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Review Article

A Scoping Review of the Attributes Screened in the Selection Processes for Initial Teacher Education (ITE)

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Abstract
This scoping review maps the attributes assessed in the selection of candidates for Initial Teacher Education (ITE) programmes, aiming to identify key factors linked to effective teaching. A systematic search across five major academic databases (SCOPUS, Web of Science, Educational Resources Information Center, Academic Search Premier, and Teacher Reference Center) yielded 32 relevant studies published between 2013 and 2023 for analysis. The findings underscore the significance of both cognitive attributes (e.g., academic scores, cognitive skills) and non-cognitive attributes (e.g., personal traits, resilience, motivation) in predicting teacher effectiveness and programme success. While cognitive attributes provide a foundation for academic and pedagogical proficiency, non-cognitive factors are equally vital for sustaining teaching efficacy and long-term professional engagement. However, methods for assessing these attributes vary considerably, with evaluations of non-cognitive traits often facing challenges related to validity, reliability, and equity in high-stakes selection. By examining the complexities of defining and measuring teacher competencies and engaging with the debate on innate versus developed teaching qualities, this review advocates for a more integrated, rigorous, and context-sensitive approach to candidate assessment in teacher education.

Keywords: teacher selection, initial teacher education, cognitive attributes, non-cognitive attributes, selection methods

Introduction

Teaching is a multifaceted and demanding profession requiring a diverse range of competencies. This complexity has made it difficult to establish a single, widely accepted understanding of the essential competencies for effective and ethical teaching. The scope of this challenge is evident in ambitious efforts to organise and conceptualise teacher competence within coherent and manageable frameworks (e.g., Baumert & Kunter, 2013; Metsäpelto et al., 2022). While definitions of teacher competence vary, they commonly involve categorizing the competencies underpinning professional performance into cognitive and non-cognitive attributes (alternatively termed cognitive and affective-motivational dispositions) (e.g., Blömeke et al., 2015; Klassen & Kim, 2019). Research consistently links both types of attributes to teacher effectiveness (Guerriero & Révai, 2017; Madni et al., 2015).

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Within Initial Teacher Education (ITE), the primary goal of student selection is to predict future teacher effectiveness by assessing these attributes (Klassen & Kim, 2021). The central question guiding selection is whether a candidate will become an effective teacher. A minimum objective is to identify and screen out candidates who may be unsuited for the profession. This approach aims to avoid unsuccessful selection decisions, which can have detrimental consequences not only for applicants making poor career choices but also for their future students and, ultimately, for broader social and economic well-being (Hanushek & Rivkin, 2012).

When considering how student selection shapes teacher quality, it is necessary to acknowledge the enduring debate over whether teachers are "born" or "made". The incremental view holds that individuals become teachers primarily through education, whereas the entity view posits that essential teacher qualities are mainly innate and fixed. In contrast, the dynamist interactionist view emphasizes that teacher competence emerges from the interplay between education-acquired knowledge and stable personal traits, such as personality and dispositions (Klassen & Kim, 2017). Consequently, the selection phase should focus principally on those enduring attributes that lie beyond the direct influence of ITE programmes (Casey & Childs, 2007).

Prior research has largely concentrated on determining which attributes make candidates most suitable for ITE and should therefore be included in selection processes (e.g., Klassen et al., 2017; Sheridan et al., 2022). However, despite extensive work on individual attributes, a notable gap remains: there is a little research synthesing the breadth of attributes currently evaluated in ITE admissions. This review addresses that gap by examining three key questions: *What attributes are assessed in ITE student selections? How are these attributes screened?* and *Why are these attributes evaluated?* Through this investigation, the study clarifies both the specific attributes and their assessment methods, while also providing insight into the underlying rationale for their perceived importance in teacher education. This constitutes an original contribution, offering the first comprehensive overview that integrates these elements and explicates how candidate qualities are conceptualised and operationalised across contexts. This inquiry is further motivated by the recognition that competency requirements for teachers are culturally dependent, vary across regions, and may not rest on a uniform set of competencies (Klassen et al., 2018).

Method

This study employs a scoping review to map the extent, nature, and range of available research on the attributes evaluated on ITE admissions (Munn et al., 2018). A scoping review was selected due to the absence of prior synthesis addressing the full spectrum of attributes assessed during ITE selection. This approach allows for charting the breadth and nature of existing literature, assessing the feasibility and relevance of a future systematic review, synthesizing key findings for wider dissemination, and identifying evidence gaps that warrant further research. We adopted the framework outlined by Arksey and O'Malley (2005). Following the formulation of research questions, relevant studies were identified and selected, their data charted, and the results collated, summarised, and reported. The inclusion criteria encompassed empirical studies focusing on the attributes, characteristics, or qualities assessed in ITE programme admissions. To maintain academic rigour and reliability, grey literature and other non-scholarly sources were excluded, as were studies not directly related to the assessment of candidate attributes.

