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Characteristics of an effective development program for mentors of preservice teachers

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ABSTRACT

Teacher education programs require effective development for mentors of preservice teachers to increase the likelihood student teaching is reliable and that it produces preferred outcomes. There are few studies, however, that describe development programs for mentors. This study identified characteristics of an effective program for mentors of preservice teachers using an exploratory mixed method design. Findings suggest subject areas for development focus on communication, such as training that promotes reciprocity between mentor and mentee, and relationships, such as emphasising mentor and mentee roles and responsibilities. Findings from this study also provide detail about mentor preferences for the format, timing, frequency, and duration of development activities, such as the use of blended learning systems. Suggestions for future research include replication studies and investigations that test the effects of recommended subject areas.

KEYWORDS

Mentor; preservice teacher; development program; exploratory mixed-method

Introduction

Those involved in the preparation of preservice teachers routinely acknowledge the importance of student teaching (Anderson & Stillman, 2013). For example, the American Association of Colleges for Teacher Education (2010) indicates “clinical preparation of teachers is a key factor in their students’ success” (p. 3). Likewise, the National Council for Accreditation of Teacher Education (2010) has stated that “new and experienced teachers repeatedly cite classroom based experiences and student teaching as the most highly valued elements of their preparation” (p. 4).

There is considerable ease finding stakeholders who acknowledge the importance of student teaching, though specific explanations for its value differ. For example, Goldhaber, Krieg, and Theobald (2017) suggest that “for most prospective teachers, the student teaching requirement is the single prolonged experience [student teachers] will have in an actual classroom before the management and learning of students becomes their primary responsibility” (p. 326). Alternatively, Feiman-Nemser and Buchmann (1986) suggest “student teaching holds promise for helping beginners learn because it is experiential... these possibilities for learning derive from the fact that student teaching is an extended, firsthand encounter with teaching...” (p. 2). The

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reasoning applied by both sources, although the particulars differ, is that application is superior to abstraction. In other words, it is better to learn by doing.

While student teaching is an opportunity to progress beyond the level of novice, achieving preferred outcomes as a result of student teaching is unassured (Feiman-Nemser and Buchmann 1986). The problem is that student teaching is trusted, but not always reliable (Feiman-Nemser and Buchmann 1986). For example, an extended student teaching experience suggests greater opportunity to improve, though it could just as likely produce bad habits when the student teacher is placed with a deficient mentor (Smagorinsky, Cook, Jackson, Fry, and Moore, 2004).

The overall unpredictability of student teaching and potential for student teaching to exert a deleterious effect should cause those involved in teacher preparation to repeatedly ask the question posed by Feiman-Nemser and Buchmann (1986) more than three decades ago, "when is student teaching teacher education?" (p. 1). A component that significantly influences how this question is answered is the mentor teacher.

According to Smagorinsky et al. (2004) an effective mentor enables student teachers to develop in ways that go well beyond a mimetic view. The mentor and student teacher relationship is reciprocal, enabling student teachers to form their identities by practicing philosophies and techniques learned in coursework (Smagorinsky et al. 2004). In addition, effective mentors help student teachers manage any unproductive school norms without appropriating these norms for themselves. Effective mentors provide approval while maintaining tension between professional judgment and relational accommodation (Smagorinsky et al. 2004, p. 22).

The description of an effective mentor provided by Smagorinsky et al. (2004) belies the reality that mentoring is not a unified concept, as illustrated by Crisp and Cruz (2009), who cite more than 50 definitions of mentoring used in the research literature. According to Crisp and Cruz, some researchers define mentoring as a "one-on-one relationship between an experienced and less experienced person for the purpose of learning or developing specific competencies" (p. 527). Alternatively, other researchers define mentoring as "a process by which persons of a superior rank, special achievements, and prestige instruct, counsel, guide and facilitate the intellectual and/or career development of persons identified as protégés" (Crisp and Cruz 2009, pp. 527–528).

Dawson (2014) overcomes different definitions by describing design elements which are used to compose mentoring models. According to Dawson, a design element represents a variable or choice while the model is composed of these elements in various combinations and proportions. Design elements defined by Dawson, which are most relevant to mentoring of preservice teachers, include (a) roles, (b) tie strength, (c) relative seniority, (d) time, (e) matching, (f) activities, (g) resources and tools, and (h) training. A definition for each element is shown in Table 1.

