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Mentoring beginning teachers in primary schools: research review

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While mentoring programmes have proven to be successful in reducing attrition and improving teaching ability in beginning teachers, there remains a lack of research delineating the key components of effective mentoring programmes in primary education. This integrative research review examines empirical studies conducted since 2000 on the nature and effectiveness of mentoring programmes for beginning teachers in primary school. The sample comprised 10 articles. The research literature is summarised to provide greater clarity about the features of mentoring programmes and their corresponding outcomes. This review calls attention to the need for research studies to provide a clear definition of mentoring and how it may be distinguished from induction so that the impact of mentoring can be disentangled from that of induction. It also highlights limited research that currently exists on the effects of mentoring in a primary school setting. Implications for conducting rigorous studies investigating the outcomes of mentoring for primary beginning teachers are discussed.

Keywords: teacher induction; mentoring; beginning teachers; primary schools; elementary schools; integrative review

Introduction

To make teaching an attractive and respected career that attracts the best candidates, high-quality mentoring and effective professional development are crucial (The International Summit on the Teaching Profession 2013). Educational researchers and practitioners agree that comprehensive induction programmes which involve mentoring are vital in supporting beginning teachers in becoming effective teachers in the classroom. Good quality mentoring programmes strengthen and build the quality and professionalism of beginning teachers, enhance job satisfaction and reduce teacher attrition. However, there appears to be great variation in the quality of mentoring programmes and their perceived effectiveness (Hobson *et al.* 2009). Nor is it clear from existing published reviews how the teaching context may impact on the effectiveness of programmes. For example, what features might be particularly important for programmes delivered to beginning teachers in primary school settings? The aim of this integrative review is to deepen our knowledge and understanding of quality mentoring in primary school settings. Published research is reviewed to identify what characterises high-quality mentoring for teachers in primary schools.

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Without effective mentoring support, many beginning teachers struggle and fail to learn the nuances of effective teaching. As beginning teachers embark on their careers they are often placed in socially disadvantaged schools which are difficult to staff (Fletcher *et al.* 2008). They are typically given challenging classrooms and more duties outside the classroom than their more experienced colleagues (Darling-Hammond 1997, Danielson 1999, Killeavy 2006, Kearney 2014). A lack of timely and appropriate support results in many teachers leaving the profession early in their careers stressed and disillusioned. It has been estimated that anywhere from 30 to 50% of teachers leave the profession within five years (Darling-Hammond and Sykes 2003, Riley and Gallant 2010).

According to the Organisation for Economic Co-operation and Development (2005), high rates of attrition, coupled with an aging teacher population in many countries in the developed world, may cause a teacher shortage crisis in coming years. The United States has experienced a teacher shortage crisis over the last decade (Moon 2007). Educational reform policies mandate or strongly encourage induction programmes (Long *et al.* 2012). According to the Alliance for Excellent Education (2004) in the United States, the approximate cost of each teacher leaving a school adds roughly \$12,000 in rehiring expenses, whereas the per-teacher cost of a comprehensive induction programme is half that amount (Moir 2003). Policy-makers in Australia, New Zealand, Canada and the United Kingdom also agree that teacher attrition is a growing educational and economic concern (Long *et al.* 2012). Many schools have responded to policy-level recommendations by implementing mentoring programmes as a strategy to combat attrition and to better support beginning teachers. Despite mentoring playing a prominent role in supporting the induction and early professional development of teachers in several countries, the effect of mentoring on enhancing beginning teachers' classroom practices and ultimately improving student outcomes remains unclear. There also appears to be a lack of attention to the quality of mentoring provided. There is little consistency in the way mentoring is conceptualised and implemented, with very few schools applying clearly defined accountability mechanisms to evaluate the quality of their mentoring programmes. This may be because beginning teacher induction programmes are often under-resourced and under-funded. While a certain level of attrition may be necessary and healthy (Kearney 2014), the present level of attrition rates are not desirable or sustainable (Plunkett and Dyson 2011). A large proportion of teachers are leaving just as they are beginning to develop the qualities attributed to effective teachers (Berliner 2000).

Mentoring programmes are designed with reference to the school context. Knowledge of student learners, pedagogy for classrooms, assessment of students and alignment of curriculum standards are notably different between primary and secondary schools. For example, there are visible differences between primary and secondary school teachers' classroom management strategies, teaching strategies, content knowledge, preparation of curriculum and assessment, and timetabling. Despite these differences, the literature has made little or no reference to the beginning teachers' school context when evaluating the effectiveness of mentoring programmes. In this article, only studies of beginning teachers in primary schools are identified for review in an attempt to understand what effective mentoring looks like in primary education settings. Beginning teachers in primary schools are defined for this review as teachers who work with students from Kindergarten/Prep to Grade 6 and have been teaching for three years or less.

Rationale for the integrative review and research questions

Over the past two decades there have been many studies which have reported the outcomes of mentoring programmes; however, there remains some doubt about the rigour of these studies and the conclusions generated from these studies. Whilst Ingersoll and Kralik (2004) selected only experimental studies that collected quantitative data, more recent reviews of literature have included qualitative studies (for example, Hobson *et al.* 2009), recognising the importance of rich descriptions of the mentoring process to inform the development of future programmes.

