Influencing beginner teachers' autonomy: the impact of mentorship in fostering self-directed learning

Thabang Donald Mokoena
North-West University, Vanderbijlpark, South Africa, and
Gideon Petrus van Tonder
Faculty of Education, School of Commerce and Social Studies in Education, North-West University, Vanderbijlpark, South Africa

Abstract

Purpose – This paper aims to determine the impact of mentorship on the development of self-directedness among beginner teachers in their initial years of teaching.

Design/methodology/approach – The researcher adopted a positivist paradigm to explore the situation of concern. Quantitative research was conducted, involving the collection and analysis of numerical data. Two closed-ended structured questionnaires were utilised, derived from the 40-item self-directed learning readiness scale (SDLRS) developed by Fisher and King, and a pre-determined questionnaire by Glazerman focused on the first-year teaching experience, induction and mentoring of beginner teachers.

Findings – Beginner teachers merely relying on the knowledge obtained from their studies is insufficient to achieve a satisfactory level of self-directedness when starting a teaching career. Most beginner teachers faced significant challenges in their early years of teaching due to the absence of mentoring support. In addition, most indicated that they resume their teaching duties and rely on their district for general support, guidance and orientation. Finally, the results have shown that mentoring positively impacts beginner teachers' self-directedness.

Research limitations/implications – The first limitation was that this study was narrowed to one South Africa University part-time B.Ed honours students working as beginner teachers in different provinces at primary and secondary schools. As a result, the findings of this research might be interpreted by some critics as one-sided and not representative of the views of most beginner teachers in South Africa who are working. The second limitation of this study is the sample size. In this study, 222 responses were received. As a result, the findings of this research might be considered not representative of the target sample size.

Practical implications – The presence and effective implementation of mentoring programmes in schools can positively impact beginner teachers' professional development and retention during their first years of teaching.

Social implications – We contend that our research holds significance for international readership as it aims to garner attention towards potential research endeavours in diverse settings concerning mentorship programs for beginner teachers, specifically promoting self-directed learning. Our research offers opportunities to compare our findings with studies conducted in more comprehensive, comparative contexts and foster research possibilities in broader, contrasting contexts.

Originality/value – Based on the findings of this research, the availability and effective use of mentoring programmes would significantly affect beginner teachers' self-directedness, improve their retention rate and alleviate their teaching challenges. This study was the first research on the perceptions of the influence of mentoring on the self-directedness of beginner teachers.

Keywords Mentoring, Induction, Self-directedness, A beginner teacher, Teaching practice

Paper type Research paper

Introduction

In the dynamic landscape of 21st-century education, the role of teachers is more crucial than ever. As Tican and Deniz (2019) underscore, modern teaching demands self-directedness and extensive training to cultivate essential competencies. Yet, the journey is fraught with challenges, especially for beginner teachers. Their path is often marred by a lack of professional support and mentoring, a problem highlighted by researchers like Beach (2017), Dean (2017), and Oppenheimer (2017). This gap in guidance not only hampers their development but also contributes to alarmingly high attrition rates.

Dean (2017) and Oppenheimer (2017) point out that insufficient mentoring and support are leading causes of beginner teachers leaving the profession. Louws et al. (2017) delve deeper, identifying factors like subpar leadership, ineffective communication and inadequate principal support as key contributors to this trend. This lack of support leaves many beginner teachers disillusioned and dissatisfied, struggling to apply their theoretical knowledge in the practical teaching world.

Sun (2016) brings to light a concerning statistic: many beginner teachers, unsupported and underprepared, are likely to abandon their profession within the first five years. This alarming trend underscores the critical role of experienced teachers as mentors, a concept supported by researchers like Choi et al. (2019), Ellis et al. (2020), and MacPhail et al. (2019). These mentors are pivotal in helping new teachers manage their learning and adapt to the complexities of the workplace.

The concept of teacher self-directedness, as defined by Beach (2017), includes self-management (SM), self-monitoring, motivation, resourcefulness and problem-solving skills. However, these attributes hinge heavily on professional development initiatives that foster teacher autonomy and the practical application of pedagogical knowledge. Darling-Hammond (2017) categorises schools that excel in promoting self-directed learning (SDL) as "learning organisations." In these environments, teachers are encouraged to continuously seek new ideas and update their knowledge, enhancing the quality and relevance of education provided to students.

Yet, there exists a contrasting perspective. Some institutions, as Fantilli and McDougall (2009) note, overestimate the preparedness of beginner teachers, assuming their tertiary-level teaching experience equates to the expertise of seasoned professionals. This mindset overlooks the necessity of mentorship and continuous professional growth.

Erawan (2019) highlights a critical aspect: many new teachers leave the profession due to a lack of professional support, often overwhelmed by challenges such as managing student behaviour, heavy workloads and diverse educational needs. Hudson (2016) adds that these pressures can lead to worry, despair, and stress among beginner teachers. Kidd et al. (2015) link the lack of mentorship to the high dropout rates of beginner teachers, emphasising the need for support mechanisms like orientation and mentorship programs.

In conclusion, the journey from a beginner to an experienced teacher is complex and multifaceted. As Callahan (2016) and Richards and Farrell (2016) argue, beginner teachers often enter the field with misconceptions about the challenges they will face, assuming their university education has fully prepared them. It is imperative that educational institutions recognise and address these gaps, ensuring a supportive transition from theory to practice for beginner teachers.

Problem statement

Transitioning from tertiary education to the teaching profession is a critical period for beginner teachers. Richards and Farrell (2016) highlight the tension experienced by new teachers who, despite their formal education, often find themselves unprepared for the realities of classroom management, subject methodology and interpersonal dynamics in

schools. This unpreparedness can lead to significant strain, potentially resulting in resignation from the profession.

Hine and Thai (2019) assert that the practical teaching experiences offered by tertiary institutions are inadequate for fully equipping beginner teachers with the skills necessary for self-directed and effective teaching. This gap in preparedness is exacerbated by high administrative demands and pressures inherent in the teaching profession, as noted by Van Tonder and Fourie (2015). These challenges can lead to severe mental stress and breakdowns, particularly for those without access to mentorship programmes.

Callahan (2016) emphasises the importance of collaboration between tertiary institutions and schools to foster a degree of self-directedness in beginner teachers through practice teaching and mentoring. However, Ampofo *et al.* (2019) observe that some schools misconceive simple support from a department head as sufficient mentoring, which often fails to meet the needs of beginner teachers.

Richards and Farrell (2016) further reveal that many beginner teachers express dissatisfaction with their workplace orientation and mentoring, feeling inadequately supported and unfairly compared to more experienced colleagues. This sentiment is echoed by Du Plessis (2013), who cites poor leadership, communication and lack of principal support and mentoring in the South African education system as factors contributing to the dissatisfaction and discouragement among beginner teachers.

Sun (2016) points out the alarming trend of beginner teachers leaving the profession within their first five years, primarily due to insufficient support or preparation. This underscores the necessity of mentorship by more experienced teachers, a view supported by Bressman *et al.* (2018), Choi *et al.* (2019), Ellis *et al.* (2020) and MacPhail *et al.* (2019), who advocate for the role of mentors in enhancing the proficiency and retention of beginner teachers in the field. Geared toward a possible solution for the mentioned problems, this article aims to answer the following research question: What difference does a mentoring process make in beginner teachers' perceptions concerning the nature of their self-directedness?

The theoretical framework

Vygotsky's social constructivist theory highlights the zone of proximal development (ZPD) as the gap between what learners can achieve independently and what they can achieve with guidance (Vygotsky, 1978). As Richards and Farrell (2016) noted, this theory is particularly relevant for beginner teachers facing challenging tasks. Geduld (2014) emphasises that the theory promotes collaborative learning and social interaction in developing self-directedness. Manning (2007) identifies SDL as a key element of adult learning theory, which includes various approaches like andragogy and experiential learning.

Literature review

The literature review presents a succinct overview of the main concepts that stood central to the research reported in the article.

Mentoring

Eby *et al.* (2007) state that mentoring

> reflects a unique relationship between individuals", "mentoring is a learning partnership", "mentoring is a process, defined by the types of support provided by the mentor to the protégé", "a mentoring relationship is reciprocal, yet asymmetrical" and "mentoring relationships are dynamic; the relationship changes over time (p. 10).

Dağ and Sari (2017, p. 115) define mentoring "as a learning partnership between a more experienced individual and a less experienced person in the occupational context." Mentoring involves regular meetings, ongoing engagement and a significant time commitment between mentors and mentees Callahan (2016), Michailidi and Stavrou (2021). According to Cobbold (2014), a mentor is someone with specialised knowledge who can effectively guide and support adult learners. However, not every experienced teacher is necessarily a suitable mentor (Callahan, 2016). Schulleri (2020) asserts that mentoring plays a vital role in enhancing the retention of beginner teachers by providing them with the necessary skills and knowledge to succeed in their teaching responsibilities and fostering the self-directedness of beginner teachers. Mentoring provides beginner teachers with an understanding of social and cognitive development. It nurtures and guides beginner teachers on the roles and responsibilities they need to fulfil to reach expected pedagogical competence (Nopriyeni and Sulaiman, 2022). Callan (2016) explains that the principal, as the first accounting official at school, is responsible for creating a positive teaching and learning environment and fostering sustainable and positive relationships between a mentor teacher and a beginner teacher by establishing a culture that supports mentoring. Mentoring aligns with constructivism, as it helps beginner teachers build on their prior knowledge and engage in creative thinking (Neutzling et al., 2019). Beginner teachers' mentors provide beginner teachers with learning opportunities to think creatively by constructing meaning and exploring teaching (Neutzling et al., 2019). Enabling self-directedness through mentoring occurs through collaborative efforts guided by a social constructivist approach. Although mentoring is typically observed in formal professional or educational settings, several studies have shown that it can also occur spontaneously or informally (Eby et al., 2007; Ensher et al., 2003). According to Morris (2019), the active involvement of the beginner teacher in the comprehensive and diverse aspects of mentorship is emphasised within the SDL framework.