Many of these elements are observable in one form or another in teacher preparation programs. Documents articulating roles and expectations, co-teaching philosophy and activities, timelines, fieldwork handbooks, and matching procedures are a few of the components used to establish mentoring models. Nevertheless, as Goodfellow (2000) observed, those involved in teacher education may establish a curriculum with professional development for mentors, but "the curriculum itself does not have a life without the key players" (p. 40). The curriculum must address the "interplay between the personal characteristics of the student teacher, the personal professional knowledge held by the

Table 1. Design elements of mentoring models.

Element	Definition
Roles	Description of the roles and responsibilities of those involved in the relationship
Tie strength	Intended closeness of the relationship, such as strong-weak, personal-impersonal
Relative seniority	Assumed basis for mentoring, such as senior-junior, expert-novice, or peers where the mentor is a step-ahead
Time	Duration of relationship and frequency of contact
Matching	Process for pairing mentors and mentees
Activities	Actions performed during the relationship such as introductory exercises, goal setting, analyzing feedback, peer observation, and self-reflection
Resources and tools	Assets to assist mentors and mentees such as a reference manual, observation protocol, and specific meeting location
Training	Development activities, delivered online and in-person, for improving mentor effectiveness such as orientations, workshops, and seminars

Adapted from “Beyond a definition: Toward a framework for designing and specifying mentoring models,” by P. Dawson (2014), *Educational Researcher*, 43(3), p. 140.

cooperating teacher and the tensions within the cooperating teacher’s professional responsibilities to children as well as student teachers” (Goodfellow 2000, 40). The mentoring model, specifically the development mentors receive for improving their knowledge and skill, has the potential to close performance gaps for mentor teachers and increase the likelihood student teachers progress along the continuum from novice teacher to expert.

Providing and implementing effective development for mentors of preservice teachers, however, is challenging. Some reasons for this include the role of mentors as evaluators and advisors, uncertainty of whether personal mentoring relationships can be formalised, and time required to learn how to mentor adult learners (Feiman-Nemser 1996). Even if mentors participate in effective development, the pitfall of “cross-purposes,” defined as the conflict that emerges as mentors maintain classroom operations versus permitting student teachers to experiment and upset systems, may limit implementation of effective mentoring practices (Feiman-Nemser and Buchmann 1985, 64). Both providing and implementing development for mentors of preservice teachers is compounded by the dearth of empirical research on the characteristics of effective programs (Graham 2006a; Henning, Gut, and Beam 2015).

Literature review

New teacher induction

There are, however, many studies focused on mentoring in the context of new teacher induction which provide information for understanding mentoring in the context of preservice teaching (Ingersoll and Strong 2011; Shockley, Watlington, and Felsher 2011). For example, Ingersoll and Strong (2011) examined 15 empirical studies on the effects of induction for beginning teachers and found there is a positive effect on new teacher commitment and retention, classroom practices, and student achievement. One of the 15 studies examined by Ingersoll and Strong was conducted by Evertson and Smithey (2000) who analysed 46 mentor-protégé pairs organised into treatment and control groups. Evertson and Smithey sought to determine whether mentor teachers who received professional development on assisting new teachers with classroom management, lesson planning, and goal setting would influence beginning teachers’ proficiency

of these skills in their first 3 months of teaching. Results showed that protégés of trained mentors were more successful in motivating students, planning instruction, establishing procedures, and managing behaviour. In addition, protégés were better able to justify decisions relating to lesson planning, assessment, and differentiation.

Another study, rather distinct from Evertson and Smithey (2000), was conducted by Athanases et al. (2008), who worked with instructors of mentor teachers in the context of new teacher induction, to analyse case studies. The purpose of the research was to identify the features of an effective new teacher induction curriculum for mentor development. According to qualitative results reported by Athanases et al., an effective mentoring curriculum includes adaptable tools, scripts, and routines for establishing fundamental knowledge and skills in topics such as principles of adult learning, observation protocol, and goal setting. An important feature of the curriculum is that it focuses on student learning by ensuring mentors can coach in related areas such as analysing lesson plans, reflecting on student work, selecting instructional modifications, and collaborating with colleagues to overcome instructional challenges. Athanases et al. also suggest an effective curriculum includes action research and inquiry cycles for enabling mentors to identify problems, respond to data, and adapt resources to provide solutions to issues of new teacher effectiveness.