To extend previous reviews of literature regarding mentoring programmes, this article reports on empirical studies that have focused on beginner teacher mentoring in primary schools. This evidence base on mentoring programmes in primary schools remains limited. Most reviews report studies that include beginning teachers from early childhood contexts through to secondary teaching. Since mentoring is only one component of school induction programmes, valid inferences about the impact of mentoring alone in primary schools can be challenging to identify. Beginning teachers may have access to multiple sources of support including an assigned or chosen mentor, other teaching colleagues, school administrators and family and friends. Furthermore, studies evaluating mentoring programmes typically rely only on teachers' self-report of effectiveness and do not necessarily include measures of change in teacher or student learning outcomes. The present study will consider how outcomes are evaluated, including outcomes measured by independent reports or data sources (e.g. students' results on a designated test).

The present article poses the following research questions:

- How is mentoring conceptualised in primary school education?
- What models of mentoring are likely to provide the best support to beginning teachers in primary education?
- What are the key components of mentoring programmes in primary education?

Review methodology

Design

An integrative literature review provides a critique and synthesis on a topic in an integrated way such that new frameworks and perspectives on the topic are generated. This review will bring greater understanding about the nature of mentoring programmes for beginning teachers in primary school. This topic would benefit from a more holistic conceptualisation and synthesis of the literature to date that separates the key important characteristics of mentoring programmes for this population of teachers. The methodology of this integrative review involved five steps (Cooper 2001): problem formulation, data collection of relevant empirical studies, evaluation of the studies, data analyses, and interpretation and presentation of the findings.

Search methods

The literature search began with an initial exploration of higher education literature utilising the databases of EBSCOhost, A+ Education, Proquest Psychology Journals and Google Scholar, Sage online, Wilson and Sociological Abstracts. The search terms included a combination of key terms – beginning teacher mentoring or

Table 1. Search terms.

Location	Search terms with Boolean operators
In abstract	'beginning teacher mentoring' OR 'beginning teacher induction' AND ('primary' OR 'elementary') AND ('teacher retention' OR 'student achievement' OR 'teaching strategies' OR 'teacher effectiveness') NOT 'secondary' OR 'student retention'
In abstract	
In abstract	
In abstract	

Table 2. Screening of journal articles.

Database/source	Records screened	Abstracts read	Articles read	Included studies
EBSCOhost	77	32	9	7
A+ Education (Informit)	39	8	0	0
Proquest Psychology Journals	7	7	1	1
Google Scholar	100	30	8	2
SAGE Premier	21	12	2	0
Sociological Abstracts via Proquest	3	3	3	0
References	6	6	1	0
Total	253	98	24	10

beginning teacher induction, primary school or elementary school – with other terms such as effectiveness, teacher retention, student achievement, teaching practices (see Table 1). In my search, I excluded doctoral theses. Interest in mentoring by policy-makers in education has gained significant momentum over the past 15 years and I therefore included articles between 2000 and 2015. The initial search resulted in 98 articles of interest (see Table 2). This number was reduced by reviewing the articles and including only empirical studies that included primary beginning teachers. Other systematic literature reviews examining the impact of mentoring programmes for beginning teachers were also scanned to see whether other relevant empirical studies were identified that were not located by the initial search. An independent reviewer assessed whether the selected studies met the selection criteria and the final selection was determined through the discussion of each study.

Search outcomes

A total of 10 articles were retained for this review. In terms of the national context in which the research was conducted, one study was conducted in Australia, eight studies in the United States and one study in New Zealand. Four of the studies were more descriptive than evaluative and focused primarily on the personal reflections and experiences of teachers involved in the mentoring programme (Certo 2005, Hudson *et al.* 2009, Grudnoff 2012). However, these studies were retained because they potentially provided detailed information about the context and processes of mentoring even while it is acknowledged that they did not provide empirical evidence on the effectiveness of such programmes. The remainder of the studies examined the effects of a mentoring intervention in relation to clearly defined teacher or student outcomes. Programme effectiveness can be claimed when it is clear that the

research findings are the direct result of the activities of the mentoring programme and that factors other than the mentoring programme did not influence the changes evident from participation in the programme. These evaluative studies provide important insights into the effects of mentoring on teaching practices and teacher beliefs.

Findings

In this section, a critical analysis of the empirical studies on teacher mentoring in primary schools is presented which also enables identification of the directions for future research. These analyses provide a necessary step towards developing and improving the knowledge base about teacher mentoring in primary schools. The details of the studies analysed are presented in Table 3. This table differentiates the studies by their quantitative versus qualitative methodologies and describes the purpose of the research, the participants in the sample, the specific research design and a summary of the findings. The analyses are then presented in three sections that draw on the research studies which are in focus: how mentoring is conceptualised in primary education; the nature of primary school mentoring models; and the key components of mentoring programmes in primary schools.

How is mentoring conceptualised in primary education?