A beginner teacher may acquire the following benefits discussed below.

Components of a beneficial mentoring programme

White and Mason (2006) state that a good mentoring programme includes providing positive reinforcement, facilitating two-way communication and collecting and reacting to feedback. These are discussed in more detail below.

(1) Encouragement and support

Schuck et al. (2018) emphasise the importance of encouraging and supporting beginner teachers as a significant step toward improving retention. Schuck et al. (2018) add that beginner teachers who participate in a mentoring preparation programme benefit from receiving not only pedagogical support but also emotional support, which enables them to survive the inevitable challenges of the teaching profession. Furthermore, the encouragement of beginner teachers while executing tasks independently alongside their mentors leads to improved self-efficacy, professional identity development, independence and confidence (Walker and Kutsyuruba, 2019).

(2) Open communication

Personal and professional relationships established through mentoring promote a component of open communication (Barrett et al., 2019). A mentor teacher who is reckoned to be an experienced teacher is allowed to establish face-to-face meetings and virtual meetings with a beginner teacher where they will network, share ideas and knowledge, and collaborate on curriculum developments. In addition, beginner teachers are also entitled to confide and seek advice from their mentors, even with personal issues, especially when it negatively impacts their work (Barrett et al., 2019). Therefore, frequent and open

communication between a mentor teacher and a beginner teacher, which aligns with social constructivist theory, is essential in promoting a healthy professional relationship without communication breakdowns and misunderstandings. The study conducted by Wolff *et al.* (2020) highlights the significant impact of mentoring on the development of SDL tendencies, emphasising the crucial function of feedback within the mentoring framework.

(3) Feedback

Wexler (2020a) explains feedback as essential information that a mentor teacher provides to a mentee, intending to provide professional development to improve their work performance. Feedback can be formal or informal, written or verbal. Jones *et al.* (2019) elucidate that formal feedback is given after a scheduled lesson observation and focuses on assessing teaching quality and identifying areas for improvement. Informal feedback involves regular communication between the beginner and mentor teacher to improve self-directedness. Wexler (2020a) denotes that formal or informal feedback to a beginner teacher must be focused, progressive and constructive enough to address professional development goals during the mentoring period. Both types of feedback are decisive for professional development and building relationships between colleagues. However, some challenges emerge in mentoring programmes that can hinder the development of beginner teachers.

Challenges with a mentoring programme
The social constructivist nature of mentoring programmes is reckoned to be the most effective tools that promote self-regulation, self-directedness, support and encouragement, professional working relationships and professional development (Hagenauer *et al.*, 2021, p. 2). Beginner teachers often leave the profession too soon due to a lack of professional support that prevents the implementation of effective mentorship programmes (Ngwira and Potokri, 2019). However, there is still a challenge to the attrition rate of beginner teachers occurring post-implementation of mentoring (Hagenauer *et al.*, 2021). A lack of a quality working relationship between a mentor teacher and a mentee can negatively impact the mentoring process, as the quality of work performance will not improve. Hagenauer *et al.* (2021) explain that some beginner teachers are not cooperative in task execution. Others do not take constructive criticism well and develop a negative attitude toward mentor teachers. Some mentors are appointed to provide the necessary support and guide beginner teachers through mentoring but are ineffective in executing this role, thus leading to a lack of improvement in work performance and the implementation of problem-solving skills independently (Wexler, 2020b). The mentoring programme components discussed above are often featured in the roles of a mentor and a mentee. These roles are discussed below.

Mentor and mentee roles
Mentor-teacher training should focus predominantly on cultivating essential skills identified in highly effective mentors, as Hobson *et al.* (2009) highlighted. These essential qualities include adeptly working with adult learners, providing emotional support, constructing feedback mechanisms, gradually delegating control and facilitating reflection on teaching and learning. Parker *et al.* (2021) emphasise that these deliberate acts of mentor teachers are pivotal in nurturing beginner teachers' professional development and acquiring technical competencies. Moreover, specialised training is crucial for mentor teachers to enhance their communication skills, particularly where challenges are likely to surface, necessitating navigating through difficult conversations (Parker *et al.*, 2021).

Mentor training should also be enriched with objectives aimed at the personal and professional growth of the mentors. This is achieved by opportunities such as shadowing experienced colleagues and engaging in regular formal and informal discussions, which

enhance their mentoring skills (Ambrosetti, 2014). Furthermore, mentors should be integrated into the process of designing and evaluating mentoring programmes, bridging the gap between school and university contexts and addressing the criticism of conventional teacher preparation programmes (Parker *et al.*, 2021). It is also essential that the design and evaluation of mentoring programmes involve mentors in collaboration with university-based lecturers, given the scarce empirical evidence on the effectiveness of such programmes and the potential limitations of hierarchical training approaches.

The professional development and self-directedness of beginner teachers are influenced by one-on-one meetings focussing on constructive feedback, lesson planning, observation of lesson presentations, and sharing of resources (Mukeredzi and Manwa, 2019). This engagement necessitates regular communication, mutual understanding, sharing of ideas and building trust with mentors (Hadi and Rudiyanto, 2017).

In conclusion, both mentors and mentees play integral roles in the professional development process. The symbiotic relationship between mentors and mentees can cultivate a conducive learning environment and foster the development of essential skills and knowledge, thus contributing positively to the teaching profession. Schools must regularly monitor their mentoring programmes to identify areas of concern where there are challenges and implement strategies that will assist the mentoring process in promoting the self-directedness of beginners' teachers effectively. Mentoring enables self-direction through joint efforts guided by a social constructivist approach.

Self-directed learning

The existing body of knowledge on SDL indicates that the concept of SDL is not new, as Du Toit-Brits (2018, p. 54) states that "through the previous decades, SDL has been a dynamic area of enquiry in adult education and learning." The concept of self-directedness is derived from the educational approach known as SDL, which has been the subject of extensive research, theoretical exploration and practical application for over fifty years. According to the classifications proposed by Hiemstra and Brockett (2012) and Tough (1978), SDL can be understood as both a human quality, wherein humans possess the ability and are highly self-directed in their learning endeavours and as a process for organising learning activities. SDL is characterised by individuals' inherent predisposition towards this particular learning mode and their ability to autonomously engage in the learning process. SDL is an educational approach wherein learners take responsibility for their own learning process (Van Tonder *et al.*, 2021). Knowles (1975) is well-known for his definition of SDL as

> a process in which individuals take the initiative, with or without the support of others, to identify their learning needs, formulate learning goals, identify human and material resources for learning, select and implement appropriate learning strategies, and assess learning outcomes (p. 18).

According to the international society for self-directed learning (ISSDL) (2020), "self-directed learning is an intentional process guided and evaluated by the learner." This is crucial for workplace learning activities and results in learners' ability to direct their own learning. Self-directedness, an outcome of SDL, entails the learner's ability to set distinct learning goals and employ the proper resources to achieve them.

According to Burkšaitienė *et al.* (2021), for beginner teachers to achieve self-directedness, they must:

(1) Direct their learning and be accountable.

(2) Construct meaning in their own learning processes.

(3) Develop new skills and complete tasks.

(4) Acquire techniques for ongoing self-development.

(5) Exercise control over personal and educational decisions.

The development of self-directedness in beginner teachers is anchored in Vygotsky's theory of social constructivism, which posits that new knowledge is constructed through engagement in various activities and interactions with peers and mentors. Furthermore, this concept incorporates elements of humanism, a paradigm emphasising human freedom and the realisation of individual potential (Mukhalalati and Taylor, 2019). As an adult learning theory, SDL is particularly effective when combined with social constructivism and humanism. Additionally, it facilitates a learning environment where beginner teachers can cultivate self-directedness, capitalising on both the opportunities presented to them and those they create independently. SDL is particularly vital for beginner teachers because of the rapidly changing professional landscape (Morris, 2019). SDL, which correlates with constructivist theory, is a fundamental learning process aimed at developing professional and social competence in three dimensions: professional learning, which entails task management; learner personality characteristics, which involves self-efficacy and task execution; and finally, factors that influence the likelihood of a beginner teacher pursuing SDL (Sawatsky *et al.*, 2017). Social constructivism allows teachers to construct new knowledge through activities and interactions with peers and mentors. On the other hand, humanism emphasises the human freedom to achieve one's full potential (Mukhalalati and Taylor, 2019).

The researcher argues that the department of basic education (DBE) should encourage SDL at all levels to improve SM, desire to learn and self-control (SC) among both beginners and experienced teachers. SDL is a multi-faceted, ongoing process essential for beginner teachers' professional development. It argues for its integration into educational systems and synergy with other learning theories for optimal outcomes. SDL promotes lifelong learning, which teachers require for their own professional growth and development (Van Tonder and Du Toit, 2020).

