in special education begs the question of what sources most strongly influence special education student-teachers' instructional decision-making. The environments and demands associated with student-teaching in general and special education, although often different in meaningful ways, typically appear to be more alike than different, especially since the advent of inclusion reforms. As such, special education student-teachers might be expected to be primarily influenced by their cooperating-teachers, as has been reported in the majority of research studies investigating this issue in general education (e.g., Richardson-Koehler, 1988). Alternatively, like the field of secondary mathematics, best practices in special education are unlikely to be reflected in pre-service teachers' previous personal experiences. As such, university coursework and textbooks might be expected to be the primary influence on student-teachers, as has been reported for student-teachers in math (Bush, 1986).

We devised a two-part study to address this issue and answer the question, on what do student-teachers in special education rely when making instructional decisions during their student-teaching? The first part of the study involved a focus group discussion regarding instructional decision-making with special education student-teachers. The results of the focus group lead to the development of a survey instrument, which was administered a separate group of special education student-teachers in the second part of the study.

Part I: Focus Group

Method

Participants.

The focus group involved six undergraduate senior special education students at a large university in the Midwestern United States. All participants were female, four were traditional students who had come to college from high school and were completing their program in four years. The other two students were non-traditional students who had started college later in life. At the time of the focus group, all of the students were nearing the end of their 16-week student-teaching experience. The student-teachers were enrolled in a seminar that coincided with student-teaching and had completed all required content courses for licensure.

Procedure.

The participants had all student-taught the day of the focus group. After being informed that participation in the focus group was voluntary, all six student-teachers attending the class that evening agreed to participate. The lead author served as moderator and used nondirective interviewing techniques (Krueger, 1994) that included an interview guide to stimulate the participants' involvement in the discussion. The lead author posed three guiding questions (see Table 1), but the conversation was

Table 1.

Focus Group Prompts

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1. Think of a specific moment today in which you made a teaching decision. Tell us about it. Why did you make that decision?
 2. Think of a problem you have had in your classroom during student-teaching. What did you do to handle the problem? What influenced your decision to act as you did?
 3. Think about the units and lessons you have taught during student-teaching. Tell us about them. How did you decide to do your units and lessons?
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free to flow and followed the interest of the participants. In addition, the researcher used group facilitation strategies, including probes and pauses, to obtain additional information or clarification. The focus group session took place in the university classroom in which the students met for their seminar and lasted for 90 minutes. Each topic was explored until saturation was indicated by participants repeating their responses. The session was tape recorded with the permission of the participants. The moderator also took notes regarding participants' responses. The nondirective interview was used in this setting because it offers the opportunity to compare the data across the subjects (Bogdan & Biklen, 1982) so that the information could be used for the development of a survey regarding influences on student-teachers' decision making.

Analysis.

The focus group discussion was transcribed and analyzed to yield themes, representing the beliefs and perceptions of the participants regarding specific aspects of teaching and the influences affecting their choices. The first author analyzed the data after reading the transcripts and notes from the focus group. The textual data were analyzed with a line-by-line analysis (Strauss & Corbin, 1990). Each statement indicating an opinion, a belief, or a perception relevant to instructional decision-making or influences was cut and sorted into the broader themes that emerged. Using constant-comparative procedures described by Lincoln and Guba (1985) the data were sorted into emergent themes by the first author. To determine reliability of the themes, a graduate student in special education who was not familiar with this research study independently sorted the comments into the two-dimensions of themes generated by the first author. Each comment was sorted as to (a) area of instructional decision-making (i.e., planning, teaching style, teaching methods, behavior management, handling a difficult moment, or not specified) and (b) source of influence (i.e., cooperating-teacher, previous experience, *gut*, university coursework, or not specified). Inter-rater agreement was calculated to be 96.2%, indicating adequate

reliability of the categories. Discrepancies were resolved through discussion between the two coders. Particularly relevant quotes were chosen to represent each theme.

Results

The student-teachers reported that their cooperating-teacher, previous experience in the classroom, *gut*, and university coursework each influenced the decisions that they made while student-teaching. These sources were identified as primary themes of the focus group and are described more fully in the following sections. The aspects of instructional decision-making that participants reported being influenced by these sources were planning, teaching style, teaching methods, behavior management, and handling of a difficult moment. These areas of decision-making were the predominant areas of influence identified by focus group participants and were each retained for inclusion in the survey developed in the second part of the study.

Cooperating-teacher.