Mentoring is viewed as an important component of induction programmes. However, a limitation of the studies examined was that five of the 10 studies failed to provide a definition of the term mentoring (Achinstein and Barrett 2004, Certo 2005, Davis and Higdon 2008, Fletcher and Strong 2009; Stanulis *et al.* 2012) and the remaining five studies did not clearly distinguish between mentoring and induction. Fletcher *et al.* (2008) briefly acknowledged that there is confusion in the literature between the two terms because mentoring appeared to contain most, if not all, the characteristics ascribed to the induction process. The terms ‘mentoring’ and ‘induction’ were used interchangeably or together (e.g. mentor/induction programme). There also was a lack of consistency between studies about what mentors do and the type of support they provide in their role (Achinstein and Barrett 2004, Roehrig *et al.* 2008, Grudnoff 2012, Hallam *et al.* 2012). Roehrig *et al.* (2008) stated that mentors act as sounding boards, guides and counsellors (Fideler and Haselkorn 1999, Henke *et al.* 2000). Hallam *et al.* (2012) suggested that mentors teach and guide new members through modelling and support, whereas Achinstein and Barrett (2004) proposed that mentors help beginning teachers to reframe their thinking about students. These descriptions vary widely and fail to adequately distinguish the purpose and functions of mentoring. While these studies were selected because they depicted the primary school context, the studies did not draw out specific features of primary schools (e.g. overall mission of primary education) that may influence the delivery of mentoring programmes in that context.

An examination of the wider mentoring literature revealed more explicit differences between the terms. According to Wong *et al.* (2005), induction involves a structured and comprehensive approach to supporting and orientating beginning teachers in the profession. Mentoring, on the other hand, is an activity, a process and a relationship that extends over time between an experienced teacher and a less experienced beginning teacher (Aspfors and Fransson 2015). Mentoring is the

Table 3. Studies for integrative review.

	Quantitative									
	Achinstein and Barrett (2004), United States	Certo (2005), United States	Grudnoff (2012), New Zealand	Hudson <i>et al.</i> (2009), Australia	Davis and Higdon (2008), United States	Fletcher <i>et al.</i> (2008), United States	Fletcher and Strong (2009), United States	Hallam <i>et al.</i> (2012), United States	Roehrig <i>et al.</i> (2008), United States	Stanulis <i>et al.</i> (2012), United States
Purpose	Examines how mentoring strategies influence BTs' beliefs about students and teaching practices	Determines the actions of a quality mentor	Investigates the induction process from the BTs' perspective	Describes the induction experiences of BTs	Examines the effect of the Teacher Fellows Programme on BTs' classroom practices	Explores three mentoring models and changes in student achievement	Explores two mentoring models in one district and student achievement	Compares two mentoring models in two school districts	Factors that influence BTs' ability to implement more effective teaching practices	Examines a mentoring programme targeting leading classroom discussions
Sample	15 mentor-mentee pairs	One mentor-mentee pair	12 full-time BTs in New Zealand primary schools	8 BTs from primary schools across two states	Five BT Fellows and five BT non-Fellows	17 BTs and 424 students, 31 BTs and 709 students, and 51 BTs and 1288 students	Five Grade 4 BTs, 86 students and site-based mentors; 11 Grade 4 BTs, 142 students and full-release mentors; seven Grade 5 BTs, 93 students and site-based mentors; five Grade 5 BTs, 48 students and full-release mentors	Time 1, 23 BTs; Time 2, 21 BTs across two school districts	Six BTs from six schools, randomly assigned school mentor or a school mentor and researcher-provided mentor	42 BTs (mentored) and 41 BTs (no mentoring)

Research Design	Qualitative case study	Qualitative case study	Qualitative case study	Mixed method	Quasi-experimental	Quasi-experimental	Mixed-method comparative case study	Mixed Method	Quasi-experimental
Findings	Re-framing using a problem-solving schema supports BTs in interpreting, generating alternatives and making thoughtful decisions in the classroom	BT reported enhanced knowledge of parent-teacher interviews, report card writing, adopting new instructional strategies, embedding literature across the curriculum, perspective-taking, positive attitude and decision-making	Participants' experiences were diverse and variable. Mentees received more emotional support than educative support. Those that received encouragement reported greater confidence easing into the profession. Overall participants lacked instruction that would have enhanced their contextual knowledge	BT Fellows received more frequent assistance from mentors than BT non-Fellows and greater improvement in classroom practices. Results suggested that school/university induction partnerships may be effective during the first year of teaching	Mentor-based induction had a positive effect on student achievement if the programme allowed for weekly contact and mentor selectivity was high	Greater student achievement gains for classes of teachers in the full-release mentor group	Teachers who remained teaching after three years reported more support for their development and higher communication from in-school mentors and school principal	More effective BTs communicated more with mentors, more accurately self-reported use of effective teaching practices and were more open to mentoring	Targeted mentoring approach linked to effective teaching

Note: BT, beginning teacher.

personal guidance provided by experienced teachers to beginning teachers in schools to assist the development of professional expertise (Hobson *et al.* 2009). In Australia, mentors work with beginning teachers to help develop the capabilities required to make the transition from university graduate to full-time classroom teacher (Nielsen *et al.* 2006).