Challenges beginner teachers experience during their first years of teaching
Beginner teachers transitioning from tertiary institutions to full-time teaching roles often experience a "reality shock," feeling unprepared for the multifaceted challenges and emotional demands of teaching, including managing learner discipline and adapting to new working environments (Botha and Rens, 2018; Kozikoglu, 2017; Schonert-Reichl *et al.*, 2017). These challenges are compounded by insufficient training, mentoring and professional support, leading to difficulty understanding and integrating into new school cultures and environments, especially in areas with limited resources (Du Plessis and Mestry, 2019; Obadire and Sinthumule, 2021).

This unpreparedness extends to a lack of practical knowledge in managing disciplinary issues, understanding learners' diverse needs and adjusting to new duties and interpersonal relationships (Kiru, 2020; Van Tonder and Fourie, 2018; Wolff *et al.*, 2015). Moreover, the extensive administrative and professional duties, coupled with overcrowded classrooms and workload, overshadow core teaching responsibilities, contributing to increased stress and early exits from the profession (Meier and West, 2020; Squillaci, 2020).

Effective strategies, such as professional anticipatory and organisational socialisation, are essential to mitigate these challenges, fostering teamwork, professional identity and a better understanding of organisational culture, norms and values (Chaney *et al.*, 2020; Köybasi and Ugurlu, 2019; Tahir *et al.*, 2018).

According to Mohammed and Kinyo (2020), adult learning is an ongoing process, and beginner teachers are classified as adult learners. Vygotsky's social constructivist theory

suggests that mentorship is highly beneficial for beginner teachers, who can benefit from the guidance of experienced teachers. Through scaffolding, these mentors can support beginner teachers through the ZPD, equipping them with the necessary skills and knowledge to overcome the challenges they encounter during their first years of teaching and encouraging them in their path towards self-direction.

Research methodology

The following sections briefly overview the methodological approaches to gathering and analysing relevant data.

Research design

A research design is defined by Cohen *et al.* (2018) as a conceptual framework that delineates the strategy, theories, methodologies and data types employed in investigating, operationalising and resolving a research problem or issue. In the research, a quantitative research design was employed, allowing for pre-determined and structured data collection measurement, where the researcher asked specific, focused questions, numerical data was collected from respondents, statistics were used to analyse these numbers, and the investigation was conducted in an unbiased, objective manner. The positivist paradigm was used by the researcher to explain the situation of concern through the collection and interpretation of numerical data as quantitative research. An instrument, which included two structured, pre-determined questionnaires, was established and sent through a link to Google Forms by an independent person for completion by respondents. The quantitative survey method enabled the assessment of opinions and attitudes of various role-players in this study, meaning the role players' (in terms of beginner teachers with different levels of experience) related to education (McMillan and Schumacher, 2010). Furthermore, this method is of significant value as it is specifically developed to collect data from a vast population using a limited sample size (McMillan and Schumacher, 2010).

Population and sampling

This research's target population was all Baccalaureus Educationist (BEd) honours students in South Africa. Due to the impossibility of conducting research with all these students, the research sample included only part-time BEd honours students from the Faculty of Education at a South African University with three campuses. This particular South African University was selected for its convenience of access by the researcher. Owing to the impracticality of researching all the beginner teachers in the target population and due to time and logistical constraints, a non-probability purposive sample was employed to recruit beginner teachers (Leedy and Ormrod, 2019). In the non-probability sampling technique, samples are collected in a process that does not provide equal chances of selection to everyone in the population (Tardherdoost, 2016). Purposive sampling is executed with a specific aim (Maree and Pietersen, 2020). In this study, the researcher purposefully focused on part-time BEd honours students, identified as newly qualified teachers with less than four years of service. Hence, beginner teachers within this South African University were invited to participate in the research. Beginner teachers possessing a few years of teaching experience were selected as they fit the study's aim of determining perceptions about the influence of the mentoring process on the self-directedness of beginner teachers. A sample comprising 300 beginner teachers, who were part-time BEd honours students, was included in the study. The sample size was determined based on Pietersen and Maree's (2020) recommendations for the planned statistical analysis and exploratory factor analysis (EFA). The researcher aimed for a minimum of 210 participants, adhering to Field's (2018, p. 926) recommendation of "at least

10–15 respondents per variable." Consequently, with the highest number of variables within one theoretical construct being 21, at least 210 respondents were required to conduct the EFAs per construct. The final sample ($n = 222$) was characterised by homogeneity in terms of experience while being heterogeneous in the type of school, school environment, gender, age and ethnic groups.

Research instrument
In this study, a closed-ended questionnaire was employed by the researcher. It is stated by Babbie (2020) that respondents are asked to choose an answer from a list provided by the researcher in closed-ended questions. Due to their ability to generate more consistent responses and relative ease of processing compared to open-ended questions, closed-ended questions are prevalent in survey research.

The collection instrument in this study was composed of two structured, pre-determined questionnaires. The 40-item self-directed learning readiness scale (SDLRS) closed-ended questionnaire developed by Fisher and King (2010) was utilised. The SDLRS tool is categorised into three sections: SM with 13 items, desire for learning (DfL) with 12 items and SC with 15 items. The SDLRS focuses on three core factors:

(1) *SM*: Refers to one's capacity for organisation and self-discipline in studies involving metacognition and learning skills (Laine *et al.*, 2021; Peek *et al.*, 2016).

(2) *Desire to Learn*: Focussing on personal characteristics that drive continuous knowledge acquisition and retention, involving motivation and active information construction (Sumuer, 2018).

(3) *SC*: Pertaining to the regulation of thoughts, feelings, emotions and behaviour, essential for maintaining interest in learning and includes skills like goal-setting and decision-making (Duckworth *et al.*, 2019).

A questionnaire modified for this study, developed by Glazerman *et al.* (2006, p. 73) from their previous study, "Design of an Impact Evaluation of Teacher Induction Programs", focused on the first-year teaching experience, induction and mentoring in beginner teachers' first years.

The items were scored using a five-point Likert-style scale, with one representing strong disagreement and five representing strong agreement. Additionally, four items were worded negatively, and their scores were inverted for data analysis.

The data collection tool comprised four sections:

Section A: Biographical information completed by all respondents.

Section B: SDL, completed by all respondents.

Section C: First-year experience completed by all respondents.

Section D: Induction and mentoring, completed only by respondents who underwent an induction or mentoring process.

Respondents took approximately 50 min to complete both questionnaires. The researcher piloted the questionnaire in the Sedibeng East District (D7) of the Gauteng Province to diagnose and correct misunderstandings before distributing it to the sample respondents.

Data analysis process
This section reports on and interprets the collected data. Inferential statistics, supplemented by effect sizes where statistically significant differences occurred, were used to assess the differences in perceptions between beginner teachers exposed to the mentoring process and

those not exposed regarding their self-directedness and preparedness to handle challenges (Tables 3 and 5). *T*-tests were employed to determine if the difference between the means of the two groups was statistically significant (Johnson and Christensen, 2019), along with Cohen's d-effect size. *T*-tests were also used to evaluate the impact of guidance from a mentor on adjusting classroom practices in its absence (*cf.* Table 4). The effect size of the self-directedness of beginner teachers was assessed using Cohen's d test, with "Cohen's d 0.2 indicating a small size effect, 0.5 a medium size effect, and 0.8 a large size effect" (Cohen, 1988, p. 12).

The intended number of responses was at least 210, and 222 were received, constituting a reliable sample for meaningful deductions. Data were represented in frequencies (f) and percentages (%).

Quality criteria

The quality of a quantitative research study is primarily assessed based on the criteria of reliability and validity, as stated by Maree (2020). Reliability is defined by Pietersen and Maree (2020, p. 260) as "the measuring instrument's repeatability and dependability." The reliability of tests and scales used or developed for research purposes can be assessed using Cronbach Alpha, a commonly used indicator (Barbera *et al.*, 2020; Taber, 2018). Guidelines for the interpretation of Cronbach's alpha coefficient, as suggested and generally accepted by researchers, are indicated by Pietersen and Maree (2020, p. 267) as follows:

0.90 – high reliability, 0.80 – moderate reliability, and 0.70 – low reliability.

The validity, based on the meaningfulness and usefulness of specific inferences made by a researcher regarding the data they collect, is highlighted by Fraenkel *et al.* (2012). In this study, validity was ensured by the researcher exploring internal and external validity, face validity, statistical conclusion validity, content validity and construct validity in the following ways: Internal validity was robustly demonstrated as an independent individual assessed the data, ensuring accurate results from beginner teacher honours students in a South African University through a secured Google Forms link (Kalkbrenner, 2021). Results from a sample of North-West University (NWU) honours students were generalised to the broader population of beginner teachers in South Africa, addressing external validity with a focus on the impact of exposure to mentoring (McDermott, 2011). Statistical conclusion validity was maintained, with North-West University statistical services evaluating the appropriateness of applied statistical methods, including Cohen's effect size and *t*-tests (Kirschner *et al.*, 2015). To ensure face validity, the university's statistical services meticulously evaluated the data collection instrument, and a pilot study was conducted to ensure the instrument accurately measured the intended parameters (Yusoff, 2019). The content validity of the tool was assured through comprehensive sections addressing biographical information, SDL, first-year experience and induction and mentoring (Beck, 2020). Construct validity was emphasised to ensure that the scores collectively measured proficiency and the intended purpose (Kalkbrenner, 2021), using English as the medium of instruction to obtain comprehensive responses from respondents, thus validating the quality of the collected data.