The literature search was conducted over two consecutive days, 16–17 August 2023. A comprehensive and structured search was performed across five major academic databases: SCOPUS, Web of Science, Educational Resources Information Centre (EBSCO), Academic Search Premier (EBSCO), and Teacher Reference Center (EBSCO). The search strategy was carefully designed, with specific search terms tailored for each database, as detailed in Table 1. To ensure relevance and recency, only studies published in the last decade (2013–2023) were considered

Table 1
Search terms and strategies

Database	Search strategy
Scopus	TITLE-ABS-KEY ("teacher education" OR "teacher training" OR "teacher preparation" AND "selection" OR "admission*" AND "characteristics" OR "attributes")
WoS	((TS=(Teacher education OR preparation OR training)) AND TS=(selection OR admission*)) AND TS=(characteristics OR attributes)
Educational Resources Information Centre, Academic Search Premier, and Teacher Reference Center (EBSCO)	(teacher education or teacher training or teacher preparation) AND (selection or admission*) AND (characteristics or attributes)

The initial search yielded 578 potentially relevant citations. After removing 87 duplicates and excluding five non-English publications, 486 records remained. These underwent preliminary screening based on title and abstract to determine their alignment with the research objectives. At this stage, 426 papers were excluded due to their focus on secondary education, specific subject training, or a lack of direct relevance to general teacher training and candidate attribute assessment. A rigorous full-text review of the remaining 60 papers was the performed to ensure strict adherence to the inclusion criteria. Only academic studies examining the evaluation of candidates applying for ITE programs were retained. This screening led to the exclusion of 35 additional papers for reasons such as a focus on applicant traits without discussing the selection process, an emphasis on selection methodologies rather than attributes assessed, or an analysis of faculty methods rather than candidate selection. Ultimately, 25 papers were deemed suitable for in-depth analysis.

To enhance the validity of our findings, we conducted a thorough manual review of citations and reference lists from each selected article, continuing until saturation was achieved. This process yielded a further seven articles, resulting in a final sample of 32 studies. The progression from initial identification to final inclusion is illustrated in Figure 1, following the guidelines outlined by Peters et al. (2015).

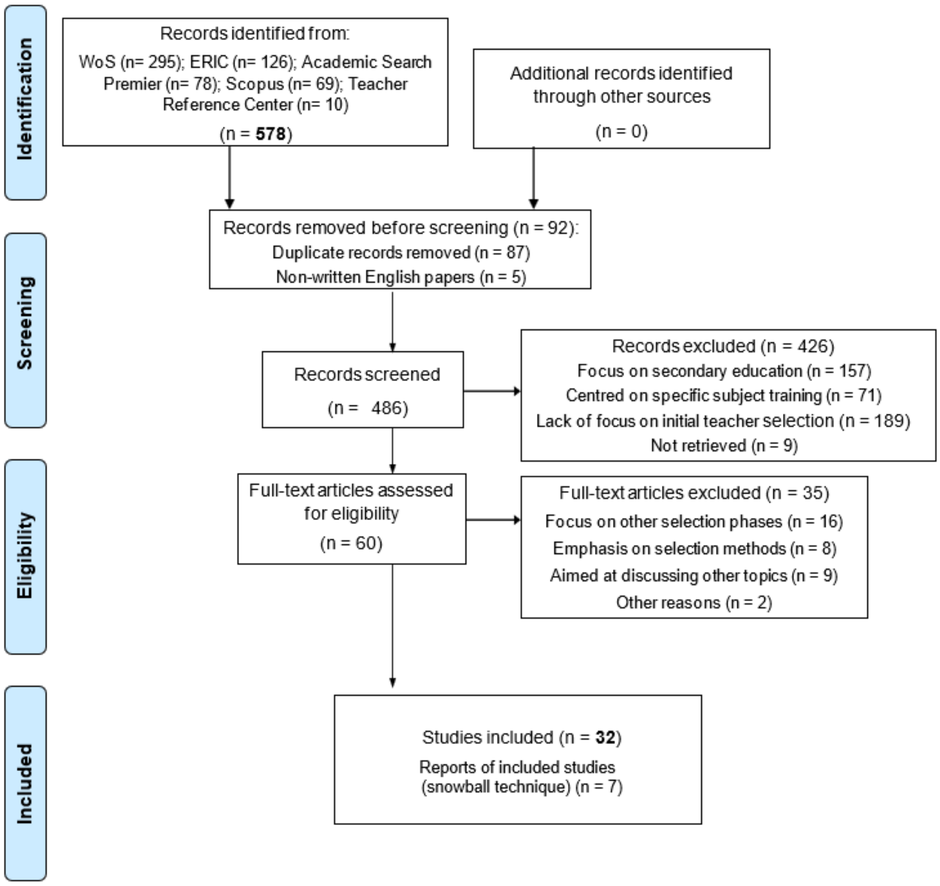

Figure 1: The flow chart of identification, screening, eligibility, and inclusion process

Each article was systematically coded according to three overarching categories: bibliographic details, methodological characteristics, and research objectives. Bibliographic data included publication year, source, and country of origin; methodological characteristics captured study type; and research objectives encompassed the attributes assessed, evaluation methods, rationale for their relevance in selection, and associated debates. Descriptive coding was used to document general study features, with more in-depth analysis reserved for outcome studies. Research aims and findings were examined through thematic synthesis (Booth et al., 2016), an inductive approach commonly used in literature reviews to identify and organise key dimensions of understanding around a phenomenon. This process generated two principal themes, which were subsequently refined into subthemes reflecting the studies' stated aims and reported outcomes. A descriptive overview of bibliographic and methodological characteristics is presented in Table 2, while findings related to research objectives are elaborated in the Results section. Finally, upon completing the scoping review, we employed the PRISMA-ScR checklist, recommended by Tricco et al. (2018), to verify the overall quality and comprehensiveness of the study.