Of the 10 studies reviewed, it could be assumed that seven studies adopted a 'classical' view of mentoring with the intent of mentoring to guide and support the beginning teacher as they enter the professional community and develop their professional knowledge, skills, beliefs and values in the early years of their career. Two papers appeared to take a more 'instrumental' view, in which the purpose of mentoring beginning teachers was to enhance student learning outcomes (Fletcher *et al.* 2008, Fletcher and Strong 2009). These two approaches to mentoring may elicit different kinds of learning and develop different kinds of dispositions and actions in the mentees. For example, a mentor that perceives their role as one of support will probably act as a helpful professional colleague and the mentee is likely to adopt a disposition towards continuing professional development. When a mentor perceives their role as supervisor and perhaps agent of change, the mentee is likely to adhere to the mentor's advice and comply with their suggestions. Only one study (Certo 2005) viewed mentoring as a two-way relationship in which the mentor and mentee both engaged in self-development as reflective practitioners. It is this view of mentoring that is most likely to strengthen the teaching profession as a whole because both the mentor and mentee benefit from mutual sharing of teaching practices. In the following section, three models of mentoring are examined.

What models of mentoring best support beginning teachers in primary education?

There seems to be no agreed-upon model of mentoring that best supports primary beginning teachers. Different mentoring models provide a variety of sources, types and intensities of support (Smith and Ingersoll 2004) over varying lengths of time. The studies in this review included three important mentoring models: in-school mentors versus off-site mentors; fully-released versus partially-released on-site mentors; and targeted mentoring versus generalised mentoring. The manner in which these models are researched within the studies are investigated in order to draw conclusions on the effective features of mentoring models.

In-school mentors versus off-site mentors

Of the 10 studies reviewed, three studies comprised in-school mentors only, three studies used off-site mentors only and four studies used a combination of both. Three studies compared the effectiveness of in-school versus off-site mentors. Hallam *et al.* (2012) compared two contrasting mentoring models over a three-year period. The models were similar except for one distinct difference. Both models included the support of the school principal and collaborative professional learning communities. However, in one district (District A) the in-school mentor had the major responsibility for mentoring beginning teachers over the three-year period. For the other district (District B), district coaches were employed to undertake the responsibility for mentoring in their first year only, and then an in-school mentor was employed for the following two years. Hallam *et al.* reported that in-school mentors were more effective mentors because they were able to respond more

quickly and effectively to the beginner teacher's concerns than district teachers due to their personal knowledge of the school and the way it operates.

Roehrig *et al.* (2008) investigated the impact of two models of mentoring on effective teaching practices. The professional development of six beginning primary teachers was followed longitudinally over one school year. All beginning teachers received mentoring from in-school mentors, while only three beginning teachers received additional mentoring from exemplary-teacher mentors (mentors who were highly accomplished teachers and emphasised the type of teaching used by effective teachers) in a university-sponsored induction programme. A multiple case-study design was used in which quantitative and qualitative data were collected and analysed. The in-school mentoring programme entailed beginning teachers attending five formal support meetings over the course of the year. The off-site, supplemental university mentors did not work in the same school as their mentor but taught the same grade level. The mentee and their university mentor attended two-hour mentor support meetings over the course of the year. Roehrig *et al.* reported no consistent differences in beginning teachers who either did or did not participate in the supplemental mentoring provided by the university. Instead, it was found that beginning teachers who were more accepting and open to learning were more effective beginning teachers than those who were more resistant to mentoring. Less effective teachers met less frequently with their mentors and were less realistic about the challenges they were facing and the types of improvements they needed to make to become more effective teachers. The mentors of the more effective beginning teachers also had more mentoring experience than the mentors of less effective beginning teachers.

Davis and Higdon (2008) also examined the effects of a school/university induction partnership on the instruction practices of two groups of beginning teachers in early elementary classrooms. The 10 participants were first-year teachers who had all graduated from the same university programme. One group ($n = 5$) participated in the school/university mentoring programme and received mentoring support from an on-site mentor who was released from classroom responsibilities. This group also received mentoring support from their districts. The other group ($n = 5$) received only the mentoring support provided by their districts. Both qualitative and quantitative data were collected and analysed. Their findings revealed greater growth across a broad range of classroom practices for the beginning teachers mentored by an on-site mentor over the course of the year. Specifically, the results suggested that mentees with on-site mentors demonstrated higher performance than mentees with district mentors on use of materials, instructional methods, teacher-child language and family involvement. Survey results also indicated that mentees received more frequent assistance from their on-site mentors than those being mentored by a district mentor. Taken together, these findings suggest that the frequency of mentor-mentee interactions and perceived accessibility of the mentor is an important component of effective mentoring programmes.

