The Effects of Peer Feedback Practices with Elementary Education Teacher Candidates

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The report of the American Educational Research Association (AERA) Panel on Research and Teacher Education (2005) recommended that teacher educators need to systematically and empirically study their own practice. The premise of the report was that teacher educators need to carry out quality research in order to better inform those inside and outside the field of education. The report was timely, as many outside the field of education question the need for teacher preparation programs as well as their effectiveness in preparing highly qualified teachers as defined by the "No Child Left Behind" legislation (U. S. Department of Education, 2001). In response, teacher preparation programs need to base their work on

Elizabeth A. Wilkins, Eui-Kyung Shin, and Janet Ainsworth are professors with the Department of Teaching and Learning at Northern Illinois University, DeKalb, Illinois. solid evidence that indicates whether or not teachers are well prepared by their programs and whether they have a positive impact on student achievement (Darling-Hammond, 2006; AERA Panel on Research and Teacher Education, 2005).

Without question, university-based teacher preparation programs are under assault at a time when the need for good teacher preparation is more important than ever before (Johnson, Johnson, Farenga, & Ness, 2005; Kirby, McCombs, Barney, & Naftel, 2006). In response to the call for more rigorous self-study by the educational research community and the need for high quality teacher preparation programs, the authors empirically studied their own pedagogical practice, the peer feedback process, during two semesters of clinical experiences to examine how that practice affected teacher candidates' professional development.

Peer feedback refers to reciprocal teaching in which paired teacher candidates provide assistance to one another as they incorporate new teaching skills, strategies, and approaches to their teaching, while in a P-12 school setting. The process emphasizes giving and receiving feedback in both written and verbal formats. The goal of reflective peer feedback is to promote self-assessment, collaboration, and professional learning (McTighe & Emberger, 2006; Vidmar, 2005).

Although peer feedback practices have been studied in the past (Anderson & Radencich, 2001; Harlin, 2000; McAllister & Neubert, 1995; Shin, Wilkins, & Ainsworth, 2006; Wynn & Kromrey, 2000), the focus has been on the nature of peer feedback at one point in teacher education programs, rather than its impact over time. Therefore, the purpose of this study was to examine how the peer feedback practices teacher candidates gave and received affected their professional development during successive clinical experiences. Changes in, as well as the consistency of, teacher candidate comments and survey responses were the focus of this study.

Literature Review

Importance of Providing Quality Feedback

Teacher candidates in an initial teacher preparation program need systematic and objective information about their teaching in order to reflect on strengths and weaknesses and formulate strategies to be more effective in the classroom (Acheson & Gall, 2003; Goldhammer, 1993, Morehead, Lyman, & Foyle, 2003). In the past, feedback has been traditionally provided by the cooperating teacher and/or university supervisor; however, given budget and faculty time constraints, opportunities to provide systematic, ongoing feedback in early clinical experiences have been reduced. In some cases the university supervision of early clinical experiences have been eliminated altogether (McKeown-Moak, 2000; NCTAF, 2004; Zeichner, 2002). The use of peer feedback practices is one way to enhance ongoing, immediate feedback for teacher candidates' professional growth (Shin, Wilkins, & Ainsworth, 2006; Wynn & Kromrey, 2000).

Ongoing communication during clinical experiences has been found to increase support and trust, as well as improve teacher practice (Bullough, Young, Birrell, Clark, Egan, Erickson, Frankovich, Brunetti, & Welling, 2003; McEwan, Field, Kawamoto, & Among, 1997; Stanulis & Russell, 2000). Research studies and recommendations for practice describe effective feedback as that which is frequent, specific, relevant to the preservice teacher's needs, positive, constructive, and delivered in different ways. Enz and Cook (1992), Lowenhaupt and Stephanik (1999), and Wilkins-Canter (1996; 1997) assert that both written and verbal feedback needs to be frequent and delivered when practice and opportunity for improvement are available. Also, abundance of feedback has been shown to increase instructional effectiveness (Birrell & Bullough, 2005).

Researchers and teacher educators advocate that feedback be relevant to the teacher candidate's needs and based on objective data (Acheson & Gall, 2003; Dever, Hager, & Klein, 2003; Neide, 1996). While in the classroom, quality feedback has been found to promote reflective thinking and professional growth (Anderson & Radencich, 2001; Harlin, 2000; McAllister, & Neubert, 1995; Ross & Bruce, 2007). When away from the classroom, emails and phone calls have been used as informal feedback which provides additional opportunity for teacher reflection (Nabors, 1999; O'Neill, 1996).