Table 2
Descriptive overview

Category	Most significant findings
Year of publication	The greatest number of articles were published in 2015 (n = 6), followed by 2018 (n = 5), and 2014 (n = 4). This peak, followed by a sustained publication rate, suggests a consistent interest in the topic over the past decade.

Country of origin	Most studies were conducted in Australia (n = 6). Canada and the United States each contributed three studies. Two studies each originated from Austria, Finland, and Ghana. Several studies featured cross-national designs. With one involving eight countries (Finland, Japan, Korea, Singapore, Croatia, India, Russia, and Turkey). Single studies were contributed by Argentina, Ireland, Pakistan, Lithuania, Serbia and Slovenia, Chile, Israel, the UK, Turkey, Oman, Luxembourg, Spain, and Sweden.
Journal	The studies were published across 31 distinct journals. *The Australian Educational Researcher* was the most frequent outlet (n = 2). All other journals, such as *Journal of Education for Teaching, Asia-Pacific Journal of Teacher Education*, and *Quality Assurance in Education*, each published one relevant article, indicating a wide dispersion of research across the field.
Methodological approaches	Quantitative methodologies dominated the research corpus, being employed in 15 studies. This number substantially exceeded that of qualitative studies (n = 9), reflecting a stronger field-wide reliance on numerical data and statistical analysis. Mixed-methods designs were less common (n = 5), though they provided valuable integrative perspectives by bridging quantitative and qualitative forms of evidence. Finally, a small subset of studies was classified as theoretical or conceptual; these contributed primarily to refining constructs and developing analytical frameworks rather than to empirical testing.

Results

Cognitive attributes

Approximately half of the included studies (n=17) focus on the assessment of cognitive attributes in the selection process for ITE programs. These studies collectively advocate for a holistic approach that integrates cognitive assessments with non-cognitive evaluations, thereby enriching the selection framework and providing a balanced view of candidate suitability (Bowles et al., 2013; Kahramanoglu & Bay, 2018; Lukaš & Samardžić, 2015; MacMath & Salingré, 2015; Mayer et al., 2015; Miler-Levy et al., 2014; Pérez, 2014). A critical analysis of their role and impact reveals diverse perspectives on the efficacy and limitations of such assessments in capturing the complexities of teaching competencies (Borden-King et al., 2020; Dee & Morton, 2016; Holden & Kitchen, 2016). The following sections synthesise the key cognitive attributed examined, the recommended evaluation tools, their advantages and limitations, and the ongoing debates.

Cognitive skills

The assessment of cognitive skills forms a core focus in the reviewed literature, covering general cognitive abilities, specific cognitive skills, and language proficiency. General cognitive ability encompasses mental capacities essential for effective teaching, such as planning, problem-solving, abstract thinking, and the capacity to learn from experience. These are typically measured through tests assessing numerical, verbal (including comprehension and vocabulary), and spatial reasoning (Ones et al., 2012; Sautelle et al., 2015). While these measures are robust predictors of academic and professional achievements, the literature underscores that their exclusive use is insufficient, given the complex and multidimensional nature of teaching (Bowles et al., 2013; Sautelle et al., 2015).

The evaluation of specific cognitive skills is also explored, including oral and written communication, critical thinking, logical reasoning, teamwork, organization, and planning (Sheridan et al., 2022; Wyatt & O'Neill, 2022). These skills are assessed through diverse methodologies such as teacher surveys, analytical essays, and performance-based evaluations (Kahramanoglu & Bay, 2018; Dee & Morton, 2016). Higher-order cognitive abilities —such as understanding, analysing, reflecting, arguing, evaluating, and creating— are scrutinized through interviews, portfolios, debates, problem-solving exercises, and Situational Judgment Tests (SJTs), emphasizing their role in shaping effective pedagogical practice (Al Hashmi & Klassen, 2019; Katz & Frish, 2016; Pérez, 2014).

The assessment of metacognitive skills, which include self-reflection, self-evaluation, self-regulation, ethical decision-making, and abstract thinking, is also highlighted. These skills are evaluated using performance tests and are noted for their importance in the nuanced decision-making and adaptive expertise required in teaching (Katz & Frish, 2016). Despite their recognized value, there remains a divergence in opinions regarding their comprehensive applicability in selection processes, with studies noting both strengths in identifying potential and limitations in predicting long-term suitability (Pérez, 2014; Kahramanoglu & Bay, 2018).

Communicative skills are identified as crucial for effective message transmission and adaptation to diverse audiences. These skills, which include active listening and responsiveness to others' needs, significantly influence teacher-student interactions and overall educational outcomes (Al Hashmi & Klassen, 2019; Sheridan et al., 2022; Wyatt & O'Neill, 2022). Various assessment tools, such as group interviews, psychometric tests, and specialized questionnaires, are employed to gauge these abilities (Sheridan et al., 2022).

Finally, the significance of English proficiency is emphasized due to its vital role in ensuring academic success and effective communication in multilingual and multicultural educational settings. Structured rubrics are commonly employed to assess these skills, reflecting the need to address the diverse linguistic demands of contemporary educational environments (Sarwar et al., 2014).

Academic scores

Academic scores are pivotal in assessing the cognitive attributes of candidates within teacher training selection processes. These scores typically encompass GPAs, entry grades, high school performance, and other qualifications obtained prior to or during entrance examinations (Anane, 2018; Kunnari et al., 2023; MacMath & Salingré, 2015). Standardized test scores, including matriculation exams, and minimum grade requirements for program admission, are commonly used to evaluate these academic indicators (Kunnari et al., 2023; Anane, 2018). These metrics provide critical insights into candidates' academic capabilities across various domains pertinent to ITE.