Full-release versus partially released site-based mentors

There was great variability across these studies conducted in primary schools as to how much time mentors are allocated to their mentee. Four of the 10 studies enabled their mentors to be fully released. In Certo's (2005) study, the mentor was allowed time to plan with the mentee but the mentor and mentee also met outside school

hours. Other mentees were released for classroom observations (for example, Roehrig *et al.* 2008, Hudson *et al.* 2009). In Fletcher and Strong's (2009) and Fletcher *et al.*'s (2008) studies, district mentors were given full release; however, on-site mentors performed their role on top of their normal teaching load. Of the 10 studies reviewed, only two studies compared the differences between fully-released versus partially released on-site mentors. Fletcher *et al.* (2008) studied three models of teacher induction in different school districts. At one site, mentors worked full-time for two years with a caseload of 15 new teachers. In the other two districts, mentors worked full-time for the first year, but in the second year either caseloads were increased to 35 or the teachers received the services of an on-site mentor with no release time. Using regression analysis, it was found that classes taught by teachers who had the services of a full-release mentor over two years showed higher gains in student achievement than classes of beginning teachers in the other groups. Their findings suggested that mentoring can have an effect on student achievement if mentors have concentrated contact time with beginning teachers over the first two years.

Similarly, Fletcher and Strong (2009) examined two models of teacher induction in one district. Mentors received the same training but at one school site mentors worked full-time (full release) for two years with a caseload of 12–15 new teachers. At the other site, mentors worked with one or two teachers in addition to their full-time teaching load (site-based). A comparison of student achievement gains of classes taught by fourth-grade and fifth-grade beginning teachers showed greater gains in student achievement for classes of teachers in the full-release group than the partially-released group. Other studies (for example, Certo 2005, Davis and Higdon 2008) have also noted that being given time to mentor the mentee enhances the quality of the mentoring relationship.

Targeted mentoring versus generalised mentoring

Of the 10 studies in this review, seven studies provided information on the broad professional development areas focused on during the duration of the mentoring relationship. Only two studies (Achinstein and Barrett 2004, Stanulis *et al.* 2012) identified a particular focus area for their mentoring programme. Both of these studies suggested that professional growth is enhanced when mentors concentrate on specific teaching practice or teaching beliefs with their mentee.

Stanulis *et al.* (2012) studied 42 beginning teachers who participated in a year-long mentoring programme designed to improve beginning teachers' ability to lead classroom discussions for higher-order thinking. The mentors of the treatment group were hired as full-release mentors to assist beginning teachers build classroom communities that were conducive to leading text-based discussions to promote higher-order thinking. The mentors participated in a university-sponsored programme during which they helped to construct the induction programme; learned, applied and reflected on mentoring; and shared in developing agendas for monthly beginning teacher learning groups. When compared with 41 beginning teachers in same district who did not receive the targeted mentoring treatment, observations revealed that those in the treatment programme improved their practice by learning and enacting the complex practice of leading discussion. It could be implied that intensive, targeted mentoring programme may be more useful in improving begin-

ning teachers' classroom practices than more generalised approaches which cover a range of professional development areas.

Similarly, Achinstein and Barrett's (2004) mentoring programme targeted 15 beginning teachers' conceptions of student diversity and learning. Their study found that in mentor–novice discussions about lessons, beginning teachers tended to view individual student behaviour from a managerial perspective. In contrast, mentors were more likely to perceive students' issues from either a human relationship or political perspective. The mentors assisted the beginning teachers by helping them to gain awareness of the complexity of classroom life by reframing problems using alternative perspectives. The mentors acknowledged that confronting beginning teachers' beliefs and practices was a challenging task. Beginning teachers get locked into a narrow range of classroom practices. However, effective mentors can use their knowledge of how to diversify instruction to guide beginning teachers to improve students' education (Athanasos and Achinstein 2003).

What are the key components of mentoring programmes in primary education?

Beginning teachers need mentors who are skilled in helping them learn in and from practice (Carver and Feiman-Nemser 2009). In this section, attention is given to mentor education and training, the mentors' actions and the mentor–mentee relationship to determine how mentors effectively enhance beginning teachers' knowledge, skills and values (see Tables 4 and 5).

In Table 4 a summary on the reviewed studies is presented with respect to the duration of programme; whether there was information provided about training or professional development for the mentor; whether the research study identified any processes for mentor matching; and the level of mentor/mentee release time for the mentoring programme. These summaries indicate there is great variability in mentoring programmes in terms of the duration of the programme (one to three years). Furthermore, only five of the studies matched the mentor to the mentee based on grade or other demographic characteristics.

In Table 5 the specific features of the mentoring activities identified across the studies and the actions of mentors are summarised. In terms of mentoring activities the most common activities were lesson planning conversations, observations in the classroom, post-classroom observation reflection and mentees observing other teachers' classrooms. In terms of the success of the mentoring programmes overall, the inclusion of questioning and reflection, guiding teaching strategies and providing feedback seem to be the most common activities in which mentors engaged.

Mentor education and training

Of the 10 studies reviewed, eight studies described mentors as experienced and/or trained. However, only four studies (Certo 2005, Roehrig *et al.* 2008, Davis and Higdon 2008, Stanulis *et al.* 2012) provided specific information about the education and training and/or continued professional development offered to mentors. One of the more rigorous studies in terms of education and training was reported by Stanulis *et al.* (2012). Mentors in their study received year-long intensive support from the university. Support included: monthly three-hour study groups structured as professional learning communities where mentors and university staff were co-learners; monthly one-on-one coaching with a mentor and university staff member where

Table 4. Characteristics of mentoring programmes.