Ethical considerations

Rigorous ethical standards were maintained throughout the study. Informed consent, detailing the nature, risks, benefits and voluntary aspects of participation, was obtained from all respondents aged 18 years and older before commencing the empirical study. Recruitment was facilitated by an independent person who avoided using academic time and clarified the study's purpose to potential respondents to prevent any misunderstanding about their role in the research. The questionnaire contained an embedded consent form, allowing respondents

to participate voluntarily and discontinue the survey anytime by closing their browsers. The researcher was isolated from the data collection to ensure the validity of the findings. Efforts were made to maintain participant anonymity and confidentiality, with access to the data restricted to the researcher, supervisors and a statistical consultant, all of whom signed a confidentiality agreement. The data, stored securely on a password-protected computer, would be destroyed after five years. Any potential conflict of interest was mitigated by the researcher's lack of prior knowledge of the respondents. Necessary authorisations were obtained from the relevant North-West University committees, and the researcher may use the findings to propose improvements to the DBE regarding beginner teachers' self-directedness during their initial teaching years.

Data analysis and findings

The researcher wishes to clarify that, based on the advice of the independent statistician, effect sizes are only reported for statistically significant results. In this regard, Kühberger *et al.* (2015, p. 5) also argue "that according to the nullification fallacy, statistically non-significant findings can be interpreted as evidence of no effect, and therefore the effect size should be related as approximately zero."

The impact of the mentoring process on beginner teachers

Good teaching practice is facilitated by mentoring, a training ground in which more experienced teachers oversee, support and advise beginner teachers on the roles and responsibilities they need to fulfil to achieve the required pedagogical competence.

Table 1 shows respondents' status on having a mentor in their first year of teaching.

In Table 1, most respondents (67.6%) have indicated they are experiencing their first years of teaching without mentors. Only 32.4% of the respondents have mentors. Induction and

	Frequency	Percentage
Yes	72	32.4
No	150	67.6
Total	222	100

Source(s): Author's own work

Table 1.
Respondents status on
having a mentor

Do you have a mentor?
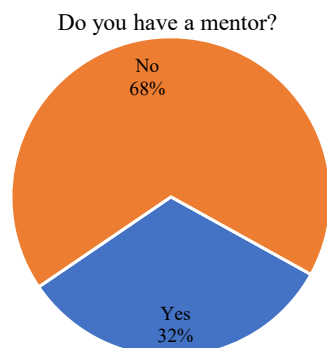
Source(s): Authors' own work

Figure 1.
Respondents with or
without mentors

mentoring are effective when used concurrently (see Figure 1). Beginner teachers who participate in induction and mentoring programmes benefit from pedagogical support and emotional support, enabling them to survive the inevitable challenges of the teaching profession (Schuck *et al.*, 2018). Based on this reason, the researcher is of the view that strategies to develop beginner teachers' self-directedness do not only emanate from induction but also mentoring. Hence, these two programmes must be implemented in conjunction with each other.

Although some mentors assume the mentoring responsibility as formal, others think this role is informal without being assigned by any programme leader (Shillingstad *et al.*, 2014). However, 40.3% of the respondents indicated that no mentors were assigned to them. In comparison, 59.7% have shown that their mentors were assigned to them. Therefore, the researcher believes mentors who assumed the mentoring responsibility without being assigned by the relevant programme leader saw the dire need to support and develop beginner teachers, even if this role is considered informally. In addition, it perceives 59.7% of respondents as beginner teachers who found a formal mentoring programme in place. Hence, they were assigned mentors by the district, principal, head of departments or other relevant education personnel.

Having a mentor and preparedness concerning challenges beginner teachers' teaching experience

Two-sample *t*-tests were done to determine whether mentoring influences the challenges beginner teachers experience who were exposed to and not exposed to mentoring. The results are depicted in Table 3 below.

All the *p*-values are smaller than 0.05. Therefore, the differences in the total preparedness and the differences in both the two factors are statistically significant. The d-values of preparedness and operational instructional management have a significant effect, and the teaching challenges factor has a medium effect. Thus, the means of the two groups differ in all three variables.

The items of preparedness were valued on the following four-point Likert scale.

Poorly prepared	Somewhat prepared	Well prepared	Very well prepared
1	2	3	4

The higher the mean, the further to the right the specific group lies on the Likert scale above, and if the mean of the group that had a mentor is higher than the one that did not have one, then they were more prepared.

Regarding operational instructional management, the mean of the group who attended mentoring is 2.657 (standard deviation (SD) 0.7186) and had a higher level of perceived preparation than those who did not have a mentor (mean = 2.363, SD = 0.674). For the teaching challenges factor, the mean of respondents who attended mentoring is 2.997 (SD 0.551) vs. those who did not (mean = 2.576, SD = 0.553). This means that beginner teachers who took part in mentoring responded that they felt better prepared to deal with teaching challenges than those who did not participate in mentoring.

Thus, the total preparedness of the respondents who attended mentoring has a mean of 3.133 (SD 0.533) vs. those who did not (mean = 2.661, SD = 0.545). On average, the respondents who attended mentoring had a higher level of perceived preparation than those who did not have a mentor.

Challenges related to classroom practice: adjusting classroom practice on mentor's guidance
The paired *t*-test was used to determine how much the beginner teachers who received mentoring were guided in specific areas over the previous three months and how much the beginner teachers adjusted their classroom practice in response to the guidance they received from their mentor over the last three months. The results are depicted in Table 4 below.

Table 4 revealed statistically significant differences, where the *p*-value was smaller than 0.05, for six of the 26 paired aspects related to guidance provided by a mentor and the beginner teacher, then adjusting classroom practice based on the guidance provided. The effect sizes for all the six paired aspects indicated a very small (d < 0.2) to small (d = 0.2) practical effect. The researcher is of the opinion that extended guidance over a longer period might yield improvement in mean scores, which could contribute to more significant practical effects.

Having a mentor and self-directed learning
Two-sample *t*-tests were done to determine whether having a mentor influences the SDL scale. The results are depicted in Table 5 below.

As indicated in Table 5, all the *p*-values were smaller than 0.05, and all the effect sizes were greater than 0.8. This implies that the SDL factors of the beginner teachers who had a mentor are statistically and practically higher than those who did not have a mentor. Therefore, mentoring has a positive impact on SDL.

Considering the statements regarding SDL, the researcher used the 40-item SDLRS closed-ended questionnaire developed by Fisher and King (2010). The lowest means were reported for SDL1, stating that "I solve problems using a plan." (mean = 3.32; SD = 1.03) and SDL6, stating "I set strict time frames" (mean = 3.33; SD = 0.96), indicating that respondents on average feel that these are "Sometimes true of them; they feel this way about half the time". The highest mean was reported for SDL22 stating "I am open to new ideas" (mean = 4.01; SD = 0.97), and SDL24 asserting "I am responsible" (mean = 4.01; SD = 0.95), indicating that respondents, on average feel that these are "Usually true of them; they feel this way more than half the time". Most of the respondents reported on average between "Sometimes true of me; I feel this way about half the time" and "Usually true of them; they feel this way more than half the time", with a mean above 3.5 as measured on a five-point scale, which indicated that the respondents rate themselves high regarding the nature of their SDL skills.

Summary
This research was conducted with a sample of BEd honours part-time students from three different campuses at a South African University. They are working as beginner teachers in primary and secondary schools. Findings indicate that 54.5% of beginner teachers work in public schools in a township, where schools are mostly under-resourced and overcrowded, and learners face various socio-economic issues. From the data analysis, the researcher derived the following significant findings that will enable the researcher to answer the research questions:

(1) Overall, the perceived level of self-directedness measured 3.5 on the five-point Likert scale that was used to collect data, thus indicating that the respondents perceived to be capable of working in a self-directed manner only on a sometimes to usual basis,

(2) in general, the perceptions about preparedness to deal with challenges (*cf.* Table 3) during the beginning years of teaching pointed to a lack of preparedness to deal with teaching challenges, specifically, in working with learners with physical challenges, managing a variety of discipline issues, and dealing with learners with developmental, emotional and behavioural challenges,

(3) the group that received mentoring benefitted more than the group that was not exposed to mentoring concerning dealing with teaching challenges and handling operational instructional managerial challenges. The statistically significant differences had a small practical effect on teaching challenges and a large practical effect on operational managerial challenges (*cf.* Table 3). Overall, the preparedness to deal with challenges of the group who received mentoring was statistically significantly better than that of the group who did not receive mentoring,

(4) guidance during mentoring enabled beginner teachers to adjust their approach to collaboration, plan lessons, use assessment to give information, reflect on instructional practice and adjust teaching to varying ethnic and socio-economic backgrounds (*cf.* Table 4). As indicated, in all mentioned instances, statistically significant differences with a small to very small practical effect were noted between giving guidance and successful adjustment following the guidance and finally,

(5) concerning the comparison of mentoring benefits towards becoming self-directed concerning the three areas of SM, the desire to learn and to display SC between the group who did not receive mentoring, and the group that did receive mentoring, all three mentioned areas of self-regulation in favour of the group who received mentoring (*cf.* Table 5) were observed, with large practical effects. The self-directedness of the group who received mentoring was statistically significantly better than that of the group who did not. Beginner teachers are indicated to be in dire need of mentoring for them to develop self-directedness and overcome the teaching challenges they experience. However, the research results showed that mentoring has a powerful effect on developing self-directedness.