The inclusion of academic scores is justified by their predictive value for future performance in training programs and subsequent professional practice (Anane, 2018; Kunnari et al., 2023; Kwaah & Palojoki, 2018; MacMath & Salingré, 2015). Evidence suggest that teachers with higher academic scores often employ more effective teaching methodologies (Kwaah & Palojoki, 2018). Given the vital role of teachers in developing the competencies of future generations, it is crucial that candidates possess the essential foundational knowledge and skills for educational excellence. Thus, distinguishing between candidates based on academic achievements remains a key component of selection (Anane, 2018; Kwaah & Palojoki, 2018).

Conversely, some critiques argue that reliance solely on academic scores may not accurately reflect teaching aptitude, potentially overlooking essential attributes such as interpersonal and verbal skills (Holden & Kitchen, 2016). Furthermore, critics contend that standardized tests and GPAs may perpetuate inequities in admissions, potentially excluding capable individuals or delaying their entry into the profession (Dee & Morton, 2016; Holden & Kitchen, 2016). Consequently, it is recommended that academic scores be complemented with other evaluative measures to achieve a more comprehensive assessment (Lukaš & Samardžić, 2015; MacMath & Salingré, 2015; Miler-Levy et al., 2014). This broader approach, which includes assessing interpersonal skills, motivational qualities, and critical thinking abilities, is essential for effective teaching and allows for a more nuanced candidate selection process (Lukaš & Samardžić, 2015).

Learner profile

Beyond academic scores and cognitive abilities, the evaluation of the learner profile is highlighted as significantly important. The learner profile comprises multiple dimensions: candidates' perceptions of learners, learning, teachers, and teaching environments (Hirschkorn et al., 2016); their knowledge and competencies independent of the learning context (Chandía et al., 2023; Stenlund, 2013); and their individual learning approaches (Camarero-Figuerola et al., 2022). Effective tools for evaluation include essays, statements of intent, university transcripts, letters of reference, and inventories, which provide a comprehensive view of a candidate's educational background and personal attributes (Camarero-Figuerola et al., 2022; Hirschkorn et al., 2016). Some methodologies recommend that applicants provide evidence of prior learning, demonstrate teaching competence, and undergo evaluations by subject matter experts and/or university staff (Stenlund, 2013). Furthermore, Chandía et al. (2023) advocate for incorporating diagnostic classification models to enhance the evaluation process.

The emphasis on prior learning is underpinned by diverse scholarly perspectives. Hirschkorn et al. (2016) and Chandía et al. (2023) discuss the influence of candidates' cognitive frameworks on their decision-making, thought processes, and actions within training programs and professional settings. Stenlund (2013) highlights the benefits of recognizing prior learning, which includes validating candidates' experiences, knowledge, and professional skills before formal training begins. This recognition provides opportunities to individuals who may not meet traditional academic criteria but who possess relevant experience, thereby promoting fairness and equity, inclusivity, and diversity within the teaching profession.

However, the integration of prior learning into selection processes presents both strengths and challenges. Assessing candidates' preconceived notions about teaching and learning facilitates the identification of individuals likely to engage critically with modern educational theories and practices. Such beliefs, often established before program entry, offer valuable insights that can be addressed and reshaped during training (Chandía et al., 2023; Hirschkorn et al., 2016). Establishing a shared understanding of effective teaching, selecting appropriate assessment tools, and ensuring fairness and equity remain essential for addressing the ongoing challenges of diversifying the teaching workforce (Hirschkorn et al., 2016; Stenlund, 2013).

Non-Academic Attributes

Over half of the studies reviewed (n = 20) strongly support the evaluation of non-cognitive attributes in teacher selection. Within this subset, half advocate for blending these assessments with cognitive or academic evaluations, while the other half focus solely on non-cognitive attributes. Unlike prior discussions that typically provide specific rationales for including or excluding certain attributes, this body of literature offers broader justifications. These emphasize the critical importance of non-academic measures, given the limitations of cognitive assessments alone in determining suitability for teacher training or the profession itself (Al Hashmi & Klasen, 2019; Ametller & Codina, 2017; Bowles et al., 2013; Camarero-Figuerola et al., 2022; Klassen & Kim, 2019; Lukaš & Samardžić, 2015; Roberts-Hull et al., 2015). Teaching is characterised as a complex, value-laden social and political activity that necessitates identifying specific personal characteristics prior to professional entry (Katz & Frish, 2016; Miller-Levy et al., 2014; Pešek et al., 2015). Furthermore, these justifications highlight the potential of non-cognitive attributes to predict teaching effectiveness more accurately than cognitive measures alone (Klassen et al., 2017; Sheridan et al., 2020; Wyatt & O'Neill, 2022).

Discourse on the relevance of these attributes generally supports their inclusion, underscoring their significance over purely cognitive assessments and challenging selection based solely on academic achievements (Dee & Morton, 2016; McGraw & Fish, 2018). Nevertheless, most studies favour a holistic approach, advocating for a combination of diverse criteria and selection measures. The subsequent section details the specific non-academic characteristics most supported by the literature, recommended assessment instruments, arguments for and against their use, and the ongoing debate surrounding these measures.