Past research has shown that peer feedback can promote reflection with teacher candidates (Harlin, 2000; Kiraz, 2004; Shin, Wilkins, & Ainsworth, 2006; Wynn & Kromrey, 2000). Reflection is encouraged when using the clinical supervision model. For example, the post-teaching conference allows peers to evaluate and interpret the data collected during observation of the lesson, discuss strengths and weaknesses, and make suggestions for the next observation (Acheson & Gall, 2003). In doing so, reflection is encouraged as written, objective feedback can be re-read to look for recurring patterns and set future instructional goals (Wilkins-Canter, 1997).

Quality feedback during clinical experiences helps teacher candidates grow professionally and addresses what Darling-Hammond (2006) describes as a need to create stronger, more effective teacher education programs by integrating clinical work with course work, in particular pedagogies that link theory and practice in clinical work to develop good teaching. Similar to Darling-Hammond, one of six dimensions discussed at the NCTAF 2004 Summit on High Quality Teacher Preparation was the need for better quality clinical practices. The ideas advocated by Darling-Hammond and the NCTAF Summit both speak to the importance of teacher preparation programs needing to examine their clinical practices.

Peer Feedback Practice as Pedagogy in Teacher Education

Although the history of research in teacher education reflects more emphasis on curricular or structural issues than on instructional issues, pedagogy is a critical piece in order to prepare highly qualified teachers (Darling-Hammond, 2006; Grossman, 2005). The AERA Panel Report identified five broad pedagogical approaches used in initial teacher preparation: laboratory experiences (including microteaching and computer simulations), case methods, video and hypermedia materials, portfolios, and practitioner research (e.g., action research). Although more pedagogies exist than are included in the report, past empirical research has focused the most on those five categories.

Ball and Cohen (1999) argue that teachers need to learn from practice saying, "Questions, ways of observing, methods of annotation and comparison, access to others' perspectives—all of these explore opportunities for learning from practice" (p.20). Since peer feedback involves observation, encourages dialog among teacher candidates, facilitates seeing others' perspective, and helps reflection, it is a peda-gogical approach that appears to fit the description of "practice" as described by Ball and Cohen. Our assumption in this study is that a pedagogical approach like peer feedback also aligns well with clinical supervision (Acheson & Gall, 2003) and teacher development levels (Fuller, 1969), and helps teacher candidates learn from their own practice.

According to Acheson and Gall (2003), clinical supervision "provides a framework for focusing on the problematic nature of classroom practice and developing skills for handling it through experimentation, systematic observation, and reflection" (p. 29). Clinical supervision, traditionally defined as a collaborative process, has three basic components: a planning conference, an observation and data collection, and a feedback conference (Acheson & Gall, 2003). Properly conducted, communication between the teacher (in this case the teacher candidate) and the observer focuses on positive and constructive feedback that can optimize the teacher's professional and developmental growth.

Acheson and Gall (2003) also advocate that feedback be relevant to a teacher's developmental needs. Previous researchers have identified that beginning level teachers' concerns focus on the classroom, specifically dealing with individual student differences, working with special needs students, and classroom management and discipline (Berliner, 1995; Fuller, 1969; Leithwood, 1992; Thomas & Kiley, 1994; Veenman, 1984). Each teacher then moves through sequential stages of development based on need and mastery throughout his/her professional career (Rikard & Knight, 1997). Fuller's (1969) seminal work in this area of research includes the Developmental Teacher Concerns Model that describes three stages of development: (1) covert concerns about self; (2) overt concerns about self; and (3) concern about students. The first stage, concerns about self, occurs early in initial preparation, as teachers are most concerned about the scope of their responsibilities. Once beginning teachers resolve their concerns about scope of responsibilities, they move into the second stage, overt concerns about self, which involves concerns about their professional adequacy. The third stage, *concern about students*, takes places when teachers become less concerned about themselves and more concerned about their students, especially those students who fail to learn and those most difficult to reach. These stages of concern do not always occur in sequence; rather, Fuller's stages of concern are considered broad generalizations.

Methodology

Using a mixed-methodology design (Creswell, 1994), this study investigated peer feedback practices over two successive clinical experiences in an elementary program. The research question that guided this study was how did the peer feedback

practices teacher candidates gave and received affect their professional development during successive clinical experiences. This study specifically focused on to what extent did teacher candidates' comments and responses change and/or stay consistent during their successive clinical experiences.