Discussion of findings

The following allude to the findings obtained from the research study, which determines the effects of mentorship on the self-directedness of beginner teachers.

(1) Mentoring assignment and its role

Initially, beginner teachers assigned to mentorship programmes are provided formal mentors, while their peers acquire mentors through informal avenues (*cf.* Tables 1 and 2). The designated time for these mentor-mentee interactions ensures sustained engagement and active participation in professional development activities anchored in the tenets of social constructivist theory. Such an approach significantly promotes self-direction in beginner teachers. Moreover, by engaging in these mentorship programmes, beginner teachers cultivate self-direction, honing their proficiencies in various areas such as co-teaching, lesson modelling,

Assigned mentor	f	%	By whom	f	%
Yes	43	59.7	Not applicable	11	15.3
No	29	40.3	District or Principal	3	4.2
Total	72	100.0	Principal	32	44.4
			Head of department	3	4.2
			Other	8	11.1
			Total	57	79.2
			Missing System	15	20.8
			Total	72	100.0

Table 2.
Assigned mentor

Source(s): Author's own work

meetings with both neophyte and experienced teachers, and teacher observation, all of which aim to enhance their ability to take the initiative and direct their own professional growth. In conclusion, exposure to mentorship facilitates a shift towards self-directedness among beginner teachers. This progression is enabled by providing moral support, encouragement and avenues to discuss concerns. Mentors also offer insight into administrative duties, pedagogical objectives, collaborative lesson planning and the execution of assessments.

(2) Impact of mentoring on preparedness and managing challenges

Table 3 indicates that beginner teachers who received mentoring were significantly more prepared for teaching challenges compared to their non-mentored counterparts. This aligns

	Mean	Std Dev	t-value	p-value	Cohen's D Effect size
Preparedness					
Mentor	3.133	0.533	5.331	0.000**	0.763
No Mentor	2.661	0.545			
Operational instructional management					
Mentor	2.657	0.7186	6.090	0.003**	0.873
No Mentor	2.363	0.674			
Teaching challenges					
Mentor	2.997	0.551	2.912	0.000**	0.427
No Mentor	2.576	0.553			

Note(s): Attended induction: $n = 70$; Did not attend induction: $n = 150$
Source(s): Author's own work

Table 3.
Comparative analysis
of preparedness
constructs in relation to
challenges faced by
beginner teachers in
teaching experiences

		Mean	N	Std. Dev	t-value	p-value	Cohen's d	Effect size
Pair 5	Guidance Collaboration	3.42	68	1.205	−2.115	0.038	0.17	Very small
	Adjust Collaboration	3.62	68	1.099				
Pair 19	Guidance Planning Lessons	3.49	67	1.106	−2.025	0.047	0.19	Very small
	Adjust Planning Lessons	3.70	67	1.073				
Pair 20	Guidance Using Assessments to Inform	3.34	67	1.095	−2.370	0.021	0.23	Small
	Adjust Using Assessments to Inform	3.60	67	1.031				
Pair 22	Guidance Reflecting Instructional Practices	3.34	68	1.205	−2.363	0.021	0.18	Very small
	Adjust Reflecting Instructional Practices	3.56	68	1.084				
Pair 24	Guidance Teaching Varying Ethnic Backgrounds	3.12	68	1.216	−2.938	0.005	0.18	Very small
	Adjust Teaching Varying Ethnic Backgrounds	3.34	68	1.205				
Pair 26	Guidance Teaching Socio-Economic	3.34	65	1.189	−3.052	0.003	0.21	
	Adjust Teaching Socio-Economic	3.60	65	1.235				

Source(s): Author's own work

Table 4.
Paired *t*-test statistics

	Mean	Std Dev	t-value	p-value	Cohen's D Effect size
Self-directed learning					
Mentor	4.189	0.769	7.802	0.000**	1.013
No mentor	3.506	0.682			
Self-Management					
Mentor	4.013	0.633	6.437	0.000**	0.923
No mentor	3.380	0.709			
Desire for Learning					
Mentor	4.275	0.588	7.218	0.000**	0.934
No mentor	3.592	0.791			
Self-Control					
Mentor	4.266	0.5513	8.105	0.000**	1.044
No mentor	3.542	0.7538			

Note(s): Had mentor: $N = 72$; Did not have mentor: $N = 150$
Source(s): Author's own work

Table 5.
Comparison of self-directed learning constructs between mentored and non-mentored individuals

with existing research emphasising the role of mentoring in enhancing pedagogical competence (Schuck *et al.*, 2018).

The group who received mentoring benefitted more than the group who was not exposed to mentoring concerning dealing with teaching challenges ($p < 0.05$, $0 = 0.000$, $d = 0.427$) and managing operational instructional managerial challenges ($p < 0.5$, $p = 0.003$, $d = 0.873$). The mentioned statistically significant differences had a small practical effect on teaching challenges and a significant practical effect on operational managerial challenges (*cf.* Table 3). Overall, the preparedness to deal with challenges of the group who received mentoring was statistically significantly better than that of the group who did not receive mentoring ($p < 0.05$, $p = 0.000$, $d = 0.763$ (medium to large practical effect).

(3) Effectiveness of mentorship in adjusting classroom practices

Data from Table 4 demonstrate the effectiveness of mentoring in enabling beginner teachers to adjust their classroom practices, particularly in collaboration, lesson planning and handling diverse socio-economic backgrounds. This supports the notion that mentorship fosters adaptability in teaching methods (Morris, 2019).

This objective was achieved by comparing the perceptions of beginner teachers who received guidance from a mentor and their counterparts who did not receive guidance from a mentor to establish if guidance from a mentor enabled the teachers to be more effective at adjusting their classroom practice in the absence of guidance.

Guidance during mentoring enabled beginner teachers to be more effective at adjusting their approach to collaboration ($p < 0.05$, $p = 0.038$, $d = 0.17$), planning lessons ($p < 0.05$, $p = 0.047$, $d = 0.19$), using assessment to give information ($p < 0.05$, $p = 0.021$, $d = 0.23$), reflecting on instructional practice ($p < 0.05$, $p = 0.021$, $d = 0.18$) and adjusting teaching to varying ethnic ($p < 0.05$, $p = 0.005$, $d = 0.18$) and socio-economic backgrounds ($p < 0.05$, $p = 0.003$, $d = 0.21$) (*cf.* Table 4).

As indicated, in all mentioned instances, statistically significant differences with a small to very small practical effect were noted between giving guidance and successful adjustment following the guidance. During the last three months (after guidance), beginner teachers seemed to be able to adjust their classroom practices without going back to their mentors for advice in relation to dealing more successfully with adjusting the way they approached

coping with paperwork, the planning of lessons, using assessment to inform, reflecting on instructional practice and adapting teaching to varying ethnic and socio-economic backgrounds. The results indicated that the mentors had successfully implemented mentorship. Considering the items that possibly did not benefit significantly from the guidance received, there is a need for increased guidance efforts to enable beginner teachers to become more adept at adjusting to school culture and school policies, accessing resources, working with other staff members, working with parents, teaching learners of varying ability, reviewing and assessing learners' work, applying classroom management strategies, dealing with discipline, acquiring multiple teaching strategies and techniques, teaching according to standards, motivating learners, teaching special needs learners and learner from varying racial backgrounds (*cf.* Table 4).

(4) Mentoring and enhancement of SDL

Findings from Table 5 highlight a significant improvement in SDL among mentored beginner teachers. This is particularly important considering the role of self-directedness in teachers' professional growth and resilience, as noted in contemporary educational literature (Fisher and King, 2010). Emphasise the observed significant differences in SM, desire to learn and SC between mentored and non-mentored teachers.

Concerning the comparison of mentoring benefits towards becoming self-directed concerning the three areas of SM, the desire to learn and to display SC between the group who did not receive mentoring, and the group that did receive mentoring, statistically significant p-values, $p < 5$, $p = 0.000$ for all three mentioned areas of self-regulation in favour of the group who received mentoring (*cf.* Table 5) were observed, with significant practical effects, $d > 0.8$. The self-directedness of the group who received mentoring was statistically significantly better than the self-directedness of the group who did not receive mentoring ($p < 0.05$, $p = 0.000$, $d = 1.013$ (significant practical effect).

Beginner teachers who lack exposure to mentoring and possess limited self-directedness encounter challenges and impediments within their profession. Additionally, unlike their counterparts who have received mentoring, they need to actively participate in professional learning activities that foster their development and promote self-directedness. Further, the magnitude of self-directedness among beginner teachers who receive mentorship reflects a notable degree of self-regulation, eagerness for knowledge acquisition and self-discipline in contrast to their counterparts lacking mentor support. Conversely, beginner teachers need exposure to such mentorship opportunities to benefit from these advantages (*cf.* Table 2).