Mentoring preservice teachers

Similar to new teacher induction, there are also many studies focused on mentoring in the context of preservice teacher preparation, though very few examine characteristics of an effective development program for mentors. For instance, Lawson, Çakmakb, Gündüzc, and Busher (2015) analysed 114 research articles specific to student teaching and found they covered various topics related to mentor teachers such as perceptions, role in practicum, feedback, and cooperation. Nevertheless, Lawson, Çakmakb, Gündüzc, and Busher do identify a small number of articles somewhat related to mentor development, for example, studies conducted by Hudson (2013), Kwan and Lopez-Real (2005), and Levine (2011).

Hudson (2013) surveyed 101 mentors and then conducted several follow-up interviews and found that mentoring preservice teachers enhanced mentors' communication skills, problem-solving fluency, and some aspects of pedagogical knowledge. Similarly, Kwan and Lopez-Real (2005) surveyed 259 mentors and found that 70% claimed mentoring had enhanced their practice. Follow-up interviews with 18 mentors conducted by Kwan and Lopez-Real reinforced survey results, with comments by mentors such as "the student teacher's teaching strategies also affected my view of teaching approaches" and "after I have more interaction with student teachers, I found that they possess lots of things that are worth for me [sic] to learn from them" (p. 285).

Levine (2011) examined the characteristics of professional development, not for mentor teachers, but for field supervisors (i.e. retired teachers or graduate students employed by programs to conduct supervision). The study involved 19 field supervisors and investigated the kinds of professional development the field supervisors preferred for improving supervision. According to Levine, subject areas for effective field supervisor development include a) procedural information for completing tasks and meeting requirements; b) training for conducting all facets of observations such as protocol,

conferencing, feedback; and c) opportunities to interact with other field supervisors to share strategies, answer questions, and develop personal and professional bonds. Levine also suggests the use of collaborative professional communities as a format for implementing professional development, provided that program administrators consider issues around time and compensation.

Importance of mentoring

Summary research by Lawson et al. (2015), and discrete studies by Hudson (2013), Kwan and Lopez-Real (2005), and Levine (2011) illustrate how studies have been conducted on the periphery of development for mentors of preservice teachers. The scarcity of research on development for mentors is surprising since Feiman-Nemser and Buchmann (1986) noted a number of years ago that “becoming a mentor [of preservice teachers] involves making a transition from classroom teacher to teacher educator... [and that mentor] teachers need time and commitment to develop the necessary understandings, skills, and orientations” (p. 42). Tauer (1996) claimed something similar, but in the context of new teacher induction, stating, “if mentor teachers are expected to fill specific developmental functions, then they need to be prepared to meet these functions with training in the requisite skills and knowledge” (p. 17). Even with periodic reminders about the importance of mentor development, the dearth of studies is perhaps predictable given the broader context of teacher work, as Feiman-Nemser (1996) describe:

Mentor teachers have little experience with the core activities of mentoring – observing and discussing teaching with colleagues. Most teachers work alone, in the privacy of their classroom, protected by norms of autonomy and noninterference. Nor does the culture of teaching encourage distinctions among teachers based on expertise. The persistence of privacy, the lack of opportunities to observe and discuss each other’s practice, and the tendency to treat all teachers as equal limits what mentors can do, even when working with novices (pp. 2-3).

Nevertheless, even with these circumstances as part of the broader context of teaching, studies by Boyan and Copeland (1974) and McIntyre and Killian (1987) present two early efforts to describe development programs for mentors of preservice teachers.

Mentoring programs

Boyan and Copeland (1974) examined the effects of a supervision model focused on observation and feedback. The program included several instructional units requiring 36 h of training. Materials consisted of readings, handouts, video, role-play, self-paced exercises, large group presentation, and seminar discussions. Additional features identified by Boyan and Copeland included a schedule showing stages for applying the model, efficient presentation of materials such as attention to formatting and pagination of handouts, and opportunities for discussion of impromptu issues.