Setting

An elementary education program at a major research university in the Midwest was selected as the setting for this study. The program includes four "professional" semesters focusing on learning and teaching different academic subjects. One of those semesters includes student teaching, while two other semesters incorporate early clinical experiences. The students take the final professional semester of coursework after completing student teaching, which includes no additional field-work. The undergraduate elementary education program competitively admits 120 to 150 students each fall semester and 75 to 90 students each spring.

During early clinical experiences, elementary education faculty occasionally visit schools, and a university clinical coordinator "checks with" the teacher candidates and the cooperating teachers a couple of times per semester. However, there is no "supervision" that involves university supervisors' formal observation of teacher candidates' teaching during their early clinical experiences prior to their student teaching, unless it is necessary (e.g., cooperating teachers report problems with teacher candidates, etc).

During their first semester in the program, teacher candidates took five required courses: reading methods, language arts, children's literature, classroom management, and educational technology. They also completed an intensive, three-week early clinical experience (TLEE 382). During their first clinical, the students were placed in one of 20 different elementary schools. They paired themselves with another student in their building and arranged their observation schedule based on their classroom teaching schedules.

In the second semester, students completed four methods classes (reading, science, social studies, and math) as well as a special education course. In addition to the coursework, the students completed another three-week early clinical experience (TLEE 383) at a different school. During their second clinical experience, the teacher candidates were placed in 20 different elementary schools. Like the first semester, teacher candidates arranged their own peer feedback process by themselves with another student in their building.

Participants

Sixty-four elementary education majors agreed to participate in this study. The same teacher candidates were followed for two successive semesters, starting with their first clinical experience. Like most teacher education programs nationally, the teacher candidates who participated in this study were predominantly Caucasian (89.3%), although there were 1.8% African-Americans and 7.1% Asians. The demographics of the participants included 8.9% male and 91.1% female students.

Pedagogical Approach: Peer Feedback Practice

As part of the first and second semester field experiences, teacher candidates completed peer feedback assignments. The purpose of and structure for the peer feedback process was explained during a clinical seminar at the beginning of each semester by the same instructor. The structure of the observation in both semesters included a pre-conference, observation, and post-conference session. Also, guidance was provided in terms of the arrangements that needed to be made prior to teaching a lesson, and the format and content of the report. For the first semester, the guidelines were provided to the teacher candidates during one seminar session using a PowerPoint presentation. Then, the instructor communicated with the teacher candidates via e-mails, whenever they had questions.

As a result of comments from the teacher candidates regarding the effectiveness of the initial peer feedback process, the instructor made substantive changes in the guidance that was provided to them during their second clinical experience. For the second semester, the instructor guided the process of peer feedback step-by-step in a more thorough manner, anticipating and addressing possible barriers to teacher candidates' success in the peer feedback process. The instructor went through each category (lesson plan, delivery of the lesson, classroom management) connecting to supervision principles (Acheson & Gall, 2003).

First, the instructor taught the teacher candidates the basic principles of the clinical supervision model (Acheson & Gall, 2003), including the roles of the classroom teacher, the clinical student and the university supervisor. One role required for the clinical student was that of peer reviewer. Second, the guidelines for the second semester included a more structured instrument for engaging in the peer review process including a checklist of teacher behaviors. The checklist required the teacher candidates to specifically observe and reflect on the lesson plan, the delivery of the lesson, and classroom management strategies used. In addition, teacher candidates were encouraged to provide constructive criticism as well as positive feedback. Guidance was provided for giving constructive criticism in ways that could decrease potential discomfort for both parties. For example, "I saw that you used a good action learning strategy; let me share with you some additional instructional strategies you could use next time."

Data Gathering

Multiple sources were used to collect data to enhance the validity and to triangulate the data (Frenkel & Wallen, 1996) about the peer feedback practices used during each clinical experience: peer review report, survey, and interviews.

Peer Review Report. The teacher candidates engaged in the peer review process and completed a Peer Review Report,¹ a required assignment for successful completion of both TLEE 382 and 383. Teacher candidates were allowed to select their own peer reviewers. The peer feedback process followed the three-step clinical supervision model: pre-conference, observation and data collection, and post-conference (Acheson & Gall, 2003).