	Achinstein and Barrett (2004)	Certo (2005)	Davis and Higdon (2008)	Fletcher <i>et al.</i> (2008)	Fletcher and Strong (2009)	Grudnoff (2012)	Hallam <i>et al.</i> (2012)	Hudson <i>et al.</i> (2009)	Roehrig <i>et al.</i> (2008)	Stanulis <i>et al.</i> (2012)
Programme	BTSA – Beginning Teacher Support and Assessment	School-based programme	Teacher Fellows Programme – contracted by university	BTSA – Beginning Teacher Support and Assessment	BTSA – Beginning Teacher Support and Assessment	School-based programme	District-based programme	School-based programme	School-based programme alongside university-sponsored intervention – modelling of effective teaching strategies by an exemplary teacher	University-sponsored intervention based in principles of instructional quality
Duration of programme	2 years	1 year	1 year	2 years	2 years	1.5 months	3 years	1 year	1 year	1 year
Evidence of mentor training/professional development	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Evidence of mentor matching	No	Mentor taught same grade as mentee	Yes – by school site and or demographics and grade level	No	No	No	Only for school site mentors. Not for district mentors	Yes in some cases	Mentor taught same grade as mentee	No
Mentor/mentee release time	Mentor given full release	Mentor given planning time with mentee but additional meetings were held outside school hours	Mentor released from classroom teaching	District mentor given full release. Site-based mentors performed their role on top of their normal teaching load	District mentor given full release. Site-based mentors performed their role on top of their normal teaching load	The majority of mentees received 0.2 time allowance/one day per week with their mentor	Yes	Mentee released for observations of other teachers	Mentee released for observations of other teachers	Mentor given full release

Table 5. Mentoring role.

	Achinstein and Barrett (2004)	Certo (2005)	Davis and Higdon (2008)	Fletcher <i>et al.</i> (2008)	Fletcher Strong (2009)	Grudhoff (2012)	Hallam <i>et al.</i> (2012)	Hudson <i>et al.</i> (2009)	Roehrig <i>et al.</i> (2008)	Stanulis <i>et al.</i> (2012)
Mentoring activities										
Lesson planning conversations	x	x				x				x
Post-classroom observation reflection	x		x			x			x	x
Analysis of student work	x									x
Sharing resources	x	x	x							x
Goal-setting	x									
Curriculum/assessment planning		x	x				x	x		
Mentee observes other teachers		x						x	x	
Collaboration and networking with other teachers			x				x			
Professional development seminars for beginning teachers			x					x		
Actions of mentor										
District procedures, guidelines and expectations		x	x			x		x		
Emotional support		x				x				x
Informational support		x				x				x
Encouraged questioning and reflection		x	x			x			x	x

(Continued)

Table 5. (Continued).

	Achinstein and Barrett (2004)	Certo (2005)	Davis and Higdon (2008)	Fletcher et al. (2008)	Fletcher and Strong (2009)	Grudhoff (2012)	Hallam et al. (2012)	Hudson et al. (2009)	Roehrig et al. (2008)	Stanulis et al. (2012)
Encouraged experimentation to resolve problems		x				x	x			x
Mentor observations of classroom teaching	x		x			x	x		x	x
Modelling lessons/ pedagogical techniques	x				x	x			x	x
Assisted mentees with teaching strategies		x	x	x		x			x	
Feedback		x	x			x	x		x	x

mentors brought data from their mentoring practice to analyse and discuss; and frequent email communications to resolve any issues that arose. Throughout the year, mentors had time to learn, practice, analyse and share their mentoring work. In the comparison condition, the mentors did not have a formal induction curriculum, no selection criteria for choosing mentors, no formal expectations for mentor preparation or mentoring activities. Beginning teachers were not given prepared, fully-released mentors to assist them in learning how to lead higher-order classroom discussion. Stanulis *et al.* found that unlike the beginning teachers who were given mentors with explicit training and guidance, the control group did not show significant differences in their ability to lead higher-order classroom discussions over the duration of the programme.

Mentor education and training appears to be an important component of effective mentoring for beginning teachers. Mentors require knowledge, skills and dispositions across several areas (Athanases and Achinstein 2003). It is not enough to have expertise in teaching, they also need to be competent at mentoring (Wang and Odell 2002). It would seem that mentors who do not receive adequate formal training find it more difficult to provide direct feedback and instigate changes in the mentee's beliefs and teaching practices (Roehrig *et al.* 2008). Other researchers support this finding. According to Glasford and Salintri (2007) mentor training is a key contributor to the success of mentoring programmes. Aspfors and Fransson (2015) recommended a systematic, long-term, research-informed approach to mentor education to develop mentors capabilities.

Mentor actions

In this review, seven of the 10 studies identified the type of support and guidance offered to beginning teachers although there was a distinct lack of consistency across studies as to how mentors enact their role. In Certo's (2005) qualitative case study it was revealed that there is a substantial amount of time, energy and requisite skills required to be a quality mentor. Certo conducted three one-hour in-depth interviews of both the mentor and mentee over the course of two years. Daloz's (1999) mentoring framework was used to examine the mentoring approach adopted by the mentor. The mentor supported and challenged her mentee. Supportive functions included listening, providing structure, expressing positive expectations and serving as an advocate for the mentee. Challenging actions included sharing information and observations, insights and perceptions, and theories and interpretations that raise questions about the beginning teacher's current views, inviting them to consider alternatives.