McIntyre and Killian (1987) also examined the effects of a supervision model focused on observation and feedback with additional attributes for supporting student teachers. The program was implemented through a graduate course over one semester. While the

course emphasised observation and feedback using systematic guidelines, mentor teachers practiced communication techniques for describing classroom behaviour and examining problems. Mentors developed orientation materials such as school calendars, school maps, lesson plan formats, discipline guidelines, and other resources. In addition, mentors “produced a sequence of activities and corresponding timeline for orienting... and helping [student teachers] move smoothly into... interactions with students” (McIntyre and Killian 1987, p. 278).

Similar to Boyan and Copeland (1974), Giebelhaus and Bowman (2002) examined the effects of a mentor development model focused on observation and feedback, but with greater emphasis on developmentally appropriate discussion. The program included 10 training sessions at 3 h each, beginning with general orientation to roles and responsibilities, followed by teaching skills specific to supervision. Topics included pre- and post-observation conferencing strategies, methods of observation, data collection, and record keeping. Mentors conducted weekly observations and conferences with their student teachers and used specific observation criteria for post-conference discussions.

Results from studies by Boyan and Copeland (1974), McIntyre and Killian (1987), and Giebelhaus and Bowman (2002) show benefits when mentor development programs are organised around comprehensive supervision models. The number of positive student teacher behaviours increased along with the number of interactions between mentors and student teachers. The ability for student teachers to plan lessons and deliver instruction also improved. In addition, these studies allude to the usefulness of an array of support resources such as school calendar, lesson planning formats, timelines, and activity sequencing for integrating student teachers into classrooms.

A qualitative study of 25 mentor teachers conducted by Graham (2006a) departs from the focus on supervision by considering both technical and relational facets. Technical aspects included a handbook showing expectations for mentors and student teachers, evaluation criteria, schedule for bi-weekly conferencing, placement of one student teacher with two mentors, extended student teaching experience, and weekly seminars for student teachers with optional mentor attendance. Relational aspects included mentor willingness “to develop reciprocal arrangements for ideas, instructional materials, and approaches in the cooperating teacher/intern dyad” (p. 1124). In addition, the relationship between mentors and mentees was facilitated with flexible and dialogic communication, exploration of student teacher strengths and weaknesses, and opportunity to discuss connections between theoretical understanding and classroom experiences. Graham describes an effective mentor development program as technical and relational, structured and collaborative, so that mentors and student teachers are affectively and cognitively engaged.

Similar to Graham (2006a), Henning, Gut, and Beam (2015) conducted a qualitative study with a group of mentors to describe an effective development program that goes beyond supervision. The program included three mentoring workshops focused on articulation of student teacher activities, co-teaching, and mentoring strategies. A unifying feature of the program was sequencing student teaching experiences to progress from simple to complex. One strategy for sequencing was through the use of a comprehensive rubric describing novice to expert student teacher performance. For example, novice student teachers learn the names of all students, while expert student teachers develop plans for building relationships during the first week of school.

Another strategy for sequencing was through the use of co-teaching strategies which are included as part of the program and explained with numerous examples. Additional program features, generally rather than specifically described by the researchers, include coaching strategies, formative and summative evaluation for generating feedback, and communication of materials using online methods.

Early research on effective development for mentors of preservice teachers revolved around supervision, specifically models to promote effective observation, feedback, and post-conference discussion. More recent studies by Graham (2006a), and Henning, Gut, and Beam (2015) include additional considerations such as sequencing student teaching experiences and promoting positive relationship through communication. Nevertheless, there is insufficient research in mentoring to achieve goals set by Feiman-Nemser and Buchmann (1986) and Tauer (1996) many years ago. Specifically, how to transition mentors from classroom teachers to teacher educators or which subject areas should be used for mentor development to meet the specific needs of student teachers.