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During the pre-conference, the early clinical student whose lesson was to be observed explained to the peer reviewer the lesson objectives, instructional activities, assessment strategies, and adaptations for special needs students. The lesson was then taught and observed. Data were collected using the Peer Review Report. After the observation, teacher candidates held a post-conference to share written reflections about the delivery of the lesson and to identify areas of strengths and weakness. The cooperating teacher was required to sign the report to validate that the pre-conference, observation, post-conference process had taken place. As a final step, the teacher candidates wrote reflective comments addressing how the process of observation, discussion, and reflection changed one aspect of their teaching. Each report was then reviewed by faculty, along with a copy of the lesson plan.

Survey. During the final clinical seminar each semester, the teacher candidates completed a 20-item survey² concerning their perceptions about the peer feedback they had given and received during their clinical experience and how the feedback affected their teaching. Both closed and open-ended items were included. In addition to collecting demographic information about the teacher candidates, questions focused on the nature of the feedback (e.g., what kind, frequency, duration, location, topics, most helpful, least helpful), usefulness of the feedback, and their desire to use it for future teaching.

Interviews. Five randomly chosen teacher candidates were interviewed to assess their experience in exchanging peer feedback at the end of each clinical experience (total of two times). The interviews followed a predetermined interview protocol³; however, additional questions were asked to extend or clarify comments made by the participants. Similar to the survey, emphasis was placed on asking the teacher candidates to reflect on the nature of the feedback given and received as well as their perceptions about the process.

Data Analysis

A three-stage process was used to analyze the qualitative data collected from the Peer Review Report, open-ended survey questions, and interviews. First, all data were read and the text transcribed to a word processing file by question. Then, the responses for each question were re-read and color coded based on concepts or themes that emerged in the data. Each group of colored responses was re-read again to determine whether all of the responses represented similar concepts or themes. It was necessary to divide some of the color-coded responses into subsets when more than one idea or topic emerged within the broader category.

In analyzing data, two of the three researchers with expertise in qualitative analysis independently read the concepts and identified themes that emerged using the criteria listed above. On the first round of coding, there was an 82% agreement between the authors. For clarification of the themes, a second round of coding resulted in consensus on the appropriate category for each statement. A final reading of the statements by the third researcher, who has served as a preservice teacher supervisor, was used to validate the coding of each statement.

In addition, while analyzing data, the consensus was to only code teacher candidates' comments when they demonstrated some level of reflection. For example, comments, such as "good job!" were not coded, but comments like "I like how you asked questions before reading the book," were coded appropriately.

Finally, each color-coded group of responses was tabulated. The following were used as criteria for examining the data: commonalities in context, uniqueness in context, and confusions and contradictions in context.

The quantitative data from the survey were analyzed using descriptive statistics. In addition, chi-square and Mann-Whitney U tests were used to compare the differences in students' responses over the two semesters. For example, chi-square was used to compare the responses that included nominal values (e.g., different categories, etc.), and Mann-Whitney U, non-parametric tests were used to compare the responses that included ordinal values (e.g., ranking, etc.).

Limitations

The limitations of this study include the lack of experience the teacher candidates had in providing quality feedback. Because teacher candidates did not have expertise like that of their cooperating teacher or university supervisor, they may have provided limited and misleading feedback. Another limitation includes the small number of randomly selected interviewees (n=5), which narrowed the opportunity to select participants whose responses on the surveys and reports offered potentially more variety of views.

Findings

The findings were divided into two parts: (1) changes in the students' peer feedback that occurred between the first semester and the second semester and (2) similarities in responses and comments over the two semesters.

Changes in the Teacher Candidates' Reflection

Between the first and second semester, the nature of the teacher candidates' written comments and reflections on the peer feedback process changed in several ways. While analyzing the data from the first semester, three themes related to the focus of the feedback emerged: (1) classroom climate and teacher characteristics; (2) lesson delivery; and (3) classroom management. However, the data from the second semester included three additional themes which did not appear in the first semester data. The three new themes were valuing collaboration, teaching confidence, and understanding of children (see Table 1).

First, the written comments and reflections made during the second semester indicated that teacher candidates recognized value in the practice of peer collaboration and feedback, accompanied by critical reflection. A total of 34 comments related to the peer feedback process were made during the second semester, while there were

no comments about the process in their first semester reports. For example, Nancy's⁴ first semester peer feedback report did not include any reflective comments about the peer feedback process, however, her second semester peer feedback report showed a change. Nancy wrote, "This process allowed me to take an inside look at how effective my teaching is. Sometimes it is hard to look at your own teaching and reflect on how effective or ineffective it is." Like Nancy, other teacher candidates seemed to start seeing the helpful aspect of the peer feedback practice.