In contrast, Achinstein and Barrett (2004) analysed three mentor–novice case-study vignettes and noted how mentors influenced beginning teachers' conceptions of student diversity and learning. Situated in a culturally diverse elementary school, mentors modelled teaching practices, collected data about students' understandings and analysed student work with the mentee to help reframe the mentee's thinking about student problems. They also built on their mentee's strengths and shared effective teaching strategies with the mentee.

Grudnoff (2012) examined 12 beginning teacher's experiences in New Zealand in the first six months of teaching and reported that the majority of participants reported regular informal interactions with their mentor, with one-half of the participants seeing their mentor daily. Grudnoff's study suggested that mentors

placed greater emphasis on making novices feel accepted and part of the school culture than on improving the mentee's teaching.

Similarly in an Australian study, Hudson *et al.* (2009) explored the experiences of eight beginning teachers as they negotiated their first year of teaching. Data gathered through interviews and emails revealed that only one beginning teacher had received assistance from their mentor in long-term planning for improving teaching and learning, only one teacher had been given opportunities to visit classrooms of more experienced teachers, and only one beginning teacher was given a reduced workload and release time to meeting with their mentor and discuss their development. While most beginning teachers were satisfied with how they were welcomed to the school, only one participant was satisfied with the mentoring process.

Taken together, these studies reinforce the diverse skills required to be an effective mentor in primary education. It is not enough to make the mentee feel welcome to the school, a mentor must be able to provide observations and constructive feedback to enhance beginning teachers' knowledge, skills and practices. These findings also highlight the importance of mentors undertaking education and training so that they understand their role and responsibilities and are equally comfortable providing educative and emotional support to beginning teachers as they navigate their way through the early years of primary teaching.

Mentor–mentee relationship

Three studies highlighted the importance of a respectful, trusting personal relationship between the beginning teacher and their mentor. Certo's (2005) study revealed that when the mentoring relationship is viewed as a reciprocal relationship, both the mentor and mentee benefit from reflecting on their teaching practices and sharing ideas. Roehrig *et al.*'s (2008) study demonstrated that more effective beginning teachers communicated more frequently with their mentors about topics of instruction and management issues compared with less effective teachers. Hallam *et al.* (2012) support this finding. They recommended that principals match mentors with mentees carefully by considering the compatibility of mentoring characteristics, including experience teaching the same grade level, disposition toward collaboration, close proximity for easy access and the potential for establishing a supportive, personal relationship. They proposed that when a trusting, caring relationship is established, beginning teachers grow in confidence, sense of autonomy and job satisfaction (Hallam *et al.* 2012).

Discussion

This integrative review of 10 empirical studies (qualitative and quantitative) published since 2000 explored the nature of mentoring programmes for beginning teachers in the primary education sector. Overall, these studies did not provide a clear definition of the term mentoring and how it might be distinguished from the term induction. Instead, empirical studies commonly use the terms induction and mentoring interchangeably. Future research must distinguish between these terms to enable the effects of mentoring to be studied accurately. It was deduced from the literature that the term induction involves a short-term, structured approach to orientate beginning teachers to the profession. Mentoring extends beyond the induction programme and involves two major overlapping stages. First, a respectful, trusting

relationship is established between the experienced teacher and the beginning teacher. Second, the mentor – through collaborative, reflective conversations – assists the beginning teacher to establish clear professional development goals and progress towards becoming an effective teacher. The duration of the mentoring relationship typically ranges from one to three years.

An important variation across studies was the differences in the processes by which mentors were assigned to beginning teachers. In future development of mentoring programmes for beginning primary school teachers, researchers should clearly delineate the purpose of mentoring and how mentoring was actioned. For example, mentoring may include support, supervision and collaborative self-development (Kemmis *et al.* 2014). Making these distinctions explicit will determine how and what outcomes of mentoring programmes will be evaluated to establish programme effectiveness.

This review identified differences in the models of mentoring implemented in primary schools. Findings from this review indicated that, in their first year of teaching, beginning teachers considered that on-site mentors who were available to provide immediate support were viewed as more valuable than mentors who were off-site and visited infrequently. Access and availability of the mentor made it more likely that beginning teachers would stay in the profession (Hallam *et al.* 2012). Furthermore, mentoring had more positive effects on student achievement if the mentoring programme provided weekly, one-on-one contact and if the pairing process between mentors with mentees received careful attention (Fletcher *et al.* 2008, Fletcher and Strong 2009). Increased attention to the processes of pairing mentors and mentees is warranted, as well as recognising that teaching release for the mentor increases effectiveness. This is a key issue for the resourcing of mentoring programmes.