(5) The overall impact of mentoring

Mentoring is a widely employed strategy in education, implemented globally to facilitate the growth and enhancement of beginner teachers. This approach has several benefits, including cultivating increased self-efficacy, fostering teacher collaboration, promoting professional learning and reducing the acquisition of cognitive pedagogical competence. Beginner teachers who receive mentoring exhibit noticeable progress and constructively adapt their instructional methods within three months of entering the teaching profession. Nevertheless, this discovery suggests that beginner teachers who do not have access to mentoring may not reflect any enhancement in their ability to adapt their teaching methods due to the absence of mentors. Most beginner teachers resume their teacher duties without being mentored by schools, and they often rely on the district for general support. Also, many beginner teachers only survive their first years of teaching with minimal self-directedness and possibly rely on the knowledge acquired during their study years, what they received during school-based teaching, and their learning exposure during their training (*cf.* Table 1).

Conclusion

The research aligns with the perspectives of Louws *et al.* (2017), who state that SDL in adult learning involves learners actively managing their own educational journey. This concept directly applies to the beginner teachers in this study, who aim to cultivate independence and solution-oriented strategies. Brookfield (2009) clarifies that self-direction involves collaborative learning, a viewpoint supported by Bozkurk (2017), who notes the importance of social interactions in knowledge development and cognitive skill enhancement. Furthermore, Vygotsky's social constructivist theory highlights the significance of collaborative learning, social interaction and joint professional development activities in fostering beginner teachers' autonomy, primarily through mentoring.

The study's findings significantly contribute to our understanding of the role of mentorship in the professional development of beginner teachers. It conclusively shows that mentorship not only strengthens teachers' readiness and pedagogical skills but also equips them to navigate the multifaceted challenges of teaching adeptly. Significantly, mentoring facilitates adapting classroom practices, emphasising collaboration, lesson planning and promoting SDL – elements vital for ongoing professional development and resilience in the educational field.

This research advocates establishing structured mentoring programmes within educational institutions, underscoring their integral role in educational development and policy-making. The study also suggests a need for further research into the lasting impacts of mentoring in varied teaching contexts. A key takeaway is that while beginner teachers may display intermittent self-directedness, mentorship is crucial in fostering their ability to manage themselves, enthusiasm for learning and self-regulatory capabilities. Mentors play a pivotal role in helping teachers handle operational, instructional and general teaching challenges, highlighting the necessity of mentor guidance in nurturing independent learning and adaptability in various aspects of teaching.

In summary, the study demonstrates that integrating Vygotsky's social constructivist theory with the principles of SDL is essential in effectively supporting the professional growth of beginner teachers. Mentorship emerges as a crucial component in this process, enabling teachers to bridge theoretical knowledge with practical application and develop into more self-reliant, resilient and proficient teachers.

References

Ambrosetti, A. (2014), "Are you ready to be a mentor? Preparing teachers for mentoring pre-service teachers", *Australian Journal of Teacher Education*, Vol. 39 No. 6, pp. 30-42, doi: 10.14221/ajte.2014v39n6.2.

Ampofo, S.Y., Onyango, G.A. and Ogola, M. (2019), "Influence of school heads' direct supervision on teacher role performance in public senior high schools, central region, Ghana", *IAFOR Journal of Education*, Vol. 7 No. 2, pp. 9-26, doi: 10.22492/ije.7.2.01.

Babbie, E.R. (2020), *The Practice of Social Research*, 15th ed., Wadsworth, Cengage learning, Boston.

Barbera, J., Naibert, N., Komperda, R. and Pentecost, T.C. (2020), "Clarity on Cronbach's alpha use", *Journal of Chemical Education*, Vol. 98 No. 2, pp. 257-258, doi: 10.1021/acs.jchemed.0c00183.

Barrett, M.S., Zhukov, K. and Welch, G.F. (2019), "Strengthening music provision in early childhood education: a collaborative self-development approach to music mentoring for generalist teachers", *Music Education Research*, Vol. 21 No. 5, pp. 529-548, doi: 10.1080/14613808.2019.1647154.

Beach, P. (2017), "A theoretical model for understanding elementary teachers' online learning experiences", *Teaching and Teacher Education Journal*, Vol. 61 No. 1, pp. 60-72, doi: 10.1016/j.tate.2016.10.007.

Beck, K. (2020), "Ensuring content validity of psychological and educational tests–the role of experts", *Frontline Learning Research*, Vol. 8 No. 6, pp. 1-37, doi: 10.14786/flr.v8i6.517.

Botha, C.S. and Rens, J. (2018), "Are they really 'ready, willing and able'? Exploring reality shock in beginner teachers in South Africa", *South African Journal of Education*, Vol. 38 No. 3, pp. 1-8, doi: 10.15700/saje.v38n3a1546.

Bozkurk, G. (2017), "Social constructivism: does it succeed in reconciling individual cognition with social teaching and learning practices", *Journal of Education and Practice*, Vol. 8 No. 3, pp. 210-216.

Bressman, S., Winter, J.S. and Efron, S.E. (2018), "Next generation mentoring: supporting teachers beyond induction", *Teaching and Teacher Education*, Vol. 73, pp. 162-170, doi: 10.1016/j.tate.2018.04.003.

Brookfield, S.D. (2009), *The Power of Critical Theory: Liberating Adult Learning and Teaching*, Jossey-Bass, San Francisco, CA.

Burkšaitienė, N., Lesčinskij, R., Suchanova, J. and Šliogerienė, J. (2021), "Self-directedness for sustainable learning in university studies: lithuanian students' perspective", *Sustainability*, Vol. 13 No. 16, pp. 1-14, doi: 10.3390/su13169467.

Callahan, J. (2016), "Encouraging retention of new teachers through mentoring strategies", *Delta Kappa Gamma Bulletin*, Vol. 83 No. 1, pp. 6-11.

Callan, E. (2016), "Education in safe and unsafe spaces", *Philosophical Inquiry in Education*, Vol. 24 No. 1, pp. 64-78, doi: 10.7202/1070555ar.

Chaney, B., Braun, H. and Jenkins, F. (2020), "Novice middle school teachers' preparedness for teaching, and the helpfulness of supports: a survey of one state", *Education Policy Analysis Archives*, Vol. 28, pp. 107-115, doi: 10.14507/epaa.28.5001.

Choi, A.M., Moon, J.E., Steinecke, A. and Prescott, J.E. (2019), "Developing a culture of mentorship to strengthen academic medical centers", *Academic Medicine*, Vol. 94 No. 5, pp. 630-633, doi: 10.1097/acm.0000000000002498.

Cobbold, C. (2014), "Induction for teacher retention: a missing link in teacher education in Ghana", *Journal of Education Research*, Vol. 8 No. 1, pp. 7-8.

Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed., Academic Press, New York.

Cohen, L., Manion, L. and Morrison, K. (2018), *Research Methods in Education*, 8th ed., Routledge, Third Avenue, New York.

Dağ, N. and Sari, M.H. (2017), "Areas of mentoring needs of novice and pre-service teachers", *International Electronic Journal of Elementary Education*, Vol. 10 No. 1, pp. 115-129, doi: 10.26822/iejee.2017131892.

Darling-Hammond, L. (2017), "Teacher education around the world: what can we learn from international practice?", *European Journal of Teacher Education*, Vol. 40 No. 3, pp. 291-309, doi: 10.1080/02619768.2017.1315399.

Dean, H. (2017), "Exploring novice teachers' perceptions of the impact of an induction program", Texas Tech University, TX, (Thesis - PhD).

Duckworth, A.L., Taxer, J.L., Eskreis-Winkler, L., Galla, B.M. and Gross, J.J. (2019), "Self-control and academic achievement", *Annual Review of Psychology*, Vol. 70 No. 1, pp. 373-399, doi: 10.1146/annurev-psych-010418-103230.

Du Plessis, E. (2013), "Mentoring challenges in the teaching practice of distance learning students", *The Independent Journal of Teaching and Learning*, Vol. 8, pp. 1-16.

Du Plessis, P. and Mestry, R. (2019), "Teachers for rural schools–a challenge for South Africa", *South African Journal of Education*, Vol. 39 No. Supplement 1, pp. 1-9, doi: 10.15700/saje.v39ns1a1774.

Du Toit-Brits, C. (2018), "Towards a transformative and holistic continuing self-directed learning theory", *South African Journal of Higher Education*, Vol. 32 No. 4, pp. 51-65, doi: 10.20853/32-4-2434.

Eby, L.T., Rhodes, J.E. and Allen, T.D. (2007), "Definition and evolution of mentoring", in Allen, T.D. and Eby, L.T. (Eds), *The Blackwell Handbook of Mentoring: A Multiple Perspectives Approach*, Blackwell, pp. 7-20.

Ellis, N.J., Alonzo, D. and Nguyen, H.T.M. (2020), "Elements of a quality pre-service teacher mentor: a literature review", *Teaching and Teacher Education*, Vol. 92, pp. 1-13, doi: 10.1016/j.tate.2020.103072.

Ensher, E.A., Heun, C. and Blanchard, A. (2003), "Online mentoring and computer-mediated communication: new directions in research", *Journal of Vocational Behavior*, Vol. 63 No. 2, pp. 264-288, doi: 10.1016/s0001-8791(03)00044-7.

Erawan, P. (2019), "The needs analysis of supporting beginning teachers in schools in remote rural areas", *Journal of Teacher Education and Educators*, Vol. 8 No. 2, pp. 115-129.