The cooperating-teacher was mentioned by all of the participants as being a primary source of influence for their decisions. One student-teacher stated that regardless of what she thought or had been taught, she did what her cooperating-teacher did—*when in Rome, you know?* She then stated that she felt that she had to follow the procedures set up in the classroom even though they often conflicted with what she had been taught at the university. *I need her to get my certification, I do it her way.* All of the student-teachers reported that they felt their cooperating-teacher was judging or grading them and therefore must emulate them. *I knew she was watching everything I did,* said one participant who went on to say *I knew what she wanted me to do, so that is what I did.* Participants stated that they felt that the person with control over them and their eventual success in completing student-teaching was the cooperating-teacher and that they must always do what that person expected or wanted. *I felt that I didn't have the freedom to bring in my own ideas. She wanted me to follow the class structure she set up.*

Concern for upsetting the cooperating-teacher was not the only rationale for emulating the cooperating-teacher; deference to the cooperating-teachers' experience was also expressed. *She has been doing this for years, she has had these kids. If it isn't broken, I won't be breaking it.* The student-teachers mentioned specific aspects of their instructional decision-making as being modeled after their cooperating-teacher: lesson planning (e.g., content, format), teaching method, teaching style (i.e., classroom structure, style of interaction with students), behavior management techniques, and handling of a difficult situation.

Previous work experience.

Not only did student-teachers recognize their current cooperating-teacher in their decision-making, but they also mentioned former mentors and previous work experiences. Three of the student-teachers stated that previous work in schools had given them ideas for lessons and for their overall style of teaching. *I brought in some ideas that I had seen at my old job.* One student-teacher referred to a previous boss as the best teacher she has ever seen and noted that she often reflected on her time in that class to guide her instruction. *If I could ever be half as good as her, I could be happy.* Previous work experience and mentors were mentioned most often as influences in decision-making regarding lesson planning, teaching methods, and teaching style.

University coursework.

Behavior management was the one area of instructional decision-making for which the student-teachers said they relied on university coursework. *I used the behavior management class a lot.* Another student-teacher stated, *That was the one class that I felt that I could put to use right away. You know, just take the notes and use it.* After these participants mentioned the influence of this course, all of the student-teachers in the focus group concurred that it was a class they relied on in their student-teaching for making decisions related to classroom management.

Personal gut.

Another theme that emerged was gut or personal instinct. For example, one student-teacher said *that I just did it without thought, it was a gut reaction.* The use of personal instinct was not given for planning, lesson content, or routine in the classroom; however, it was noted as a source of influence in decision-making areas in which quick, automatic responses were required (i.e., behavior management, handling a difficult situation). Interestingly, in the majority of cases, further questioning drew out other sources of influences, such as previous mentor or cooperating-teacher. In discussions in which student-

teachers first identified gut reaction as a basis for decision-making, when questioned to think further about why they made that particular decision, they reflected that it was based on how they had seen a more experienced teacher or mentor behave. Because personal gut influences seemed to be consistently connected to mentor teachers, this theme was not included in the survey that was developed for the second part of the study.

Summary.

The final analyses of the focus group data resulted in three main sources of influence reported by the student-teachers: cooperating-teacher, previous work experience, and university coursework. Cooperating-teacher was the most often cited source of influence for student-teachers and appeared to be a primary basis for their decision-making regarding lesson plan content and format, teaching style, behavior management techniques, and handling of a difficult moment. Previous work experience also had a great deal of influence on these student-teachers, particularly in the decision-making areas of lesson planning and teaching style. University coursework was most often associated with behavior management techniques. It is important to note that no student-teachers mentioned their university supervisor as a source of influence on their teaching in response to any question.

Part 2: Survey

The second part of the study consisted of developing and administering a survey regarding the five aspects of instructional decision-making (i.e., planning, teaching style, teaching methods, behavior management, and handling of a difficult moment) and three sources of influence (i.e., cooperating-teacher, previous experience, and university coursework) that emerged from the focus group. The survey methods and results are described in the following sections.

Method

Survey development.