Second, engaging in peer feedback practices also appeared to positively impact teacher candidates' confidence about teaching. This was especially true for students who received positive feedback from peers. For example, on Jacob's peer feedback form, he wrote "I received positive feedback on my lesson, which gave me a lot of confidence in my teaching abilities." Kelly wrote in her review form,

After observing teachers who have been teaching for many years, it seems like you are in need of tons of improvement. It is nice to see another pre-service teacher who is working or learning the same skills as me. I also seem to do a good amount of one-on-one instruction, because of the amount of differences in the classroom. Now I know what to watch and listen to if I am helping one student.

Some other comments were also made in responding to the open-ended survey question, such as "The reviewer highlighted strengths," and "It was nice to have the feedback and know I did a good job."

Third, most importantly the peer feedback process helped increase the teacher candidates' understanding of children. That is, during the first semester, no teacher candidates mentioned anything about their understanding of elementary children

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	l st semester		2nd semester	
	Reflection of reviewer	Reflection of TC reviewed	Reflection of reviewer	Reflection of TC reviewed
Classroom Climate & Teacher Characteristics	17	27	6	3
Instructional Planning & Delivery	52	36	33	32
Classroom Management	15	14	18	0
Valuing Peer Feedback Process	0	0	14	20
Teaching Confidence	0	0	0	10
Understanding of Children	0	0	7	0

and how they learn. However, this changed during the second semester. Teacher candidates became more aware of the diversity in student population as well as differences in learning styles. This happened especially when the students were observing other students' classrooms and/or other students' interaction with children. One such example is captured in LaKeesha's comment on her second semester peer feedback form: "I was eager to see how our classrooms compare. I was shocked by the differences! This gave me the chance to see how different children and classrooms can be in the same grade (even the same building!)"

As teacher candidates repeatedly used the peer feedback process, their level of reflection seemed to mature as they demonstrated a deeper understanding of classroom practice and of their teaching ability. Jenny briefly wrote in her first semester peer feedback form that, "This experience taught me how to be prepared for anything in teaching. You never know what will come up or what behavior you will be dealing with." However, Jenny's second semester peer feedback form included more detailed and deeper reflection about her teaching.

I have learned a lot from this experience. I had never done activity centers before, so I learned a lot of valuable things. I learned I need to explain directions in more depth. I need to take more time to make sure kids really understand what is going on in each center. My worksheets that I handed out need to be less wordy for children at second grade.

There was also a difference in the amount of time students invested in the feedback and discussion portion of the process from one semester to the next. Survey results indicated that the time that teacher candidates spent exchanging comments and providing feedback increased. During the first semester, 47% of the teacher candidates said that the feedback process took 5-10 minutes, while 51% of the teacher candidates said that it took more than 20 minutes in their second semester (see Table 2). Based on the results from the Mann-Whitney test, this difference was statistically significant (U=753, p<.001).

The survey results also indicated that the teacher candidates' responses to their desire to use peer feedback practice to improve their teaching in the future increased from the first to the second semester. The differences in response were statistically significant based on a Chi-square test result (p<.001). In other words, more teacher candidates wanted to use the peer feedback practice in the future to improve their teaching skill during the second semester than during their first semester.

Consistent Responses Between the Semesters

Comments consistent in both semesters were clustered into four themes. First, a majority of the students reported that using peer feedback was helpful in improving their teaching *and* reflective thinking. For example, some students commented about their reflective thinking process in surveys saying, "I'm learning to reflect on what went well and what could have been better," and "It helped me see what strengths and weaknesses I have as a teacher, and what things I need to improve."

Table 2 Comparison of Amount of Time Spent for Feedback between First and Second Semester						
		Mean rank	Mann-Whitney U			
	l st semester	40.37	753***			
	2nd semester	66.95				
Note. **	*(p<.001)					

Second, receiving and providing feedback from a peer was less stressful and non-threatening compared to being evaluated by the cooperating teacher or university supervisor. Teacher candidates believed their peers supported their progress without making judgments. During the interview, Alice explained how much she valued her peer's feedback by saying, "The teacher doesn't know what's going on in your class, the cooperating teacher doesn't know what you're being taught in the classes, whereas peer reviewers, they know what's going on because they're in the same [university] classes, and we learned the same thing." On the survey instrument, another teacher candidate explained the reason why she/he trusted the peer's feedback: "My reviewer noticed things I did not realize I was doing. I respected her opinion because we are working through the same courses."