Personality or personal traits

The non-academic attribute that garners the most attention and debate is personality. Numerous studies strongly advocate for assessing personality traits in teacher selection, often utilizing the Big Five model (Costa & McCrae, 1999). While most recommend considering all five traits due to their broad applicability (Bowles et al., 2013; Klassen et al., 2017; Koschmieder et al., 2018; Sautelle et al., 2015), a notable subset highlights traits with a direct impact on teaching practice. For instance, research emphasize the critical role of *conscientiousness*—defined as a person's tendency to be diligent, goaldirected, and responsible— in predicting success in teaching-related tasks (Decker et al., 2013; Bastian et al., 2017; Sheridan et al., 2022; Wyatt & O'Neill, 2022). Conscientious teachers are more likely to be well-prepared, meet deadlines, and maintain a structured learning environment. Similarly, high *agreeableness* is linked to empathy, cooperation, and nurturing qualities, which are indispensable for fostering a supportive classroom atmosphere.

Although personality traits are recognised as fundamental to behaviour (Klassen et al., 2017) and influence teachers' mental health and job satisfaction (Koschmieder et al., 2018), evidence supporting these assertions is not uniformly conclusive (Wyatt & O'Neill, 2022). An ongoing scholarly debate also exists regarding whether it is more effective to evaluate broad traits, as per the Big Five model, or narrower traits more directly related to situational factors (Koschmieder et al., 2018).

The variety of measures available to assess personality traits—including SJTs, personality tests, teacher survey reports, and inventories— presents challenges. These tools vary in reliability and are sometimes considered questionable (Kahramanoglu & Bay, 2018; Klassen et al., 2017; Sautelle et al., 2015). However, the Big Five Inventory (John & Srivastava, 1999) is consistently endorsed and implemented as a reliable measure (Koschmieder et al., 2018).

Beyond the Big Five model, scrutiny of personal characteristics in candidates reveals a diverse range of attributes, including resilience, self-regulation, and adaptability. Resilience— the ability to cope with and overcome challenging situations—is positively associated with teaching effectiveness. Teaching involves navigating stressors such as behaviour management, time pressures, workload, and occasionally unsupportive leadership, which can lead to burnout (Bowles et al., 2013; Sautelle et al., 2015; Sheridan et al., 2022; Toussi et al., 2011). Resilient teachers are described as persistent, optimistic, quick to recover from setbacks, and proactive in self-care.

Adaptability, closely related to resilience, refers to the ability to remain flexible under stress, adapt to new challenges or environmental factors, make independent decisions, and seek help when necessary (Al Hashmi & Klassen, 2019; Sheridan et al., 2022). It has been linked to greater satisfaction and retention.

Self-regulation, focusing on cognitive aspects, involves the deliberate control of thoughts, feelings, and actions to achieve personal goals. This includes setting realistic objectives, managing impulses, and overseeing tasks and environment, all of which are vital for effective teaching practice and self-improvement (Bowles et al., 2013; Sautelle et al., 2015; Duffin et al., 2012). Teachers adept at self-regulation are better equipped to manage workload, incorporate feedback, and help students to develop similar self-regulatory strategies.

Other discussed characteristics encompass affective competencies (e.g., empathy, frustration management, emotional regulation), character qualities (e.g., learning dispositions, moral values, personal attitudes), and situational factors (e.g., respect for diversity, innovative thinking, self-awareness, consensus-building, and sensitivity to human needs). These are considered valuable for systematically gathering information about candidates and assessing their professional suitability.

Assessment instruments for personal characteristics are varied and often multi-faceted. SJTs can assess resilience, adaptability, and personality traits. Questionnaires may cover social judgment alongside personal traits. Character qualities can be evaluated through written statements, reference letters, or interviews. Personality traits are commonly measured via personality tests, interviews, and teacher survey reports. Emotional regulation may be gauged through psychometric tests, interviews, or specific SJTs. However, identifying the most appropriate measure for selecting candidates based on resilience, confidence, or emotional stability remains uncertain, as these attributes can continue to evolve during training and throughout teaching career. Despite assessment challenges, the significance of personality and personal characteristics in the teacher selection is increasingly acknowledged, reflecting the complexity and diversity of the teaching profession.

Motivation

Motivation ranks as the second most significant attribute extensively discussed in the literature. It is broadly defined as the driving force behind initiative, persistence, goal-directed behaviour, and energy dedicated to achieving specific outcomes (Bagdžiūnienė et al., 2014). Conceptualised as a responsive and context-dependent set of desires, intentions, or beliefs, motivation propels individuals toward their goals (Klassen et al., 2017). It encompassed elements such as self-efficacy, clear goal orientation, and a sense of autonomy, competence, and relatedness. Assessing motivation, particularly toward a teaching career, is considered vital for enhancing selection processes aimed at identifying well-suited candidates (Al Hashmi & Klassen, 2019; Bagdžiūnienė et al., 2014; Camarero-Figuerola et al., 2022; Wyatt & O'Neill, 2022). This evaluation may focus on applicants’ reasons for choosing teaching, their intention to remain in the profession, interest in educational issues, enthusiasm for teaching tasks, and perspectives on professional development (Bagdžiūnienė et al., 2014; Kahramanoglu & Bay, 2018; Katz & Frish, 2016; Sheridan et al., 2022).