A survey instrument was generated that instructed respondents to rate the influence of the three sources that student-teachers in the focus group had indicated they primarily rely on to make teaching decisions during student-teaching: (a) previous coursework at the university, (b) their cooperating-teacher's methods, and (c) previous work experience outside the university. An *other* option was also provided so that participants could note and rate other primary influences on their teaching decisions that were not specified on the survey. Participants rated the influence of these three sources on the five main aspects of teaching in which focus group participants indicated they made decisions during student-teaching: working through a difficult moment, teaching style, choice of teaching methods, behavior management techniques, and planning methods. Ratings were on a one (no influence) to five (complete influence) Likert-type scale. Cronbach alphas for ratings of influence regarding university coursework, cooperating-teacher, and previous experience were .81, .76, and .87, respectively, across the five areas of teacher decision-making investigated, indicating adequate internal reliability.

Participants and procedure.

The survey was given to two separate cohorts of student-teachers in special education ($n = 51$) at the same large Midwestern university in each of the two semesters after the focus group was conducted (no participants in the focus group participated in the second phase of the study). See Table 2 for demographic information regarding the participants.

Table 2.
Demographic Information

| Characteristic Category | n (%) |
|---------------------------------|------------|
| Gender | |
| Female | 47 (92%) |
| Male | 4 (8%) |
| Ethnicity | |
| Caucasian | 50 (98%) |
| African American | 1 (2%) |
| Teaching Licensure Sought | |
| Mild/moderate disabilities | 39 (76%) |
| Moderate/intensive disabilities | 12 (24%) |
| Age | |
| Mean (SD) | 24.6 (4.2) |

At the time the survey was given, all of the student-teachers were nearing the end of their 16-week student-teaching experience. The student-teachers were enrolled in a seminar that coincided with student-teaching and had completed all required content courses for licensure. The participants had all student-taught the day of survey administration. Participants were informed of the voluntary nature of their participation. Participation rate of students attending the classes in which the survey was conducted was 100%.

Analyses.

Multivariate repeated measures analysis of variance (MANOVA) across the five areas of teaching was conducted to investigate overall differences in the perceived influence of the cooperating-teacher, previous experience, and university coursework across the five areas of teacher decision making. Univariate repeated measures ANOVAs were then conducted to detect if differences existed between the three sources of influence within each area of decision making. When results of the ANOVAs indicated significant differences between the three sources of influence in a given area of teacher decision making, within-subjects contrasts were then done to detect between which specific sources of influence the significance differences existed. Critical alpha was set at the traditional level of .05 for all analyses.

Results

Means and standard deviations for participants' responses are reported in Table 3. The multivariate

Table 3.

Means and Standard Deviations for Sources of Influence by Teaching Area

| <i>Teaching area</i> Source of influence | Mean | Standard Deviation |
|---|------|--------------------|
| <i>Teaching style</i> | | |
| University coursework | 3.10 | 1.06 |
| Cooperating-teacher | 3.80 | 0.87 |
| Previous work | 3.78 | 0.86 |
| <i>Teaching methods</i> | | |
| University coursework | 3.14 | 1.05 |
| Cooperating-teacher | 3.74 | 0.96 |
| Previous work | 3.44 | 0.95 |
| <i>Difficult moment</i> | | |
| University coursework | 2.88 | 0.94 |
| Cooperating-teacher | 4.00 | 0.97 |
| Previous work | 3.69 | 0.88 |
| <i>Behavior management</i> | | |
| University coursework | 3.80 | 1.11 |
| Cooperating-teacher | 4.06 | 0.91 |
| Previous work | 3.42 | 1.20 |
| <i>Planning</i> | | |
| University coursework | 3.06 | 1.30 |
| Cooperating-teacher | 3.80 | 1.14 |
| Previous work | 3.06 | 1.20 |

repeated measures analysis of variance (MANOVA) indicated that across the five areas of instructional decision-making, significant differences existed between the student-teachers' ratings related to the three sources of influence, $F(10,39) = 7.98, p < .001$. Univariate repeated measures ANOVAs indicated significant main effects regarding areas of influence in each of the five areas of teacher decision making (see Table 4). Within-subjects contrasts indicated that cooperating-teacher was rated as a significantly higher source of influence than university coursework in the decision-making areas of difficult moment ($F(1,50) = 43.46, p < .001, \eta^2 = .49$), teaching style ($F(1,50) = 18.52, p < .001, \eta^2 = .27$), teaching methods ($F(1,49) = 15.21, p < .001, \eta^2 = .24$), and planning ($F(1,49) = 10.19, p = .002, \eta^2 = .17$). The cooperating-teacher also received significantly higher ratings than previous work experience for behavior management ($F(1,49) = 9.16, p = .004, \eta^2 = .16$) and planning ($F(1,49) = 11.81, p = .001, \eta^2 = .19$). Previous work experience was rated as a significantly higher source of influence than university coursework related to teaching style ($F(1, 50) = 11.44, p = .001, \eta^2 = .19$) and difficult moment ($F(1, 50) = 20.59, p < .001, \eta^2 = .29$). University coursework was never rated as a

significantly higher source of influence in comparison to cooperating-teacher or previous work experience.