Teacher education programs require effective development for mentors of preservice teachers to increase the likelihood student teaching is reliable and that it produces preferred outcomes. The importance of mentor development is elevated since there are many variables that affect student teaching, such as placements based on convenience, availability of mentors, and also the idiosyncratic nature of mentor-protégé relationships (Tauer 1996). These variables are often outside the influence of teacher preparation program design. Establishing or improving development programs for mentors of preservice teachers, however, is within the control of those involved in teacher preparation. Understanding the characteristics of an effective development program for mentors is necessary for optimising student teaching experiences, and yet relatively little research has been conducted in this area. Consequently, the purpose of this study is to describe the general characteristics of an effective development program for mentors of preservice teachers, characteristics that would be applicable across a variety of teacher preparation models, from traditional to alternative, graduate to undergraduate.

Methodology

Participants

This study applied an exploratory mixed method design with sequential phases, qualitative followed by quantitative (see Creswell and Clark 2007, for additional detail on exploratory mixed method). Permission to collect and analyse data was approved by a review board responsible for supervising research conducted by the investigators. Both phases gathered information from independent convenience samples of mentor teachers, located around a large urban area, who were working with teacher candidates at the time data was gathered. Characteristics of participating mentors for both phases were representative of teachers across the United States (U.S. Department of Education, 2016), except that participants reported several percentage points above the national average for years of teaching experience. Specifically, 77% of study participants were female; 85% were between the ages of 30 and 59; and 75% reported 11 or more years of teaching experience.

Data collection and analysis

The first phase involved 108 mentor teachers who participated in one of four development sessions between winter 2015 and summer 2016. Development sessions were an hour and a half in duration with subject areas focused on mentoring strategies and program information, such as giving feedback, communication based on student learning, schedule of internship-based assessments, and co-teaching. Mentors were working with both undergraduate and graduate student teachers (25% and 75%, respectively) across a variety of grades and subject areas. Table 2 shows questions presented to mentors using an exit slip process at the conclusion of each of the four development sessions for gathering open-ended feedback.

Responses from exit slips were recorded on a spreadsheet producing 197 row entries, which were grouped by date according to when the development session occurred. Each row was identified with one of 40 codes, such as candidate expectations, collaboration with mentors, and instruction on co-teaching. Codes most frequently applied to row entries are shown in Table 3.

Coded rows were then grouped into 11 categories, shown in the following list from greatest to least based on how often codes were applied. The categories were 1) instruction on co-teaching, 2) student teaching progression, 3) handout resources, 4) collaboration between mentor and mentee, 5) easily accessed resources, 6) internship-

Table 2. Questions presented to mentors at the conclusion of development sessions.

Session	Questions
1	a. What worked well about this evening? What sections were of the most value to you in your work as a mentor? b. What suggestions do you have for improvements? What would you have liked to hear more about? c. Are there other specific things about mentoring that you would like to receive more training or support in, at future events? If so, please name them here. d. We are considering developing an online course for mentors (free to you) that you could take at your own pace. Would you use this?
2	a. What worked well about this evening? What sections were of the most value to you in your work as a mentor? b. What suggestions do you have for improvement? What would you have liked to hear more about? c. Are there other specific things about mentoring that you would like to receive more training or support in, at future events? If so, please name them here.
3	a. What is one take away from this event that will improve your mentor/candidate work together? b. What could we improve upon, or what was missing?
4	a. What did you find most helpful about tonight's meeting? b. What would you like to have learned more about? And/or suggestions for the Autumn Mentor/Teacher Candidate regional professional development meetings.

Table 3. Example topics coded from mentor feedback after development activities.

	Number of Codes Applied
Instruction on co-teaching	20
Handout resources	13
Easily accessed resources	11
Getting questions answered	10
Student teaching progression	10
Collaboration	10
Internship-based assessment	6
Overview and schedule	6
Paperwork	6

based assessments including edTPA, 7) getting questions answered, 8) expectations for mentors and candidates, 9) problem-solving with candidates, 10) collaborating with other mentors, and 11) guidelines for feedback.

The second phase involved a survey sent to 176 mentor teachers who were concluding their work with student teachers in spring 2017. A total of 85 mentors, or 49% of eligible responders, answered the survey. Participating mentors were working with undergraduate and graduate students, 33% and 66%, respectively, across a variety of grades and subject areas. The survey included 21 items separated into two sections. Items were developed from the 11 categories formed during the qualitative analysis of exit slip data. The first section asked mentors to rank subject areas for mentor development using 17 Likert-type items scaled 1 Not at all important to 5 Extremely important. The second section included four multiple select items, which permitted more than one response, asking mentors to identify preferences related to mentor development format, timing, frequency, and duration.