Fantilli, R.D. and McDougall, D.E. (2009), "A study of novice teachers: challenges and supports in the first years", *Teaching and Teacher Education*, Vol. 25 No. 6, pp. 814-825, doi: 10.1016/j.tate.2009.02.021.

Field, A. (2018), *Discovering Statistics Using IBM SPSS Statistics*, 5th ed., Sage Publications, London.

Fisher, M.J. and King, J. (2010), "The self-directed learning readiness scale for nursing education revisited: a confirmatory factor analysis", *Nurse Education Today*, Vol. 30 No. 1, pp. 44-48, doi: 10.1016/j.nedt.2009.05.020.

Fraenkel, J.R., Wallen, N.E. and Hyun, H.H. (2012), *How to Design and Evaluate Research in Education*, 7th ed., McGraw-Hill, New York.

Geduld, B. (2014), "Re-Thinking the value of learning theories to develop self-directedness in open-distance students", *Journal of Educational and Social Research*, Vol. 4 No. 6, pp. 11-18, doi: 10.5901/jesr.2014.v4n6p11.

Glazerman, S., Senesky, S., Seftor, N. and Johnson, A. (2006), *Design of an Impact Evaluation of Teacher Induction Programs. Final Report*, Mathematica Policy Research.

Hadi, M.J. and Rudiyanto, M. (2017), "Significance of mentor-mentee relationship and training for effective mentoring outcomes", *Paper presented at the Annual International Conference of Islamic Education*, Indonesia, 26 February 2017 1st, Mataram-West Nusa Tenggara, available at: https://eric.ed.gov/?id=ED588854 (accessed 21 July 2021).

Hagenauer, G., Waber, J. and De Zordo, L. (2021), "'She never actually let you walk into a trap': exploring relational turning point events in the mentor–mentee relationship in the practicum", *Professional Development in Education*, Vol. 49 No. 3, pp. 1-14, doi: 10.1080/19415257.2021.1876155.

Hiemstra, R. and Brockett, R.G. (2012), "Reframing the meaning of self-directed learning: an updated model", *Paper presented at the 54th Annual Adult Education Research Conference (AERC)*, held in Saratoga Springs, NY 1-3 June 2012, pp. 155-161, Manhattan, KS, New Prairie Press, available at: https://newprairiepress.org/cgi/viewcontent.cgi?article=3070&context=aerc. (accessed 15 July 2021).

Hine, G. and Thai, T. (2019), "Pre-service mathematics teachers' self-perceptions of readiness to teach secondary school mathematics", *Mathematics Teacher Education and Development*, Vol. 21 No. 2, pp. 64-72.

Hobson, A.J., Ashby, P., Malderez, A. and Tomlinson, P.D. (2009), "Mentoring beginning teachers: what we know and what we don't", *Teaching and Teacher Education*, Vol. 25 No. 1, pp. 207-216, doi: 10.1016/j.tate.2008.09.001.

Hudson, P. (2016), "Forming the mentor-mentee relationship", *Mentoring & Tutoring: Partnership in Learning*, Vol. 24 No. 1, pp. 30-43, doi: 10.1080/13611267.2016.1163637.

International Society for Self-Directed Learning (2020), "Re: ISSDL adopts a definition of SDL", [Blog comment], available at: https://www.sdlglobal.com/single-post/2020/02/16/issdl-adopts-a-definition-of-sdl (accessed 22 September 2023).

Johnson, R.B. and Christensen, L. (2019), *Educational Research: Quantitative, Qualitative, and Mixed Approaches*, Sage publications, Thousand Oaks, California.

Jones, L., Tones, S. and Foulkes, G. (2019), "Exploring learning conversations between mentors and associate teachers in initial teacher education", *International Journal of Mentoring and Coaching in Education*, Vol. 8 No. 2, pp. 1-22, doi: 10.1108/ijmce-08-2018-0050.

Kalkbrenner, M.T. (2021), "Enhancing assessment literacy in professional counseling: a practical overview of factor analysis", *Professional Counselor*, Vol. 11 No. 3, pp. 267-284, doi: 10.15241/mtk.11.3.267.

Kidd, L., Brown, N. and Fitzallen, N. (2015), "Beginning teachers' perception of their induction into the teaching profession", *Australian Journal of Teacher Education*, Vol. 40 No. 3, pp. 154-173, doi: 10.14221/ajte.2014v40n3.10.

Kirschner, S., Taylor, J., Rollnick, M., Borowski, A. and Mavhunga, E. (2015), "Gathering evidence for the validity of PCK measures", in Berry, A., Friedrichsen, P. and Loughran, J. (Eds), *Re-examining Pedagogical Content Knowledge in Science Education, NJ*, Routledge, pp. 229-241.

Kiru, R. (2020), "Beginner teachers and the challenges of the tenure exams: a longitudinal zonal analysis of official data from pre-secondary education", *IJRDO-journal of Educational Research*, Vol. 5 No. 3, pp. 39-48.

Knowles, M.S. (1975), *Self-Directed Learning: A Guide for Learners and Teachers*, Prentice-Hall, Englewood Cliffs, NJ.

Köybasi, F. and Ugurlu, C.T. (2019), "Teacher candidates' socialization process: a grounded theory study", *Asian Journal of Education and Training*, Vol. 5 No. 1, pp. 213-223, doi: 10.20448/journal.522.2019.51.213.223.

Kozikoglu, I. (2017), "A content analysis concerning challenges faced by novice teachers", *Cypriot Journal of Educational Science*, Vol. 12 No. 2, pp. 91-106, doi: 10.18844/cjes.v12i2.1278.

Kühberger, A., Fritz, A., Lermer, E. and Sherndl, T. (2015), "The significance fallacy in inferential statistics", *BioMed Central Research Notes*, Vol. 8, pp. 1-6, doi: 10.1186/s13104-015-1020-4, available at: https://eplus.uni-salzburg.at/obvusboa/content/titleinfo/1615560/full.pdf

Laine, S., Myllymäki, M. and Hakala, I. (2021), "Raising awareness of students' self-directed learning readiness (SDLR)", in Csapó, B. and Uhomoibhi, J. (Eds), *CSEDU 2021: Proceedings. 13th International Conference on Computer Supported Education*, SCITEPRESS - Science and Technology Publications, pp. 324-331, doi: 10.5220/0010403304390446.

Leedy, P.D. and Ormrod, J.E. (2019), *Practical Research: Planning and Design*, Pearson, One Lake Street, Upper Saddle River, NJ.

Louws, M.L., Meirink, J.A., van Veen, K. and van Driel, J.H. (2017), "Teachers' self-directed learning and teaching experience: what, how, and why teachers want to learn", *Teaching and Teacher Education Journal*, Vol. 66 No. 1, pp. 171-183, doi: 10.1016/j.tate.2017.04.004.

MacPhail, A., Ulvik, M., Guberman, A., Czerniawski, G., Oolbekkink-Marchand, H. and Bain, Y. (2019), "The professional development of higher education-based teacher educators: needs and realities", *Professional Development in Education*, Vol. 45 No. 5, pp. 848-861, doi: 10.1080/19415257.2018.1529610.

Manning, G. (2007), "Self-directed learning: a key component of adult learning theory", *Business and Public Administration Studies*, Vol. 2, pp. 104-115.

Maree, K. (2020), "Planning a research proposal", in Maree, K. (Ed.), *First Steps in Research*, 3rd ed., Van Schaik, Pretoria, pp. 25-54.

Maree, K. and Pietersen, J. (2020), "Sampling", in Maree, K. (Ed.), *First Steps in Research*, 3rd ed., Van Schaik, Pretoria, pp. 213-240.

McDermott, R. (2011), "Internal and external validity", *Cambridge Handbook of Experimental Political Science*, pp. 27-40, doi: 10.1017/cbo9780511921452.003.

McMillan, H. and Schumacher, S. (2010), *Research in Education*, Pearson, Upper Saddle River, NJ.

Meier, C. and West, J. (2020), "Overcrowded classrooms–the Achilles heel of South African education?", *South African Journal of Childhood Education*, Vol. 10 No. 1, pp. 1-10, doi: 10.4102/sajce.v10i1.617.

Michailidi, E. and Stavrou, D. (2021), "Mentoring in-service teachers on implementing innovative teaching modules", *Teaching and Teacher Education*, Vol. 105, 103414, pp. 1-15, doi: 10.1016/j. tate.2021.103414.

Mohammed, S. and Kinyo, L. (2020), "Constructivist theory as a foundation for the utilisation of digital technology in the lifelong learning process", *Turkish Online Journal of Distance Education*, Vol. 21 No. 4, pp. 90-109, doi: 10.17718/tojde.803364.

Morris, T.H. (2019), "Self-directed learning: a fundamental competence in a rapidly changing world", *International Review of Education*, Vol. 65 No. 4, pp. 633-653, doi: 10.1007/s11159-019-09793-2.

Mukeredzi, T.G. and Manwa, L. (2019), "Inside mentor-mentee meetings in pre-service teacher school-based teaching practice in Zimbabwe", *Australian Journal of Teacher Education*, Vol. 44 No. 7, pp. 3-6, doi: 10.14221/ajte.2019v44n7.3.

Mukhalalati, B.A. and Taylor, A. (2019), "Adult learning theories in context: a quick guide for healthcare professional educators", *Journal of Medical Education and Curricular Development*, Vol. 6 No. 1, pp. 1-10, doi: 10.1177/2382120519840332.