Table 4.
Repeated Measures ANOVA for Areas of Teaching

| <i>Teaching area</i> | <i>df</i> | <i>F</i> | <i>p</i> | η^2 |
|----------------------|-----------|----------|----------|----------|
| Teaching style | 2,49 | 9.82 | .000 | .29 |
| Teaching method | 2,48 | 8.65 | .001 | .26 |
| Difficult moment | 2,49 | 23.15 | < .001 | .49 |
| Behavior management | 2,48 | 4.50 | .02 | .16 |
| Planning | 2,48 | 7.55 | .001 | .24 |

Discussion

Three aspects of these findings—interpretation, limitations, and implications and recommendations—merit further consideration and will be discussed in the following sections.

Interpretation

Cooperating-teachers were rated as being a more important influence over decision-making during student-teaching than university coursework in the areas of handling a difficult moment, teaching style, teaching method, and planning; and significantly higher than previous work experience in the area of behavior management and planning. These findings support the notion that previous research findings and the widely held assumption that cooperating-teachers play a predominantly influential role during student-teaching in a general education context (see Karmos & Jacko, 1977; Osunde, 1996) also apply in special education. They do not support the contention that pre-service special educators must learn skills that are uniquely found in university classrooms (i.e., not often experienced in actual classrooms), as may be the case in areas such as mathematics (Ball, 1990; Bush, 1986).

That cooperating-teachers were rated as significantly more influential than university courses also accords with the findings of Landrum, Cook, Tankersley, and Fitzgerald (2002), who reported that teachers in general and special education trusted and found more useable information from other teachers rather than college courses. Landrum et al. suggested that information about teaching that comes from another teacher has the implicit endorsement of being *battle-tested*, which leads to teachers viewing it as trustworthy and useable. Alternatively, information derived from university courses may be seen as disconnected from the real world of teaching and, therefore, may not be trusted or seen as useable by practitioners. This may be particularly true for student-teachers who are likely to place significant value in the teaching experience that they lack and that is personified in their cooperating-teacher.

In the focus group interviews, student-teachers stated that they do what their cooperating-teachers do regardless of whether it conflicts with what they have learned or come to believe through university coursework. Results from the rating scale also indicated that cooperating-teachers are the predominate influence on student-teachers' decision making. Although the ostensible purpose of student-teaching is to provide student-teachers with real-life practice in applying their knowledge and honing their skills under the tutelage of a skilled mentor, it also places them in a deferential role to their cooperating-teacher. Not surprisingly, the focus group participants noted two reasons for deferring to their cooperating-teachers: (a) to please them in order to pass the student-teaching requirement and (b) because their cooperating-teachers had more experience (and, presumably, greater teaching expertise) than the student-teachers. Both are certainly rational responses to deal with the often uncertain situation of student-teaching.

Previous work experience was rated as a significantly more important influence than university coursework in the areas of teaching style and handling a difficult moment. This finding concurs with previous scholarship suggesting that practical experience is a better predictor of future decision-making and teaching behavior than the abstract or conceptual knowledge that often learned in university courses (e.g., Cook & Cook, 2004; Hoy & Spero, 2005). Just as information from another teacher appears to have a high degree of face validity (Landrum et al., 2002), teachers also seem to rely on their own relevant experiences. If a particular method or approach has been successful for an individual in the past, he or she appears likely to rely on those experiences as a guide for future decision-making—particularly in areas that involve rapid responses (i.e., handling a difficult situation) and personal approach (i.e., teaching style) (see Cook & Cook).