A third theme that emerged was that teacher candidates gained insight about their own teaching by observing their peer's teaching and by providing both written and verbal feedback. For example, on the peer review form, Don said that "It helped me catch what I don't realize I do. I now know what to watch [for]." Teacher candidates' survey responses also included many comments related to the theme, such as "It helped me to self-evaluate my own teaching," "I believe that the peer feedback was most beneficial while I was reviewing another preservice teacher because it made me reflect on what good teaching is and is not," and "Watching the other students teaching and seeing some of her teaching and classroom management techniques."

The final theme illustrated that 18% of the teacher candidates consistently said that they did not see peer feedback as a way to improve their teaching (see Table 3). These teacher candidates did not seem to value the peer feedback practice. According to their open-ended responses, the reasons for their negative experience were (1) they wanted feedback from experts (e.g., the cooperating teacher or university supervisor) and (2) logistically it was too much trouble (e.g., scheduling, coordinating with others).

Discussion

Peer feedback practice is a pedagogical approach that promotes reflection and collaboration. Historically, pedagogy in teacher education has encouraged reflec-

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eacher Candidates' Responses Regarding Usefulness of Peer Feedback Practice	Э

l st Semester		2nd Semester	
Yes No		Yes	No
82%	18%	82%	18%

tion for decades (Alkove & McCarty, 1992; Dinkelman, 2003; Eby, 1992; Freese, 1999; McIntyre, Byrd, & Foxx, 1996; Roth, 1989; Schon, 1983; Valli, 1992; Yost, Sentner, & Forlenze-Bailey, 2000; Zeichner & Liston, 1996).

A criticism by Grossman (2005) is that too often when pedagogy is studied, the intervention is often short. In this study, however, peer feedback practices were used by the teacher candidates over two consecutive semesters, thus creating the opportunity to better examine the impact. Grossman (2005) also encouraged educational researchers to connect pedagogy to the cumulative effects on the teacher education program as a whole. The peer feedback practices were utilized in multiple semesters, and they were integrated into required coursework and field experiences. The results give insight into not only the impact of the pedagogy but also the teacher candidates' overall preparation, including both cognitive and affective outcomes.

As the research findings indicated, peer feedback promoted more reflection as the teacher candidates progressed in their program. In addition, the peer feedback process incorporated collaboration, which is a common practice and expectation of inservice teachers. Reflection and collaboration are two assets for teacher candidates in terms of growing developmentally as educators and experiencing, first-hand, qualities of professional, life-long learning.

Findings indicate that peer feedback as a pedagogical approach enhances initial teacher preparation and encourages attributes of inservice professional practice, such as improved reflection on teaching practice, greater professional confidence, and more focus on student learning. For example, when properly implemented, peer feedback practices allow a teacher to learn from two perspectives -- learning from one's own experience and learning from a peer's classroom experience. This is an attribute supported by Ball and Cohen (1999) and a desirable goal for higher levels of reflection (Acheson & Gall, 2003).

In this study, peer feedback practice certainly provided more opportunity for the teacher candidates to think reflectively and collaboratively to improve their teaching practice. However, peer feedback cannot replace university supervision. The peer feedback practice did raise the issue of the need to provide more supervision. Specifically, the research findings indicated that 18 percent of the teacher candidates consistently did not seem to value the peer feedback practice due to the lack of supervision (e.g., need for more university supervision and challenges of scheduling). This may indicate that the learning needs of this group of students was not met. In order to help teacher candidates recognize the value of peer feedback, which can improve their reflective thinking and build life-long habits of collaboration, quality supervision of teacher candidates is still needed.

Teacher candidates need systematic and objective information about their performance in order to adequately reflect on strengths and weaknesses and formulate strategies to facilitate change. This change can be enhanced through the intended use of peer feedback coupled with the clinical supervision process in order to reflect. The two-semester data from this study can help teacher educators better understand how students use peer feedback as a pedagogy used in an elementary teacher education program and how it could be used in guided observation and discussion between peers to promote reflective teaching practices.