Surprisingly, it was difficult to determine from the descriptions provided in the reviewed studies the specific nature and outcome of the mentoring activities. In future studies of mentoring programmes, more explicit explanations of the mentoring activities are therefore necessary. Significant changes to teaching practices or teaching beliefs could only be identified when there were targeted approaches to address specific skills and the change in those skills was evaluated over time (Achinstein and Barrett 2004, Stanulis *et al.* 2012). Recognition that mentoring is ‘a two-way street, with each party learning and taking ideas from the other’ is also important to ensure sustainability of the mentoring relationships (Certo 2005, p. 3). Mentors require a range of inter-personal and intra-personal skills to provide effective personal and instructional support to mentees (Certo 2005). Capacities for supporting the development of critical reflection in practice can ensure that mentor teachers contribute to the enrichment of a school culture in which peer professional learning and support is valued. To ensure mentors understand the purpose of the role and how to fulfil the role competently, formalised training is required.

There were cases in these research studies of mentoring programmes in which mentees were not observed or given feedback about their performance from mentors (Hudson *et al.* 2009, Grudnoff 2012). This implied that the role of the mentors was considered an emotional support role only and was not about providing mentees with performance feedback, or it could have been that mentors were not comfortable in providing feedback to teaching colleagues (Moyle *et al.* 1999). However, underlying the concept of mentoring for beginning teachers is that constructive feedback will enhance teaching practices. Mentoring programmes that offer beginning

teachers only emotional support without challenging them to reflect and reframe their teaching beliefs and practices are not likely to enhance the quality of teaching or student learning outcomes. According to Yusko and Feiman-Nemser (2008), some form of evaluation for the beginning teacher is integral to promoting and gauging teaching quality. However, incorporating an evaluative component in mentoring programmes remains somewhat controversial. Some educators argue that the function of providing support for new teachers and reviewing their performance are incompatible goals. Others would argue that effective mentoring programmes are those that provide mentees with formative and summative feedback focused on national professional standards for teachers (Curran and Goldrick 2002). How the processes in mentoring programmes serve to enhance beginning teachers' capacities to meet professional standards of teaching is important to enhancing student learning outcomes. Developing an evaluative stance about one's teaching is the basis for critical reflection and improved performance (Benade 2015). Supporting an evaluative stance should underpin the delivery of effective mentoring programmes to beginning teachers.

From this review, it could be concluded that to date there are a number of limitations on mentoring programmes for beginning teachers in primary schools. A number of recommendations emerge from this review and provide directions for future research. One limitation was the lack of clarity in the explanations provided about the explicit responsibilities that mentors might have to assist the beginning teacher to achieve the levels of performance expected with any professional standards for quality teaching which applied in the national context in which the mentoring programme was delivered. While some studies reported changes in the effectiveness of beginning teachers' practices, how such changes aligned to the professional standards of teaching in specific national contexts was not identified. There was also a lack of feedback provided to the beginning teachers. Future studies evaluating the effectiveness of mentoring programmes should consider how the practices of beginning teachers are in line with mandated national professional standards and incorporate the specific ways in which feedback to the beginning teachers will be provided. Mentoring programmes that are designed to merely support beginning teachers may look quite different to mentoring programmes that specifically focus on the quality of teaching and student learning outcomes which may be outlined in professional standards.

Finally, a critical issue identified in the 10 studies reviewed was the failure to delineate and identify the distinctive contextual features of the primary school classroom in the development and implementation of mentoring programmes for beginning teachers. The primary school sector requires more targeted, rather than generic, approaches to developing effective beginning teachers. Were assumptions about nature of teaching in primary schools implicit within the mentoring programmes rather than being made explicit? In Australia, primary education plays a vital role in the early development of students' knowledge, skills, understanding and values to become responsible global and local citizens (Ministerial Council on Education, Employment, Training and Youth Affairs 2008). Primary education is a vital phase of schooling in supporting the early engagement of learners in educational settings. How do the professional standards apply in these specific primary school contexts? How will curricula be differentiated to meet and support young learners' engagement? Enhancing the quality of teaching and improving the educational outcomes for primary school students should be a central concern in planning and

implementing effective mentoring programmes for teachers in primary schools. Future research could address this research gap by clearly acknowledging the influence of context on how the mentoring programme is planned and delivered.

Conclusion

This integrative review demonstrated that there is limited research investigating beginning teacher mentoring outcomes in primary schools, with few studies reporting carefully designed, rigorous studies. The impact of mentoring on improved teaching practices and student learning outcomes in primary school remains unclear. The literature reviewed provided some insights about factors that may enhance mentoring programmes for beginning teachers in the primary school context. The findings identified that establishing regular interactions between mentor and mentee is important as well as the development of a trusting and collaborative relationship. These factors are the basis for establishing an effective mentoring relationship. Critical elements for effective mentoring include some consideration of matching the beginning teacher with a mentor who may teach in the same grade level. Release of the mentor from some classroom duties and the scheduling of regular co-reflective meetings with the mentee are also important.

Directions for further research identified include the need to consider how the context of beginning teacher mentoring programmes in primary schools will be addressed in the programme planning and delivery. The development of a shared understanding of the purposes of the mentoring is also important. The responsibilities of mentors must also be clearly delineated. Defining common criteria for evaluating and measuring the effectiveness of mentoring programmes in primary schools can build stronger knowledge bases about what constitutes an effective mentoring programme.

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