Neutzling, M., Pratt, E. and Parker, M. (2019), "Perceptions of learning to teach in a constructivist environment", *Physical Educator*, Vol. 76 No. 3, pp. 756-776, doi: 10.18666/tpe-2019-v76-i3-8757.

Ngwira, H. and Potokri, O.C. (2019), "Induction of women beginner teachers at two South African community secondary schools", *Problems of Education in the 21st Century*, Vol. 77 No. 6, pp. 774-789, doi: 10.33225/pec/19.77.774.

Nopriyeni, N. and Sulaiman, E. (2022), "The profile of StudenThe profile of students' pedagogical knowledge on the implementation of mentoring programts' pedagogical knowledge on the implementation of mentoring program", *AL-ISHLAH: Jurnal Pendidikan*, Vol. 14 No. 3, pp. 2615-2624, doi: 10.35445/alishlah.v14i3.2111.

Obadire, O.T. and Sinthumule, D.A. (2021), "Learner discipline in the post-corporal punishment era: what an experience", *South African Journal of Education*, Vol. 41 No. 2, pp. 1-6, doi: 10.15700/saje.v41n2a1862.

Oppenheimer, O.S. (2017), "Being a mentor: novice teachers' mentors' conceptions of mentoring prior to training", *Professional Development in Education*, Vol. 43 No. 2, pp. 274-292, doi: 10.1080/19415257.2016.1152591.

Parker, A.K., Zenkov, K. and Glaser, H. (2021), "Preparing school-based teacher educators: mentor teachers' perceptions of mentoring and mentor training", *Peabody Journal of Education*, Vol. 96 No. 1, pp. 65-75, doi: 10.1080/0161956x.2021.1877027.

PeekSanson-Fisher, K.R., Mackenzie, L. and Carey, M. (2016), "Interventions to aid patient adherence to physiotherapist prescribed self-management strategies: a systematic review", *Physiotherapy*, Vol. 102 No. 2, pp. 127-135, doi: 10.1016/j.physio.2015.10.003.

Pietersen, J. and Maree, K. (2020), "Standardisation of a questionnaire", in Maree, K. (Ed.), *First Steps in Research*, 3rd ed., Van Schaik, Pretoria, pp. 259-269.

Richards, J. and Farrell, T. (2016), *Professional Development for Language Teachers: Strategies for Teacher Learning*, 4th ed., Cambridge University Press, Cambridge.

Sawatsky, A.P., Ratelle, J.T., Bonnes, S.L., Egginton, J.S. and Beckman, T.J. (2017), "A model of self-directed learning in internal medicine residency: a qualitative study using grounded theory", *BMC Medical Education*, Vol. 17 No. 1, pp. 1-9, doi: 10.1186/s12909-017-0869-4.

Schonert-Reichl, K.A., Kitil, M.J. and Hanson-Peterson, J. (2017), "To reach the students, teach the teachers: a national scan of teacher preparation and social and emotional learning. A report prepared for CASEL", *Collaborative for Academic, Social, and Emotional Learning*.

Schuck, S., Aubusson, P., Buchanan, J., Varadharajan, M. and Burke, P.F. (2018), "The experiences of early career teachers: new initiatives and old problems", *Professional Development in Education*, Vol. 44 No. 2, pp. 209-221, doi: 10.1080/19415257.2016.1274268.

Schulleri, P. (2020), "Teacher mentoring: experiences from international teacher mentors in Kazakhstan", *Asian Journal of Education and Training*, Vol. 6 No. 2, pp. 320-329, doi: 10. 20448/journal.522.2020.62.320.329.

Shillingstad, S., McGlamery, S., Davis, B. and Gilles, C. (2014), "Navigating the roles of leadership: mentors perspectives on teacher leadership", *Teacher Education Faculty Proceedings & Presentations*, Vol. 26, pp. 2-19.

Squillaci, M. (2020), "Effects of perceived workload on the health of swiss special education teachers", *INTED2020 Proceedings*, pp. 2083-2089.

Sumuer, E. (2018), "Factors related to college students' self-directed learning with technology", *Australasian Journal of Educational Technology*, Vol. 34 No. 4, pp. 29-43, doi: 10.14742/ajet.3142.

Sun, C. (2016), "Teacher induction: improving state systems for supporting new teachers", *National Association of School Boards of Education*, Vol. 8 No. 1, pp. 2-19.

Taber, K.S. (2018), "The use of Cronbach's alpha when developing and reporting research instruments in science education", *Research in Science Education*, Vol. 48 No. 6, pp. 1273-1296, doi: 10.1007/s11165-016-9602-2.

Tahir, L.M., Jamal, A.H.M.A., Yusof, S.M., Ali, M.F., Hassan, Z. and Hamid, M.Z.A. (2018), "'I employed my own strategy': exploring primary headteachers' organisational and professional socialisations", *Malaysian Journal of Learning and Instruction*, Vol. 15 No. 1, pp. 229-265.

Tardherdoost, H. (2016), "Sampling methods in research methodology: how to choose a sampling technique for research", *International Journal of Academic Research in Management*, Vol. 5 No. 2, pp. 19-27.

Tican, C. and Deniz, S. (2019), "Pre-service teachers' opinions about the use of 21st century learner and 21st century teacher skills", *European Journal of Educational Research*, Vol. 8 No. 1, pp. 181-197, doi: 10.12973/eu-jer.8.1.181.

Tough, A. (1978), "Major learning efforts: recent research and future directions", *Adult Education*, Vol. 28 No. 4, pp. 250-263, doi: 10.1177/074171367802800403.

Van Tonder, D. and Du Toit, A. (2020), "Habits of mind for entrepreneurship education", in Zitouni, M. (Ed.), *Conference Proceedings, 19th International RAIS Online Conference on Social Sciences and Humanities*, Princeton, NJ, USA, pp. 22-31, doi: 10.5281/zenodo.4268509.

Van Tonder, D. and Fourie, E. (2015), "Alleviating the intensification of educator workload through internships: the Relieve Educators Administrative Demands model", *International Journal of Educational Sciences*, Vol. 9 No. 2, pp. 219-232, doi: 10.1080/09751122.2015.11890312.

Van Tonder, G.P. and Fourie, E. (2018), "Internship as a criterion for South African educators' registration", *International Journal of Educational Management*, Vol. 37 No. 7, pp. 1333-1347, doi: 10.1108/ijem-08-2017-0198.

Van Tonder, G.P., Bunt, B.J., Petzer, A., Bosch, H.D., Van Deventer, N., Gerber, A. and Van Schadewijk, L. (2021), "The efficacy of habits of mind in the inculcation of self-directed learning skills in pre-service teachers", *International Journal of Learning, Teaching and Educational Research*, Vol. 20 No. 2, pp. 36-60, doi: 10.26803/ijlter.20.2.3.

Vygotsky, L.S. (1978), *Mind in Society: The Development of Higher Psychological Processes*, Harvard University Press, Cambridge, MA.

Walker, K. and Kutsyuruba, B. (2019), "The role of school administrators in providing early career teachers' support: a pan-Canadian perspective", *International Journal of Education Policy and Leadership*, Vol. 14 No. 2, pp. 2-7, doi: 10.22230/ijepl.2019v14n2a862.

Wexler, L.J. (2020a), "How feedback from mentor teachers sustained student teachers through their first year of teaching", *Action in Teacher Education*, Vol. 42 No. 2, pp. 167-185, doi: 10.1080/01626620.2019.1675199.

Wexler, L.J. (2020b), "I would be a completely different teacher if I had been with a different mentor: ways in which educative mentoring matters as novices learn to teach", *Professional Development in Education*, Vol. 46 No. 2, pp. 211-228, doi: 10.1080/19415257.2019.1573375.

White, M. and Mason, C.Y. (2006), "Components of a successful mentoring program for beginning special education teachers: perspectives from new teachers and mentors", *Teacher Education and Special Education*, Vol. 29 No. 3, pp. 191-201, doi: 10.1177/088840640602900305.

Wolff, C.E., Bogert, N., Jarodzka, H. and Boshuizen, H.P.A. (2015), "Keeping an eye on learning: differences between expert and novice teachers' representations of classroom management events", *Journal of Teacher Education*, Vol. 66 No. 1, pp. 68-85, doi: 10.1177/0022487114549810.

Wolff, M., Stojan, J., Buckler, S., Cranford, J., Whitman, L., Gruppen, L. and Santen, S. (2020), "Coaching to improve self-directed learning", *The Clinical Teacher*, Vol. 17 No. 4, pp. 408-412, doi: 10.1111/tct.13109.

Yusoff, M.S.B. (2019), "ABC of response process validation and face validity index calculation", *Resource*, Vol. 11 No. 3, pp. 55-70, doi: 10.21315/eimj2019.11.3.6.

Further reading

Rogoff, B. (1999), "Cognitive development through social interaction: vygotsky and Piaget", in *Learners, Learning and Assessment*, pp. 69-82.

Van Tonder, G.P. (2021), "A multimodal induction model for beginning teachers: a narrative approach", *International Journal of Educational Management*, Vol. 35 No. 4, pp. 879-896, doi: 10.1108/IJEM-08-2020-0389.

Corresponding author
Gideon Petrus van Tonder can be contacted at: deon.vantonder@nwu.ac.za