Investigating a Model of Mentoring for Effective Teaching

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Mentoring has become a crucial component of preservice field experiences, such as student teaching, and should be purposeful and intentional with its results, not left to chance. However, "mentors seem to need exposure to a variety of models of mentoring in their training as well as practice in the observation and analysis of interactions between mentor and mentee" (Harrison, Lawson, & Wortley, 2005, p. 290). Indeed, models of mentoring need to be investigated to determine applicability to varying contexts. This study currently investigates one particular model of mentoring for effective teaching. Hudson, Skamp, and Brooks (2005) describe five factors of mentoring that are utilized by mentors to support student teachers through the field experience process. The five mentoring factors are: personal attributes, system requirements, pedagogical knowledge, modeling, and feedback. The purpose of this study was to investigate the student teachers' perceptions of the five factors of mentoring and address the following question: What are the student teachers' perceptions of the mentoring factors that contributed to success in their student teaching experience? The theoretical framework for this study, the five mentoring factors and associated attributes and practices, are explained in the following sections.

Personal attributes

Effective mentors draw upon personal and interpersonal skills to engage with their mentees. These personal attributes focus on maintaining a strong and trusting relationship with the mentee (Moir, 2009; Moir, Barlin, Gless, & Miles, 2009; Udelhofen & Larson, 2002). Danin and Bacon (1999) support the mentor's need for effective communication using personal attributes, particularly when the mentor was "supportive, and willing to listen" (p. 204). This supportiveness can arrive in terms of professional and emotional support as a way for the mentor to interact with the mentee (Beck & Kosnick, 2002). In a study of 149 mentoring teams, Kilburg (2007) found that when new teachers did not receive emotional support from their mentor, they were "more apt to have anxiety, insecurity and lack of confidence" (p. 297). Mentoring support includes encouraging the mentee to reflect teaching experiences towards developing a teaching identity (Pitton, 2006). Glenn (2006) describes the relationship between mentors and mentees as a collaborative "give and take," where the mentors and mentees care about each other personally as well as professionally (p. 5). Without this kind of supportive relationship, the impact on the mentee's practice may be limited. Finally, good mentors set an example for professionalism in teaching. Other common dispositional characteristics for mentors can include authenticity, gentleness, enthusiasm, patience, consistency, and a positive attitude (Hurst & Reding, 2002).

System requirements

Preservice teachers enter schools with little knowledge of the organization and the politics of school life. Mentors help them navigate the new context in which they work by learning to understand the complexities of the school's cultural context. They need opportunities

to gain theoretical and practical understandings of schools as organizations (Achinstein, 2006) and need help navigating the school site and the district. Mentors provide important information about school routines and cultural norms (Bartell, 2005). Mentors help their mentees understand teaching within the school culture by co-investigating curricula documents available to the school. Mentors do not just focus on classroom-based learning; they also focus on organizational contexts in which classrooms are embedded (Achinstein, 2006). Importantly, early-career teachers seek specific direction regarding technicalities such as curriculum, school policies, state standards, and student assessments (Grossman & Thompson, 2004). Mentors assist the mentees to meet advocated standards by unpacking their teaching through the system requirements, particularly through mandatory documents such as curriculum and policies that help to regulate the quality of teaching practices (Hudson, 2007). The standards-based teacher evaluation system is underpinned on a common conception of teaching, developed from empirical and theoretical literature on effective teaching (Danielson, 1996; Danielson & McGreal, 2000).

Pedagogical knowledge

Shulman (1987) focused attention on the foundational importance of pedagogical content knowledge, including categories of teacher knowledge such as classroom management, time allocation, and planning as well as understanding of the common conceptions, misconceptions, and difficulties that learners might encounter. Student teachers, similar to first year teachers, acquire knowledge of their students, and develop routines and practices that integrate classroom management and instruction (Kagan, 1992.)

Practical pedagogical knowledge translates into teaching practices that can demonstrate skill levels. Assessing student teachers' pedagogical knowledge is usually operationalized by performance exams that are required for licensure. Danielson's Framework for Teaching (2007) is widely used as a way to assess teacher pedagogical knowledge. Based on a review and synthesis of empirical and theoretical research on what teachers should know and be able to do in the classroom, Danielson's framework includes standards that focus on behavioral responsibilities and competencies, rather than specific content or subject matter knowledge. For example, learning activities, materials, and strategies must be aligned with instructional goals, while appropriate to both the content and the students. Incorporation of formative assessment strategies should provide diagnostic opportunities, allowing student teachers to make adjustments during instruction. The Danielson framework provides a comprehensive assessment of teaching practice, yet is general enough to apply to all subject areas and grade levels (Strong, 2005).