References

- Acheson, K. A., & Gall, M. D. (2003). *Techniques in the clinical supervision of teachers* (5th ed.). New York: Longman.
- AERA Panel on Research and Teacher Education (2005). *Studying teacher education: The report of the AERA panel on research and teacher education.* (M. Cochran-Smith & K. Zeichner, Eds.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Alkove, L., & McCarty, B. (1992). Plain talk: Recognizing positivism and constructivism in practice. *Action in Teacher Education*, 14(2), 16-22.
- Anderson, N.A., & Radencich, M. C. (2001). The value of feedback in an early field experience: Peer, teacher, and supervisor coaching, *Action in Teacher Education*, 23(3), 66-74.
- Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional development. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco: Jossey-Bass.
- Birrell, J. R., & Bullough, R. V. (2005). Teaching with a peer: A follow-up study of the first year of teaching. Action in Teacher Education, 27(1), 72-81.
- Bullough, R. V., Young, J., Birrell, J. R., Clark, D. C., Egan, M. W., Erickson, L., Frankovich, M., Brunetti, J., & Welling, M. (2003). Teaching with a peer: A comparison of two models of student teaching. *Teaching and Teacher Education*, 19(1), 57-73.
- Berliner, D. (1995). Teacher expertise. In L. W. Anderson (Ed.), *International Encyclopedia* of *Teaching and Teacher Education* (2nd ed., pp. 46-52). Oxford, UK: Pergamon.
- Creswell, J. W. (1994). *Research design: Qualitative & quantitative approaches*. Thousand Oaks, CA: Sage Publications.
- Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, 57(3), 300-314.
- Dever, M. T., Hager, K. D., & Klein, K. (2003). Building the university/public school partnership: A workshop for mentor teachers. *Teacher Educator*, 38(4), 245-255.
- Dinkelman, T. (2003). Self-study in teacher education: A means and ends tool for promoting reflective teaching. *Journal of Teacher Education*, *54*(1), 6-18.
- Eby, J. (1992). *Reflective planning, teaching, and evaluation for the elementary school*. New York: Merrill.
- Enz, B. J., & Cook, S. J. (1992). Student teachers' and cooperating teachers' perspectives of mentoring functions: Harmony or dissonance? Paper presented at the Annual Meeting

of the American Education Research Association, San Francisco, CA. Freese, A. R. (1999). The role of reflection on preservice teachers' development in the context of

a professional development school. *Teaching and Teacher Education*, 15(8), 895-909.

- Frenkel, J. R., & Wallen, N. E. (1996). *How to design and evaluate research in education*. NewYork: McGraw-Hill
- Fuller, F. F. (1969). Concerns of teachers: A developmental conceptualization. *American Educational Research Journal*, 6, 207-226

Goldhammer, R. (1993). *Clinical supervision: Special methods for the supervision of teachers* (3rd ed.). New York: Harcourt Brace Jovanovich.

- Grossman, P. (2005). Research on pedagogical approaches in teacher education. In M. Cochran-Smith & K. M. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaun Associates, Publishers.
- Harlin, R. P. (2000). Developing reflection and teaching through peer coaching. *Focus on Teacher Education*, 1(1), 1-10.
- McIntyre, D. J., Byrd, D. M., & Foxx, S. (1996). Field and laboratory experiences. In *Handbook of Research on Teacher Education* (2nd ed.) (Editor John Sikula). New York: Macmillan.
- Johnson, D. D., Johnson, B., Farenga, S. J., & Ness, D. (2005). Trivializing teacher education: The accreditation squeeze. Lanham, MD: Rowman & Littlefield.
- Kiraz, E. (2004). Unexpected impact of practicum: Experts learn from the novice. *Teacher Education and Practice*, 17(1), 71-88.
- Kirby, S. N., McCombs, J. S., Barney, H., & Naftel, S. (2006). *Reforming teacher education: Something old, something new.* Santa Monica, CA:RAND Corporation & New York: Rockefeller Foundation.
- Leithwood, K. A. (1992). The principal's role in teacher development. In M. Fullan & A. Hargreaves (Eds.), *Teacher development and educational change* (pp. 86-103). London, UK: Falmer.
- Lowenhaupt, M.A., & Stephanik, C.E., (1999). *Making student teaching work: Creating a partnership. Fastback 447*. Bloomington, IN: Phi Delta Kappa Educational Foundation.
- McAllister, E. A., & Neubert, G. A. (1995). New teachers helping new teachers: Preservice peer coaching. Bloomington, IN: ERIC Clearinghouse on Reading, English, and Communication.
- McEwan, H., Field, B. J., Kawamoto, S., & Among, M. (1997). Learning to teach through action research. *Action in Teacher Education*, 18(4), 47-56.
- McKeown-Moak, M. P. (2000). Financing higher education in the new century: The second annual report from the states. Denver, CO: State Higher Education Excecutive Officers.
- McTighe, J., & Emberger, M. (2006). Teamwork on assessments creates powerful professional development. *Journal of Staff Development*, 27(1), 38-44.
- Morehead, M. A., Lyman, L., & Foyle, H. C. (2003). *Working with student teachers: Getting and giving the best*. Lanham, MD: Scarecrow Press.
- Nabors, M. L. (1999). New functions for "old macs": Providing immediate feedback for student teachers through technology. *International Journal of Instructional Media*, 26(1), 105-107.
- National Commission on Teaching and America's Future (2004). *Summit on high quality teacher* preparation. Washington, DC: National Commission on Teaching and America's Future.