Effective tools for assessing motivation include individual or group interviews with a situational or behavioural focus, SJTs, and specific scales such as the FIT-Choice scale (Watt & Richardson, 2007), as well as inventories (Al Hashmi & Klassen, 2019; Bagdžiūnienė et al., 2014; Camarero-Figuerola et al., 2022; Kahramanoglu & Bay, 2018). A minority of studies also suggest combining essays with interviews to elicit more genuine responses by mitigating social desirability bias (Bagdžiūnienė et al., 2014).

The evaluation of motivation is justified by its established importance for optimal teaching performance and professional engagement (Klassen et al., 2017; König & Rothland, 2017). It serves as a strong predictor of teaching effectiveness (Al Hashmi & Klassen, 2019; Kahramanoglu & Bay, 2018; Klassen et al., 2017; Pérez, 2014), helps sustain teachers' work in complex educational contexts (Camarero-Figuerola et al., 2022), fosters commitment to the profession (Klassen et al., 2017; Pérez, 2014), reduces anxiety levels and prevents burnout (Klassen et al., 2017), and positively influences students' learning and motivation (Al Hashmi & Klassen, 2019; Bagdžiūnienė et al., 2014; Keller et al., 2014; Sheridan et al., 2022). Motivation also impacts initial academic success (Al Hashmi & Klassen, 2019; Bagdžiūnienė et al., 2014; Katz & Frish, 2016), engagement in teacher education programs (Bagdžiūnienė et al., 2014; Camarero-Figuerola et al., 2022; Jungert et al., 2014; Klassen et al., 2017; Richardson & Watt, 2014; Sheridan et al., 2022), and long-term professional orientation (Bagdžiūnienė et al., 2014). Importantly, evaluating motivation in selection processes not only helps identify candidates with a genuine vocation for teaching but also raises awareness about the importance of motivation and the appropriateness of their career choice (Bagdžiūnienė et al., 2014). Failing to consider motivation may inadvertently convey that anyone can become a teacher regardless of commitment (ibid). Therefore, motivation is deemed a core attribute for selection (Sheridan et al., 2022; Wyatt & O'Neill, 2022).

The relevance of motivation is further underscored by reported deficiencies among teacher candidates in many countries. Studies indicated that a lack of motivation is a major and urgent problem in teacher education, negatively affecting the profession's social prestige and educational quality (Bagdžiūnienė et al., 2014; Al Hashmi & Klassen, 2019). Consequently, assessing motivation at the entry point of training programs is considered necessary (Al Hashmi & Klassen, 2019). However, selecting motivated students using traditional methods is challenging (Katz & Frish, 2016; Klassen et al., 2017), highlighting the inherent limitations in evaluating this attribute (Sheridan et al., 2022; Wyatt & O'Neill, 2022).

Interpersonal skills

Interpersonal skills are frequently highlighted as critical attributes in selection processes. They concern how individuals relate and interact with others, encompassing sub-skills such as leading discussions and people, persuading, cooperating, and working in groups (Katz & Frish, 2016; Dee & Morton, 2016). Social interaction factors like communication style, fairness, cultural sensitivity, and self-awareness also fall under this umbrella (Bowles et al., 2013).

These skills may be assessed through group interviews, psychometric tests, questionnaires, and specific non-cognitive assessment tools such as CASPer (Computer-based Assessment for Sampling Personal Characteristics) and NACAT (Non-Academic Capability Assessment Tool) (Sheridan et al., 2022).

The literature emphasizes the importance of interpersonal skills in selection (Katz & Frish, 2016; Sheridan et al., 2022). As a social and relational profession, teaching requires educators to possess strong interpersonal abilities (Dee & Morton, 2016; Sheridan et al., 2022). Social interaction factors play a critical role in teachers' effectiveness, including leadership, conflict resolution, collaboration, trust, respect, fairness, ethical decision-making, and cultural sensitivity (Bowles et al., 2013).

While evaluating these skills is widely accepted, it is acknowledged that they are developable through training, being considered "learnable and teachable" qualities (Grunder, 2016). Consequently, teacher education providers can assess interpersonal skills not only for selection but also to identify learning needs, inform program design, and enhance instructional delivery (Sheridan et al., 2022).

Dispositions linked to teaching

Disposition-related traits have gained significant attention as non-academic attributes. Dispositions refer to the inclination to act in a specific manner within a given context (Klassen & Kim, 2022). In teaching, they encompass professional judgment, ethics, attitudes toward the profession, and a predisposition for learning and teaching. Professional ethics includes treating students and colleagues with respect, acting with honesty, fairness, and democratic principles, and embracing responsibility for teaching duties (Al Hashmi & Klassen, 2019; Bowles et al., 2013; Katz & Frish, 2016; Miller-Levy et al., 2014; Wyatt & O'Neill, 2022). Attitudes toward the profession involve making sacrifices to enhance performance, avoiding discrimination, enjoying educational discourse, decision-making based on scientific principles, sensitivity to special educational needs, and fostering positive relationships (Kahramanoglu & Bay, 2018; Lukaš & Samardžić, 2015).The disposition towards teaching and learning encompasses an interest in culture, curiosity about education, critical thinking, and exploration (Pérez, 2014; Sheridan et al., 2022).

These dispositions are significant as they regulate behaviours and influence teaching effectiveness (Al Hashmi & Klassen, 2019). Ethical considerations underscore the importance of teachers embracing the moral dimension of their work and serving as models, making ethics central to teacher professionalism (Miller-Levy et al., 2014). Their relevance in selection is justified by their behavioural nature, which can be observed during this critical phase (Miller-Levy et al., 2014). However, dispositions can be influenced by external factors and are subject to modification during initial training, necessitating appropriate evaluation methods (Klassen et al., 2017).