Modeling

The mentor's modeling of teaching practice is extremely important to the mentee's development (Darling-Hammond et al., 2005). Effective mentors are often viewed as instructional coaches and are models of best instructional practices themselves (Moir, 2009). They are usually experienced professionals regarded as master teachers by their colleagues (Trubowitz, 2004); however, mentor selection processes may not be as stringent in some schools compared with others. Effective mentors model to the mentee teaching practices as tangible evidence of what works and what may not work (Moir, 2009). Roehrig, Bohn, Turner, and Pressley (2007) confirmed successful mentoring occurs when the mentor models effective teaching practices. The quality of modeling and the opportunities for mentees to observe and

engage in practices appear key to successful pedagogical development (Darling-Hammond, 2006), and can assist mentees to enact such pedagogy themselves. Feiman-Nemser (2001) promotes the kind of mentoring that "cultivates a disposition of inquiry, focusing attention on student thinking and understanding" (p. 19). The effective mentor models pedagogical practices and focuses on instructional issues that student teachers might not see by themselves (Strong & Baron, 2004).

Feedback

The provision of frequent feedback is cited as the single, most important action that mentor teachers take when working with their mentees (Rudney & Guillaume, 2003). Constructive feedback addresses pedagogical issues such as classroom management (discipline and behavior issues), assessment, planning, preparation of resources, and other mentee needs (Evans-Andris, Kyle, & Carini 2006). Mentors provide feedback in the form of written and oral comments and the feedback is presented with diplomatic honesty (Glenn, 2006) with the intention to build confidence, positive attitudes and pedagogical skills in the mentee (Hudson, 2007). Feedback is specific to the mentee's needs, which requires a willingness from the mentee to engage in a two-way dialogue. Feedback is most helpful when descriptive and focused on specific teaching practices (Bartell, 2005).

Wang, Odell, and Schwill (2008) report that mentees benefit when mentors include observations and discussions about teaching. Strong and Baron (2004) ascertain that the "only reliable way to measure the nature and quality of teaching practice is through classroom observation" (p. 51). During the observation process, mentors identify elements of high-quality instruction and areas for improvement and provide feedback to the mentee accordingly (Nielsen, Barry, & Addison, 2008). In relation to feedback and reflection, Pitton (2006) promotes the use of the observation cycle with pre- and post-conferencing as an effective process for gathering data about the mentees' lessons. Feedback is intended to help mentees to reflect on strategies for strengthening their teaching towards improving their students' learning. The mentoring process prepares mentees for the formal evaluation that will appraise the mentees' practice (Borman & Kimball, 2005).

In this study of student teachers' mentoring experience, the responsibilities of the mentor teacher are described according to the five factors outlined by Hudson (2007). The mentor teachers' application of these five factors during their work with student teachers has a positive impact on the initial success of the student teacher (Cartwright, 2008). This mixed-method study investigated the impact of the five mentoring factors on the growth and development of student teachers from a Midwestern university in the United States. Although researchers have demonstrated that mentoring correlates with the retention of new teachers in the profession of teaching (Strong, 2005), there is less evidence of the impact that mentoring has on the student teachers, according to the perspectives of the student teachers themselves.

Method

Participants and context

The perceptions of student teachers regarding the impact of mentoring on their student teaching experience were obtained from 218 student teachers that were each assigned to a mentor teacher in a K-12 public school. Student teachers were placed in locations according to their content area preparation in elementary education, secondary education, or special education. The student teachers completed the Mentee Perception of Student Teaching (MPST) survey upon conclusion of their sixteen-week student teaching semester.

Data collection and analysis

This research aimed to articulate student teachers' perceptions of their mentoring experiences in student teaching, and to link it to the five factors of effective mentoring outlined by Hudson (2007). For this study, student teacher perceptions of mentoring were obtained using the Mentoring Perceptions of Student Teaching (MPST) instrument's five-point Likert scale (i.e., strongly disagree = 1, disagree = 2, uncertain =3, agree = 4, strongly agree = 5). Incomplete responses were extrapolated using a linear trend of the subjects' other responses (Kuzma & Bohnenblust, 2001). An analysis of variance (ANOVA) was completed along with obtaining mean scale scores and descriptive statistics. The student teachers' responses represented 64% of the total student teaching cohort. All responses were gathered from student teachers at the conclusion of their student teaching experience.

SPSS 16 was used to calculate mean scores for each of the 34 survey items. The results were reported descriptively according to the five mentoring factors that were embedded within the statements on Hudson's MPST survey. Also obtained was a cumulative score for this section of the survey, and it was used to compare the mean difference between the co-teaching and the non-co-teaching groups. The level of significance to which this study was held is $<.05$.