In both the focus group and the survey, university coursework was most positively associated as an influence on student-teachers' decision making in the area of behavior management. Specifically, behavior management was the only course referred to in the focus group as an influence on student-teachers' behaviors, and was the only area in which university coursework was not rated as a significantly lower source of influence than cooperating-teacher by survey participants (although it should be noted that cooperating-teachers' influence in behavior management was also rated very highly). The teacher preparation programs in which participants were enrolled require two courses in behavior management that students have anecdotally reported to all three authors as being among the best classes that they take. Both classes involve a project in which students apply the concepts and techniques they learn about in the university classroom with real people (e.g., children with disabilities). Perhaps the reported influence of university courses in this particular area indicates the potential power of high quality university instruction that incorporates application through field experiences. Alternatively, perhaps behavior management is seen as somehow different than other areas of teaching by student-teachers. For example, it is possible that, like mathematics (see Ball, 1990; Bush, 1986), pre-service teachers must learn new approaches in classroom management that are characteristically different from what they experienced as students and from what they typically observe other teachers doing, and thus is more amenable to influence from university coursework.

Limitations

The findings of this study must be tempered by the limited nature of its scope. For example, the focus group consisted of six student-teachers all from one training program. The survey was also completed by a sample that was limited in size and geography. It is possible that the student-teachers at this participating university were more likely to identify their cooperating-teacher as the main source of influence to an extent not found elsewhere. To avoid this sampling issue, future research should be conducted with larger samples and across diverse settings. The validity of the findings may be further limited by the self reporting of behavior. That is, participants may be inaccurate in their own perceptions that cooperating-teachers held the most influence over their decision making during student-teaching.

Implications and Recommendations

Ideally, placement during student-teaching with an effective cooperating-teacher is aligned with and complements university coursework steeped in evidence-based practices, resulting in a knowledge base that is founded on both theory and experience, on which new teachers can effectively draw throughout their careers. Indeed, allying university coursework with effective practices in the field has been a previously suggested as a possible solution to the research-to-practice gap (see Allinder, 2001; Boger & Boger, 2000; Cook & Cook, 2004; McIntyre & Killian, 1987). Yet focus group participants stated that the practices utilized by their cooperating-teacher often conflicted with their university training. In these cases, they typically decided to implement teaching procedures used by their cooperating-teachers. Thus, the potential for a student-teaching experience in which non-validated (i.e., ineffective) teaching practices were modeled to wash out (Zeichner, 1986) the positive effects of years of university coursework stressing evidence-based practices exists. Of course, in cases in which university preparation has not consistently been based on evidence-based practices and the student-teacher is placed with a highly effective cooperating-teacher, the possibility that the *washing out effect* can play a beneficial role also exists.

Given the significant influence of cooperating-teachers on special education student-teachers' decision making and the considerable impact of student-teaching on subsequent instruction, it appears that one powerful method for improving the teaching delivered by the next generation of special educators is to ensure that they are placed with cooperating-teachers who utilize research-based instructional procedures frequently and with fidelity. The most direct recommendation drawn from this study, then, is to align the teaching techniques practiced and modeled by cooperating-teachers with the research base regarding effective practices. Enacting this recommendation will require that cooperating-teachers are trained in and are correctly using evidence-based teaching techniques. Teachers who are truly experts in implementing evidence-based practices are likely to be found within most school systems. However, we conjecture that the number of these exceptional master teachers is not nearly sufficient to meet the placement needs for the multitude of student-teachers in special education teacher preparation programs throughout the country.

We recommend that at least two steps be taken toward meeting the goal of placing each special education student-teacher with a cooperating-teacher who is an expert in using research-based

techniques. First, teacher preparation programs must identify those practicing teachers who utilize effective practices frequently and with fidelity. Unfortunately, the most highly skilled teachers are not necessarily inclined to be teacher educators (Livingston & Borko, 1989) and the decision as to who serves as cooperating-teachers in many teacher preparation programs boils down to who is willing rather than who best meets the needs of the student-teachers (Moore, 2000). The importance of the cooperating-teacher in molding a new teacher's foundational experiences implies that such a haphazard selection process is unacceptable.

To encourage service as a cooperating-teacher, when highly skilled mentor-teachers are identified, they need to be recognized and rewarded for their expertise and willingness to mentor student-teachers (Feiman-Nemser & Buchmann, 1987). Meaningful monetary incentives, continuing education units, and public recognition (at the cooperating-teacher's school, the university, and the community) may help convince expert teachers to serve and continue to serve as cooperating-teachers. In addition to these types of incentives, prolonged relationships between university faculty and cooperating-teachers might aid in recruiting and retaining high quality cooperating-teachers. For example, Beck and Kosnik (2002) reported that as a result of university faculty members being regularly involved in observing and mentoring student-teachers at particular schools over multiple semesters, "schools and associate teachers were quick to recommit to working with our program for the following year despite the minimal stipend offered and our growing expectations of them" (p. 11). However, this type of involvement in schools requires a heavy investment of time on the part of university faculty members and is not rewarded by most contemporary tenure and promotion standards (Beck & Kosnik; Feiman-Nemser, 2001).