Evaluation methods may include group interviews, SJTs, recommendation letters, essays, portfolios, teacher survey reports, attitude scales, and applied examinations (Pérez, 2014; Katz & Frish, 2016; Klassen et al., 2017; Miller-Levy et al., 2014; Kahramanoglu & Bay, 2018). It is recommended that dispositions are explicitly assessed and cultivated within teaching-related contexts during selection (Klassen et al., 2017).

Expectations and beliefs

The evaluation of candidates' expectations and beliefs is also advocated in the literature. This includes assessing expectations related to the teaching career and practice, as well as prior beliefs about inclusive education. SJTs and semi-structured questionnaires can be used to assess expectations, while questionnaires are recommended for evaluating beliefs.

The inclusion of these aspects in selection is supported by their impact on program engagement and professional development. Understanding candidates' expectations can guide training programs and help prevent dropout (Dosio et al., 2015). Prior beliefs act as filters for interpreting training content and experiences, significantly influencing teachers' approaches, interactions with students, and instructional design (Levin, 2015; Peček et al., 2015). Teachers rely on their beliefs, both implicit and explicit, to navigate the complexities of the educational system (Klassen et al., 2017). Furthermore, beliefs are observable at program entry and can be resistant to change. Selecting candidates with valued beliefs contributes to effective teaching (Peček et al., 2015).

Nonetheless, implementing such assessments may be challenging in contexts with teacher shortage. Additionally, these attributes may evolve during training and professional development (Klassen et al., 2017). The effectiveness of changing beliefs about teaching and their influence on professional engagement and commitment remains unclear (Klassen et al., 2017).

Other attributes

A minority of studies recommend evaluating additional attributes. First, prior experience in teaching-related activities is supported, with suggestions to evaluate statements of experience or experience profiles through written statements and reference letters to gain a broader understanding of a candidate's suitability (Holden & Kitchen, 2016).

Second, attributes such as maintaining good mental health—defined as the absence of psychological problems that significantly affect daily life—and possessing motor and artistic skills (e.g., drawing, playing music, sports) have been considered (Kahramanoglu & Bay, 2018). However, no specific selection instruments for such skills were identified in the reviewed studies. For mental health evaluation, the use of psychological or personality tests is proposed, but the relevance and discussion surrounding these attributes remain limited and unclear.

Discussion

This scoping review has examined the attributes highlighted in the literature on the selection of candidates for ITE programmes. Its central aim was to identify the key qualities sought in prospective teachers, evaluate the tools and methods used for their assessment, analyse the rationales underpinning these choices, and consider the prevailing discourses that shape their integration into selection frameworks. In doing so, the review provides an original contribution by synthesizing a body of work that has previously been addressed mainly in relation to individual attributes or specific assessment approaches.

The findings demonstrate that both cognitive and non-cognitive attributes are indispensable for assessing candidate suitability. Their relevance lies in their distinct influence on teacher efficacy —with cognitive attributes being more closely associated with academic success, while non-cognitive attributes relate to professional practice and long-term engagement. A significant body of literature adopts a critical view of the historical predominance of cognitive measures, advocating instead for a more balanced, integrative approach. This recommendation aligns with international evidence underscoring the multifaceted nature of teaching, in which cognitive ability and interpersonal acumen are equally vital (Klassen & Kim, 2021). Accordingly, few studies focus exclusively on non-cognitive attributes, and many critique the limitations of relying solely on either domain when assessing candidate potential.

Cognitive attributes remain central to most frameworks, particularly academic achievement and cognitive abilities assessed by standardized tests. While academic performance is widely acknowledged as a robust predictor of success in ITE programmes (Bardach & Klassen, 2020), such measures are insufficient to gauge overall teaching potential. Concerns have also been raised regarding fairness, access (Childs et al., 2011), and unintended consequences, such as delayed entry into the profession and constrained employment prospects (Mankki & Kyrö-Ämmälä, 2022). Beyond grades, the literature increasingly highlights the importance of cognitive skills such as planning, problem-solving, verbal and numerical reasoning, communication, and metacognitive awareness. Yet challenges persist in determining which of these are most pertinent at the point of selection and in identifying appropriate and equitable assessment instruments.

No clear consensus has emerged regarding optimal assessment tools. A wide array of instruments—ranging from group interviews and structured questionnaires to psychometric and performance-based tests—have been proposed. This variation extends to one of the most theoretically grounded constructs: the learner profile. Conceived as a multidimensional framework encompassing cognitive schemas, learning patterns, and prior educational experience, the learner profile has the potential to address limitations inherent in traditional academic metrics. Its relative equity and predictive value are promising, though further research is required to strengthen its conceptualisation and evaluate its validity as a selection tool.

A more comprehensive assessment strategy—one that includes non-cognitive attributes—is thus essential to fully evaluate candidate suitability. Among these attributes, personality traits and motivation are most frequently cited. Behaviourally anchored personality traits are especially valued, as they influence observable actions and correlate strongly with teaching effectiveness, job satisfaction, and professional retention. While some studies adopt the Big Five model, others prioritise narrower traits such as resilience, adaptability, and emotional competence. The diversity of approaches and the uneven evidence base regarding predictive validity reflect the inherent complexity of assessing teachers' psychological characteristics (Bardach et al., 2020).