Findings

Results from both phases show clear mentor preferences for learning to work effectively with student teachers. Table 3 shows preferred general topics for face-to-face activity, while Table 4 summarises results of the overall program for mentor development. Survey results show more than half of all mentors ranked the following five subject areas as extremely important for learning to work effectively with student teachers: 1) being direct in communication with student teachers, 2) determining whether a student

Table 4. Per cent response to which of these areas is important for learning to work more effectively with student teachers?

	1 Not at all important	2 Slightly important	3 Neutral	4 Moderately important	5 Extremely important
Being direct in communication with student teachers	0	0	9	24	67
Determining whether a student teacher is a good fit during the matching process	0	2	5	34	59
Reviewing expectations for student teachers	0	2	8	33	56
Understanding the needs of student teachers	0	1	10	35	55
Establishing a schedule for collaboration between mentor and mentee	0	5	4	38	54
Reviewing expectations for mentor teachers	0	2	11	37	49
Sequencing experiences for an effective student teaching progression	0	4	15	36	45
Guidelines for feedback	0	2	7	47	44
Collaboration with field supervisors	2	1	16	39	41
Learning from exemplary mentors	2	6	23	32	37
Applying a protocol to promote collaboration between mentor and mentee	2	5	18	44	32
Resources for problem solving with candidates	0	4	11	56	29
Instruction on the co-teaching model	1	7	24	44	25
Instruction on internship-based assessments	0	16	26	36	21
Guidelines for productive conflict	0	4	23	55	19
Collaboration with other experienced mentors	4	6	31	42	18
edTPA	6	6	43	30	15

n = 85

teacher is a good fit during the matching process, 3) reviewing expectations for student teachers, 4) understanding the needs of student teachers, and 5) establishing a schedule for collaboration between mentor and mentee. These five topics could be broadly characterised as related facets of effective communication. While “collaboration” might implicitly suggest effective communication, selected topics indicate priorities for how this can be achieved. For example, learning how to be direct in communication with student teachers is accomplished through reviewing expectations for student teachers and understanding the needs of student teachers (top-ranked items three and four, respectively). Likewise, results show that effective communication is promoted through tools provided by the university, such as developing a schedule for collaboration and guidelines for feedback. These findings complement the coded topics from phase one, which prioritize instruction on co-teaching followed by tools used to promote effective communication.

Table 4 shows additional rankings that guide overall development for mentors. Resources for problem-solving with candidates and guidelines for productive conflict were ranked as moderately important by more than half of all mentors. Likewise, learning from exemplary mentors and collaboration with experienced mentors were, on average, ranked moderately important. Instruction on internship-based assessments and edTPA were ranked less important compared to most other subject areas.

Survey results also indicate preservice mentor preferences for format, timing, frequency, and duration of development activities. Table 5 summarises results.

Table 5. Preferences for format, timing, frequency, and duration for learning to work with student teachers.

	%	n
<i>Which formats do you prefer for learning more about mentoring?</i>		
Online and in-person	55	47
Online	40	34
In-person	12	10
<i>When do you prefer to learn more about mentoring?</i>		
Before school begins for the year	47	40
During work hours	45	38
After work hours	29	25
In the evening	20	17
On the weekend	11	9
After school ends for the year	8	7
<i>What frequency do you prefer for learning more about mentoring?</i>		
Monthly	42	36
Available online when needed	25	21
Every three months	21	18
Twice a year	11	9
Weekly	8	7
Once a year	6	5
<i>What duration do you prefer for learning more about mentoring?</i>		
About an hour	29	25
Online for as long or as short as I decide	28	24
About 30 minutes	27	23
Less than an hour	21	18
More than one hour	11	9
Two or more hours	6	5
Three or more hours	1	1

More than half of mentors, 55%, indicated they preferred a blended format, including both online and in-person approaches. With respect to timing, 45% of mentors indicated they preferred development activities before the beginning of the school year and during work hours, while in the evening, on the weekend, and after school ends for the year were least preferred. Mentors indicated they preferred to learn about mentoring monthly (42%); less preferred, but still viable at 25% and 21%, respectively, were learning online whenever needed and once every quarter; while frequencies of twice-yearly, once-yearly, and weekly were not preferred. Last, mentors indicated preferring development durations of about an hour, for online as long or as short as the mentor decides, and for 30 min in about equal proportions, at 29% to 27%; durations of two or more hours were not preferred.