Our second recommendation is that, in addition to identifying, recruiting, and retaining teachers who are currently experts in implementing evidence-based practices, universities must provide systematic training and supports to enable practicing teachers who are willing to serve as cooperating-teachers but who are not well versed in (a) supervisory and mentoring skills (see Renzaglia, Hutchins, & Lee, 1997), (b) the use of evidence-based practice, or (c) both to become so. For example, teacher education programs might consider providing training (and continuing education units) to teachers as an incentive for a commitment from those receiving training to serve as cooperating-teachers. Teachers receiving the continuing education units could be made contingent on demonstration of mastery of the training content—the mentoring and evidence-based instructional practices that will enable them to be effective cooperating-teachers.

O'Reilly, Renzaglia, and Lee (1994) suggested that cooperating-teachers, as well as university supervisors (who, interestingly, were not noted by participants as influencing any instructional decisions; see also Richardson-Koehler, 1988), be authorities in applying best practices. However, they recommended that the emphasis on best practices in teacher education needs to begin in university coursework. The results of this study indicated that student-teachers relied on their university coursework the least in making teaching decisions. It is possible that an unwavering and prominent focus on evidence-based practices throughout university coursework, rather than the fragmented and sometimes conflicting messages that pre-service teachers often receive in the course of their university classes (Gersten, 2001), may enhance the influence that university coursework has on student-teachers. The relatively greater emphasis student-teachers place on their cooperating-teachers when deciding how to teach does not, in our view, suggest that traditional methods of university-based teacher preparation should be abandoned. Rather, efforts should be made to improve both the practical relevance of university coursework and the modeling and mentoring of cooperating-teachers so that they act in concert (see Feiman-Marcus, 2001), mutually emphasizing evidence-based practices.

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Appendix
Influences on Student-teacher's Teaching Survey

Student-teachers make a variety of instructional decisions during their student-teaching. We're interested in finding out what sources student-teachers rely on when they make these decisions. Please rate the how much influence your (a) university coursework, (b) mentor teacher, and (c) previous experiences unrelated to the university has had on each of the 5 areas of teaching listed below during your student-teaching.

Use the 4-point scale provided, where **4 = a great deal of influence** and **1 = minimal influence**, to indicate the level of influence that each source had on your teaching in the five areas listed below.

1. Behavior management – How much did you rely on each of the following sources when you made decisions about managing the behavior of students in your class?

| | | | | |
|--------------------------------------|---|---|---|---|
| University coursework | 1 | 2 | 3 | 4 |
| Mentor teacher | 1 | 2 | 3 | 4 |
| Previous (non-university) experience | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 |

2. Teaching methodology used - How much did you rely on each of the following sources when you made decisions about what teaching methodologies or techniques to use in your class?

| | | | | |
|--------------------------------------|---|---|---|---|
| University coursework | 1 | 2 | 3 | 4 |
| Mentor teacher | 1 | 2 | 3 | 4 |
| Previous (non-university) experience | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 |

3. Lesson planning - How much did you rely on each of the following sources when you made decisions about how to plan lessons?

| | | | | |
|--------------------------------------|---|---|---|---|
| University coursework | 1 | 2 | 3 | 4 |
| Mentor teacher | 1 | 2 | 3 | 4 |
| Previous (non-university) experience | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 |

4. Teaching style - How much did you rely on each of the following sources when you made decisions about what general style or approach to adopt when teaching your class?

| | | | | |
|--------------------------------------|---|---|---|---|
| University coursework | 1 | 2 | 3 | 4 |
| Mentor teacher | 1 | 2 | 3 | 4 |
| Previous (non-university) experience | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 |

5. Difficult situation - Think of a specific time you dealt with a difficult situation in your student teaching. How much did you rely on each of the following sources when you made decisions about handling that situation?

| | | | | |
|--------------------------------------|---|---|---|---|
| University coursework | 1 | 2 | 3 | 4 |
| Mentor teacher | 1 | 2 | 3 | 4 |
| Previous (non-university) experience | 1 | 2 | 3 | 4 |
| Other _____ | 1 | 2 | 3 | 4 |

Demographic information

Male ____ Female ____
Race/Ethnicity _____
Age ____
Class Standing- Senior Masters