In contrast, motivational attributes benefit from a greater degree of conceptual and methodological clarity. Core elements include the intrinsic drive to teach, long-term career commitment, and a dedication to educational and social values. The rationale for assessing motivation lies not only in its influence on future professional behaviour, but also in its role in addressing concerns regarding the evolving profile of entrants into the teaching profession (Castro & Egido, 2024; Organisation for Economic Co-operation and Development [OECD], 2023). Context-sensitive and situational assessment tools have shown particular promise in capturing motivational nuances while enhancing perceptions of the profession's legitimacy and prestige.

Other non-cognitive traits—such as interpersonal skills and professional dispositions—are well supported in the literature. Although these traits continue to develop throughout a teacher's career, their early identification is critical for informing programme design and supporting professional growth. Situational judgement tasks and group interviews are often advocated for assessing these qualities, in line with broader selection research (Klassen & Kim, 2019, 2021). Fewer studies explore additional traits such as beliefs or expectations, which, despite their potential influence on programme engagement and career progression, lack sufficient empirical support. As a result, current selection practices tend to privilege attributes with clearer, evidence-based links to teaching success.

The question of which attributes should be prioritised in selection processes remains complex. As Atteberry et al. (2015) argue, the "long-term success of an education system depends on the 'raw materials' that enter the system because there are significant individual differences in the developmental trajectory of new teachers" (p. 3). However, identifying which attributes most reliably predict teaching effectiveness at the admission stage remains an ongoing challenge. Reviews such as this provide a valuable foundation for future systematic reviews, meta-analyses, and longitudinal studies that could strengthen the evidence base supporting particular selection criteria.

Furthermore, it is essential to adopt a future-oriented perspective. As global challenges such as pandemics and climate-related disruptions increasingly affect education systems (Smith et al., 2014; United Nations, 2020), attributes like cognitive flexibility and resilience may become vital in ensuring continuity and adaptability. The expanding role of digital technologies—particularly artificial intelligence—is reshaping how teaching is conceptualised, enacted, and evaluated, underscoring the need for candidates who can engage confidently with such tools and make informed pedagogical decisions in technology-rich environments (Jamal, 2023). At the same time, in contexts affected by acute teacher shortages (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2024), overly stringent or high-stakes selection processes may inadvertently hinder efforts to meet broader educational targets, including the Sustainable Development Goals (SDGs).

Future research should prioritise the development of assessment tools that are both context-adapted and psychometrically robust, capable of capturing the attributes most relevant to effective teaching. These tools must be evaluated not only for their validity and reliability, but also for their suitability across diverse educational settings. As expectations regarding teacher competence vary across regions (Klassen et al., 2018), international evidence provides a valuable basis for informing selection procedures, but it cannot independently determine their design. Incorporating local perspectives is therefore essential to ensure that assessment practices remain contextually appropriate and aligned with national or regional priorities. A key objective should be the refinement of assessment methods and the promotion of a comprehensive understanding that integrates both cognitive and non-cognitive attributes. Such an approach would strengthen selection processes by enabling the identification and development of educators capable of contributing meaningfully to educational quality and societal advancement.

Although this review provides a narrative synthesis rather than a weighted analysis of the evidence, it underscores the need for a balanced, multidimensional approach to teacher selection—one that integrates both cognitive and non-cognitive assessments to ensure a holistic evaluation of candidate readiness and potential. From a policy perspective, the establishment of clear, equitable, and inclusive guidelines is essential. Such guidelines should support integrated assessment strategies that allow all candidates to demonstrate their capabilities fairly and comprehensively, promote the systematic use of validated tools for evaluating non-cognitive attributes, and ensure that cognitive measures are not applied in isolation. In practical terms, policymakers and institutions should develop context-sensitive frameworks that specify which attributes warrant priority, clarify how these attributes align with programme objectives, and guarantee that selection procedures remain culturally appropriate, psychometrically sound, and accessible to diverse applicant groups. Moreover, selection processes should be periodically reviewed to reflect evolving professional demands—including adaptability, sustained motivation, and preparedness to teach in increasingly technology-rich educational environments—so that admission criteria contribute to the long-term development of an effective, equitable, and responsive teaching workforce.

Additional limitations concern the inability of a scoping review to assess the methodological rigour or empirical robustness of the included studies, the limited depth of critical analysis that can be applied to individual studies, and the potential exclusion of relevant literature—particularly from non-English or non-Spanish sources, or from regions underrepresented in major academic databases. These factors may limit the generalisability of the findings to certain educational systems or cultural contexts.

Conclusion

This scoping review underscores the complex and interdependent relationship between cognitive and non-cognitive attributes within the teacher selection process for ITE. It advocates for a holistic approach that recognises the importance of cognitive competencies—essential for academic and pedagogical achievement— while also acknowledging the critical role of non-cognitive traits, such as personality, motivation, and interpersonal skills, in sustaining teaching effectiveness and professional fulfilment.

Crucially, the design and implementation of selection processes must be informed by the aims, content, and observed outcomes of teacher education programmes. Where programmes emphasise different teaching competencies as intended outcomes, corresponding variations in the prioritisation of selection attributes—and by extension, assessment methods—are both necessary and justified. In addition, cultural and regional understandings of effective teaching should be carefully considered, not only in the formulation of teacher education curricula but also in the planning and execution of candidate admissions, ensuring that selection practices remain contextually relevant and educationally coherent.

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