Discussion

This study identified characteristics of an effective development program for mentors of preservice teachers. Use of an exploratory mixed method design with sequential phases, qualitative followed by quantitative, produced results confirmed by other studies with respect to subject areas for development. Results also emphasise the importance of allocating time for development, but with additional detail about format, timing, frequency, and duration of activities, which is not a significant consideration in related research.

It is first necessary to address a prerequisite of results, not necessarily a subject area for professional development. Programs must ensure a functional match between mentor and student teacher. Attempting to train mentors of preservice teachers when conflicting personalities are present is unlikely to produce desired outcomes, regardless of the characteristics of the development program. An effective program for mentors of preservice teachers is dependent on a minimum level of affinity and cooperation between mentors and student teachers to navigate and overcome the various obstacles described by Feiman-Nemser and Buchmann (1985), especially that of cross-purpose, which is the tension between mentor need to maintain classroom operations versus opportunity for student teacher experimentation and practice. As a result, an effective mentor development program will include careful protocols for matching mentors with student teachers. This principle is reinforced by Dawson (2014), who indicates matching is a necessary design element of a mentoring program.

Assuming the match between mentor and student teacher is reasonable, the first area for development is communication. Mentor teachers in this study identified direct communication and time for collaboration as necessary components for working effectively with student teachers. The substance of the communication should promote reciprocity between mentors and student teachers and opportunity for student teachers to form their identities, as suggested by Smagorinsky et al. (2004) and Graham (2006a). Some characteristics of effective development in the area of communication, according to McIntyre and Killian (1987) and Henning, Gut, and Beam (2015) include practicing communication techniques that describe rather than judge, focusing on problems of teaching and alternative solutions, and open dialogue that permits student teacher questioning and expression of concerns.

A specific facet of communication identified as important by mentors in this study is feedback. Hattie and Timperley (2007) define feedback as “information provided by an agent (e.g. teacher, peer, book, parent, self, experience) regarding aspects of one’s performance or understanding” (p. 81). Studies by Giebelhaus and Bowman (2002), Graham (2006a), and Henning, Gut, and Beam (2015) describe mentor feedback as a consequence of an extant observation protocol, and all of the components that support the protocol, such as pre- and post-observation conferencing, explicit evaluation criteria, and direct coaching. While mentors are sure to generate feedback outside of observations, results from this study suggest a subject area for development is the use of comprehensive observation models for promoting constructive feedback between mentors and student teachers.

Another area for overall program development is relationship. While relationship is one by-product of communication, the idea of relationship in this study is also uniquely expressed in the results, such as when mentors indicate the desire to understand the needs of their student teachers or when mentors prioritised the importance of expectations. Likewise, both relationship and communication are working in combination when mentors indicate the importance of establishing a schedule for collaboration. Dawson (2014) identifies this dimension of mentoring as tie strength, or the “the intended closeness of the mentoring relationship” (p. 140). Dawson goes on to suggest that tie strength should be stated explicitly to avoid confusion. The need for mentors to understand their student teachers, coupled with ambiguity about tie strength or the closeness of the relationship, is perhaps an explanation for mentors prioritising expectations for themselves and for their student teachers. A published set of expectations, sometimes identified as roles and responsibilities, are common artefacts of preparation programs. These documents, however, may be underused and insufficiently descriptive for explicitly stating tie strength, and achieving what Smagorinsky et al. (2004) describe as productive tension. Productive tension emerges when mentor and mentee seek intellectual resolutions to problems, rather than mentees yielding to accommodate the preferences of their mentors. A characteristic of an effective development program for mentors of preservice teachers will include clear expectations describing tie strength and strategies for recognising and promoting productive tension.