Neide, J. (1996). Supervision of student teachers: Objective observation. *Journal of Physical Education, Recreation and Dance, 67*(7), 14-18.

- O'Neill, A. (1996). *Increasing reflective instructional decision making by clinically supervising teachers using telecommunications*. Proceedings of the Annual National Educational Computing Conference, Minneapolis, MN.
- Rikard, G., & Knight, S. M. (1997). Obstacles to professional development: Interns' desire to fit in, get along, and be real teachers. *Journal of Teaching in Physical Education*, 16(4), 440-453.
- Ross, J. A., & Bruce, C. D. (2007). Teacher self-assessment: A mechanism for facilitating professional growth. *Teaching & Teacher Education: An International Journal of Research and Studies*, 23(2), 146-159.
- Roth, R. (1989). Preparing the reflective practitioner: Transforming the apprenticeship through the dialectic. *Journal of Teacher Education*, 40(2), 31-35.
- Schon, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Shin, E., Wilkins, E., & Ainsworth, J. (2006). The nature and effectiveness of peer feedback during an early clinical experience in an elementary education program. *Action in Teacher Education*, 28(4), 40-52.
- Stanulis, R. N., & Russell, D. (2000). "Jumping in": Trust and communication in mentoring student teachers. *Teaching and Teacher Education*, 16(1), 65-80.
- Thomas, B., & Kiley, M. (1994, February). Concerns of beginning middle and secondary school teachers. Paper presented at the Annual Meeting of the Eastern Educational Research Association, Sarasota, FL.
- U. S. Government of Education. (2001). Reauthorization of the Elementary and Secondary Education Act. Retrieved December 28, 2007, from http://www.ed.gov/policy/elsec/ leg/esea02/pg2.html#sec1119
- Valli, L. (1992). Reflective teacher education: Cases and critiques. Albany, NY: State University of New York Press.
- Veenman, S. (1984). The perceived problems of beginning teachers. *Review of Education Research*, 54(2), 143-178.
- Vidmar D. J. (2005). Reflective peer coaching: Crafting collaborative self-assessment in teaching. *Research Strategies*, 20(3), 135-148.
- Wilkins-Canter, E. A. (1996). Providing effective cooperating teacher feedback. In D. J. McIntyre & D. M. Byrd (eds.). *Preparing tomorrow's teachers: The field experience. Teacher Education Yearbook IV*. Thousand Oaks, CA: Corwin Press.
- Wilkins-Canter, E. A. (1997). The nature and effectives of feedback given by cooperating teachers to student teachers. *Teacher Educator*, 32(4), 235-250.
- Wynn, M., & Kromrey, J. (2000). Paired peer placement with peer coaching to enhance prospective teachers' professional growth in early field experience. *Action in Teacher Education*, *22*(2), 73-83.
- Yost, D. S., Sentner, S. M., & Forlenza-Bailey, A. (2000). An examination of the construct of critical reflection: Implications for teacher education programming in the 21st century. *Journal of Teacher Education*, 51(1), 39-49.
- Zeichner, K. (2002). Beyond traditional structures of student teaching. *Teacher Education Quarterly*, 59-64.
- Zeichner, K.M. & Liston, D. P. (1996). *Reflective teaching: An introduction*. Mahwah, NJ: Lawrence Erlbaum Associates.