The five mentoring factors include: personal attributes, system requirements, pedagogical knowledge, modeling, and feedback. Items on the instrument have been empirically justified (Hudson et al., 2005). Data was subjected to confirmatory factor analysis, which defined a relationship between the items assigned to each factor. Cronbach alpha scores greater than .70 are considered acceptable for internal reliability of each factor (Peterson, 1994). SPSS also generated other descriptive statistics (i.e., percentages, mean scores, and standard deviations) that were used for item analysis.

Results and Discussion

The five factors, namely, personal attributes, system requirements, pedagogical knowledge, modeling, and feedback, had Cronbach alpha scores of .93, .81, .95, .91, and .91, respectively with mean scale scores ranging from 4.20 to 4.60. Correlations and co-variances of the five factors were statistically significant ($p <.001$). Eigen values greater than one indicated a relationship between factors and associated items and the Eigen value range for this study was 2.19 – 7.53. This was further signified by the percentage of variance attributable to each factor. For instance, there was 73% of variance assigned to the factor personal attributes; the percentage of variance range for all factors was 64%-73% (See Table 1).

Table 1
Confirmatory Factor Analysis for the Five Factors

Mentoring Factors	Cronbach Alpha	Eigen Value	% of Variance	Mean Scale Score	*P* Value
Personal Attributes	.93	4.39	73	4.59	< .001
System Requirements	.81	2.19	73	4.20	< .001
Pedagogical Knowledge	.95	7.53	68	4.39	< .001
Modeling	.91	5.12	64	4.60	< .001
Feedback	.91	4.27	71	4.30	< .001

Note. $p < .001$ result is highly significant (Kuzma & Bohnenblust, 2001).

Descriptive statistics were calculated on the five factors using SPSS 16. Student teachers perceived modeling ($M = 4.60$) as the most used mentoring factor by mentors. Personal attributes and pedagogical knowledge were also perceived by student teachers to be employed by the mentors. Student teachers pointed out that their mentors' focus on feedback ($M = 4.30$) and system requirements ($M = 4.20$) were not as apparent as the previously mentioned factors (see Table 1). The following provides further insights into specific data on the attributes and practices associated with each factor.

Personal attributes

Student teachers reported their mentors' personal attributes on the MPST instrument. The mean item score range was 4.43 to 4.72; *SD* range: 0.66 to 0.81 (see Table 2 for percentage rank order). Student teachers indicated that 95% of their mentors were supportive of them in student teaching and almost as many student teachers (93%) felt comfortable talking with their mentor. Regarding the mentors' infusion of positive attitudes, attentive listening and building of confidence in their student teachers, the perception by student teachers was that this occurred 92% of the time. Although the lowest percentage of student teacher perceptions in this factor related to the mentor teachers assisting the student teachers in reflecting, this item was still identified as a practice used by mentors by 90% of the student teachers.

Table 2
Personal Attributes

Mentoring practice	%*	Mean	*SD*
Supportive	95.5	4.72	0.66
Comfortable in talking	93.1	4.62	0.78
Listened attentively	92.2	4.54	0.75
Instilled confidence	92.2	4.59	0.78
Instilled positive attitudes	92.2	4.58	0.77
Assisted in reflecting	90.8	4.43	0.81

Note. %*, Percentage of mentees who either *agreed* or *strongly agreed* their mentor provided that specific mentoring practice.

System requirements

Items displayed under the system requirements factor had little variance, but remained some of the lower scores received in the study. Student teachers indicated 85% of the mentors discussed school policies and the goals for teaching, while 82% of the mentees reported their mentors outlined the curriculum (mean item score range: 4.10 to 4.25; *SD* range: 0.89 to 0.93, see Table 3).

Table 3
System Requirements

Mentoring practice	%	Mean	*SD*
Discussed aims	85.5	4.25	0.93
Discussed policies	85.0	4.23	0.90
Outlined curriculum	82.2	4.10	0.89

Note. %*, Percentage of mentees who either *agreed* or *strongly agreed* their mentor provided that specific mentoring practice.

Pedagogical knowledge

In this study, 94% of the student teachers claimed their mentors assisted with classroom management. Almost as frequently, 92% of the mentor teachers provided their perspectives about pedagogical knowledge to the student teachers. Mentors' assistance with planning (91%), and assistance with teaching strategies (90%), were the remaining items reported over 90% of the time. Four additional items pertaining to pedagogical knowledge resulted in data ranging from 87.2 % to 89.5% (mean item score range: 4.31 to 4.36; SD range: 0.86 to 2.81, see Table 4). The four items were as follows: discussion about assessment and implementation, guided lesson preparation, discussions about problem solving, and discussions about content knowledge. The two lowest perceived pedagogical knowledge items, both finding 86.8% of the student teachers either agreeing or strongly agreeing that this practice was implemented, pertained to the mentors' discussions of questioning techniques with the student teacher (mean score=4.29; *SD*=0.89) and assisting student teachers with scheduling (mean score=4.27; *SD*=0.89).