An important strategy related to expectations, and perhaps useful for clarifying tie strength and promoting productive tension, is articulation of the sequence of experiences of the student teaching progression. Boyan and Copeland (1974) and Giebelhaus and Bowman (2002) suggest the student teaching progression be derived from an observation protocol. Alternatively, McIntyre and Killian (1987) suggest mentors generate a sequence of activities and corresponding timeline for facilitating student teaching progression. Effective development for mentors of preservice teachers will likely do both. The teaching progression will be linked to an observation protocol and timeline, but it will also be managed and edited by the mentor to fit classroom circumstances and the progress of the student teacher. The progression will provide general guidance coupled with the judgment of the mentor to sequence student teaching experiences that transition from simple to complex, as suggested by Henning, Gut, and Beam (2015).

Development in communication, such as direction for when to collaborate and how to generate feedback, along with the relationship, such as explicitly stating tie strength and general guidance on teaching progression, represent subject areas of an effective

development program for mentors of preservice teachers. Nevertheless, those involved in teacher preparation who seek to design a program must also attend to the format, timing, frequency, and duration of development activities.

With respect to format, mentors in this study indicate the preference for blended. According to Graham (2006b), “blended learning systems combine face-to-face instruction with computer-mediated instruction” (p. 5). Henning, Gut, and Beam (2015) hint at the usefulness of a blended system for development by suggesting the use of “websites... and online courses” (p. 155), though other studies published after 2000, and examined as part of the literature review in this study, omit reference to any online development. Omission of web-based resources is surprising since many years ago Boyan and Copeland (1974) described several mentor development activities readily deployable using the internet, such as readings, handouts, video, and self-paced exercises. Neglect of web-based development is perhaps the result of researchers focusing on face-to-face formats, such as collaborative professional communities recommended by Levine (2011), seminar discussions linked to courses as recommended by Graham (2006a), and large group discussions as suggested by Boyan and Copeland. Including web-based activities and resources, however, does not preclude the use of in-person formats. As shown in this study, an effective development program for mentors of preservice teachers will combine face-to-face instruction with computer-mediated instruction.

Timing, frequency, and duration are additional features that are given little attention in the literature. While Dawson (2014) and Levine (2011) identify time as a necessary consideration for effective mentor development, studies tend to describe these components in general terms, such as the application of 36 h over 2 weeks, 16 h over a semester, or 10 training sessions at 3 h each. Few studies mention timing, other than for a semester or for 10 weeks, though the specific time of year is not identified. In light of teacher workload, which varies across the year, this is another curious omission. Mentors in this study indicate preferring development before the beginning of the school year and during work hours, but also, to a lesser degree, in the evening. The frequency of development preferred by mentors in this study is monthly. Mentors also prefer durations of about an hour and online for as long or as short as needed. These results suggest an effective development program may begin before the opening of the school year, such as with a summer workshop, then continue with monthly opportunities for in-person and online development at about 60–30 min per month across the school year.

Conclusion

Teacher education programs require effective development for mentors of preservice teachers to increase the likelihood that student teaching is reliable and that it produces preferred outcomes. The importance of mentor development becomes more apparent since there are many variables beyond the influence of teacher preparation program design, such as the idiosyncratic nature of mentor-protégé relationships and the various pitfalls which confound student teaching. Establishing or improving a preservice development program for mentors of preservice teachers, however, is within the control of those involved in teacher preparation.

Nevertheless, the challenge of providing effective mentor development is complicated by the dearth of empirical research on the topic. Although there are a handful of studies which provide some guidance, not enough is known about how to transition mentors from classroom teachers to teacher educators or which knowledge and skills are most necessary for meeting the needs of student teachers. Findings from this study provide information about the characteristics of an effective development program for mentors, specifically subject areas are identified along with details about the delivery of development activities. While the use of convenience samples, moderate survey response rates, and dependence on self-report data presents important limits to interpretation, findings are nonetheless suitable for directing program design and additional research. In particular, studies that attempt to replicate results and research that tests the effects of recommended subject areas, along with format, timing, frequency, and duration of development activities, would be beneficial.

Disclosure statement

No potential conflict of interest was reported by the authors.

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