Table 4
Pedagogical Knowledge

Mentoring practice	%*	Mean	*SD*
Assisted with classroom management	94.1	4.55	0.77
Provided viewpoints (perspectives)	92.2	4.48	0.80
Assisted in planning	91.8	4.46	0.77
Assisted with teaching strategies	90.0	4.46	0.81
Discussed implementation	89.5	4.39	0.82
Discussed assessment	89.5	4.36	0.87
Guided preparation	88.6	4.31	0.85
Discussed problem solving	87.7	4.39	0.88
Discussed content knowledge	87.2	4.31	0.86
Assisted with timetabling	86.8	4.27	0.89
Discussed questioning techniques	86.8	4.29	0.89

Note. %*, Percentage of mentees who either *agreed* or *strongly agreed* their mentor provided that specific mentoring practice.

Modeling

As shown in Table 5, the modeling factor received greater than a 90% agreement response on all quantifiable items. Student teachers indicated that a majority of mentors modeled teaching practices. Modeling effective teaching and rapport with students were perceived to be the most representative practices of the mentors at 96% and 95% respectively, while the mentors' demonstration of hands-on learning was at 94%. Mentors' modeling of classroom management and well-designed lesson plans were lower on the student teachers' responses, as was the student teachers' perceptions of their mentor's display of enthusiasm (all at 93%). The lowest score within the modeling factor pertains to the mentors' use of curricular language (standards). Student teachers perceived that this occurred 90% of the time. Mentors' reference to standards was also the lowest reported score in the system requirements factor.

Table 5
Modeling

Mentoring practice	%	Mean	*SD*
Modeled effective teaching	96.8	4.72	0.55
Modeled teaching	96.3	4.70	0.63
Modeled rapport with students	95.9	4.66	0.63
Demonstrated hands-on lesson	94.1	4.56	0.70
Displayed enthusiasm	93.6	4.63	0.71
Modeled classroom management	93.6	4.62	0.69
Modeled a well-designed lesson	93.2	4.50	0.69
Used curriculum language (standards)	90.9	4.38	0.76

Note. %*, Percentage of mentees who either *agreed* or *strongly agreed* their mentor provided that specific mentoring practice.

Feedback

The fifth factor, feedback, showed the lowest scores of implementation on the MPST instrument, as compared to the other four factors. The student teachers perceived that only 71% of the mentors reviewed the student teachers' lesson plans (mean score=3.84; *SD*=1.03). Also significant, is that although 92% of the student teachers reported their mentors observed their teaching, only 79% of the student teachers indicated they received written feedback on their teaching (mean score 4.14; *SD*=1.04). In stark contrast, 92% of the student teachers agreed or strongly agreed that they received oral feedback of their teaching (mean score 4.47; *SD*=0.83). As Table 6 shows, 86% of the student teachers felt that their mentor teacher articulated expectations during this experience, and 91% noted their teaching was evaluated. Mean scores for these items were 4.30 and 4.46, respectively and standard deviations 0.97 and 0.86 respectively.

Table 6
Feedback

Mentoring practice	%*	Mean	*SD*
Observed teaching for feedback	92.7	4.54	0.73
Provided oral feedback	92.7	4.47	0.83
Provided evaluation on teaching	91.3	4.46	0.86
Articulated expectations	86.3	4.30	0.97
Provided written feedback	79.9	4.14	1.04
Reviewed lesson plans	71.2	3.84	1.03

Note, %*, Percentage of mentees who either *agreed* or *strongly agreed* their mentor provided that specific mentoring practice.

Conclusion

Mentoring is an essential component of the student teaching experience. The provision of highly prepared and effective mentors contributes to the success of student teachers during this high stakes period of professional development. Substantial evidence from this study supports Hudson's five mentoring factors as a valid and useful framework for measuring the impact of the mentoring received by student teachers in the student teaching experience. The five factors, namely, personal attributes, system requirements, pedagogical knowledge, modeling, and feedback, provide a framework for mentoring and may be used as a benchmark for mentoring practices of those working with student teachers (Hudson, Skamp, & Brooks, 2005).

The five factors also serve to identify the specific responsibilities of mentor teachers and should be used to articulate the goals and outcomes for their preparation for the role. Teacher preparation programs that enlist the support of experienced classroom teachers as mentors to student teachers must establish a set of expectations for the mentor/student teacher relationship, and also continue to study the effectiveness and the impact of this relationship on the success of the beginning teachers. Establishing the components of effective mentoring will not only verify what has been done during the student teaching experience, it will also serve to expand mentoring services to others who are developing effective student teaching experiences.

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