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Integridade acadêmica na formação inicial de professores: uma revisão da literatura

Integridad académica en la formación inicial del profesorado: una revisión de la literatura*

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Abstract: This research conducts a thorough review of academic integrity in teacher education, analysing the prevalence, reasons, and solutions for academic dishonesty. From an initial 693 articles in Web of Science and Scopus, 23 were selected based on strict criteria, revealing issues like plagiarism and cheating among aspiring teachers. The study points to academic pressure, skill shortages, and confusion about integrity principles as key factors driving dishonest behaviours. It stresses the importance of comprehensive strategies to combat this, including ethics education, the development of detection technologies, and cultivating a culture that prioritizes honesty. With the rise of AI, adapting integrity measures becomes crucial. Future research should focus on innovative methodologies, the effectiveness of ethics programs, and the impact of technology on maintaining academic standards, highlighting the educational community's responsibility to promote an honest environment, essential for the credibility of future educators.
Keywords: Integrity. Systematic review. Teacher training. Teachers.

Resumo: Esta pesquisa realiza uma revisão detalhada sobre integridade acadêmica na formação de professores, analisando a prevalência, razões e soluções para desonestidade acadêmica. A partir de um total inicial de 693 artigos indexados no Web of Science e Scopus, 23 foram selecionados com base em critérios rigorosos, revelando problemas como plágio e trapaças entre futuros professores. O estudo aponta a pressão acadêmica, a falta de habilidades e a confusão sobre os princípios de integridade como fatores chave que impulsionam comportamentos desonestos. Enfatiza a importância de estratégias abrangentes para combater isso, incluindo educação ética, desenvolvimento de tecnologias de detecção e cultivo de uma cultura que priorize a honestidade. Com o surgimento da IA, adaptar medidas de integridade torna-se crucial. Pesquisas futuras devem focar em metodologias inovadoras, a eficácia de programas de ética e o impacto da tecnologia na manutenção de padrões acadêmicos, destacando a responsabilidade da comunidade educacional em promover um ambiente honesto, essencial para a credibilidade dos futuros educadores.
Palavras-chave: Integridade. Revisão sistemática. Formação de professores. Professores.

Resumen: Esta investigación realiza una revisión exhaustiva sobre la integridad académica en la formación inicial docente, analizando la prevalencia, razones y soluciones para la deshonestidad académica. De un total inicial de 693 artículos indexados en Web of Science y Scopus, 23 fueron seleccionados basándose en criterios estrictos, centrados en aspectos como el plagio y el engaño entre los futuros docentes. El estudio señala la presión académica, la falta de habilidades y la confusión sobre los principios de integridad como factores clave que impulsan comportamientos deshonestos. Subraya la importancia de estrategias integrales para combatir esta situación, incluyendo la educación ética, el desarrollo de tecnologías de detección y el fomento de una cultura que priorice la honestidad. Con el auge de la IA, adaptar medidas de integridad se vuelve crucial. Las investigaciones futuras deberían centrarse en metodologías innovadoras, la efectividad de los programas de ética y el impacto de la tecnología en el mantenimiento de estándares académicos, destacando la responsabilidad de la comunidad educativa en promover un entorno honesto, esencial para la credibilidad de los futuros educadores.
Palabras clave: Integridad. Revisión sistemática. Formación inicial docente. Docentes.

1. Introduction

The commitment to academic integrity, underscored by values such as honesty, trust, fairness, respect, and responsibility (International Center for Academic Integrity, 2021), is paramount in the context of training prospect educators (Briceño, 2024). This commitment ensures that future generations of educators not only become acquainted with but also deeply internalize these fundamental values. Such internalization is vital for cultivating a culture of trust and ethical conduct within environments where teaching and learning activities occur (Starratt, 2012). Trainee teachers, educated within Faculties of Education Sciences, are prepared to assume roles that extend beyond mere transmitters of knowledge, skills, and competencies; they are also imbued with the mission of instilling values and principles (Castillo Gutiérrez et al., 2020).

The issue of academic integrity among prospective teachers is not only critical but also raises nuanced questions regarding their foundational training (Fontaine et al., 2020). Integrating

ethical principles at the outset of their education is paramount, as this establishes a personal integrity framework that not only informs their professional conduct but also significantly impacts their students. This is particularly relevant given the robust evidence linking instances of academic dishonesty to future professional misconduct (Guerrero-Dib, et al., 2020). Consequently, individuals involved in academic dishonesty who then proceed to obtain teaching certifications might be deficient in the crucial knowledge and skills necessary to create conducive learning environments (Eret & Ok, 2014). Therefore, an in-depth examination of attitudes and behaviours related to academic dishonesty can equip teacher education and certification programs with critical insights, evidence, and strategies. These tools are instrumental in refining these programs and acting as a conduit for enhancements throughout the educational spectrum, potentially catalysing societal progress. Indeed, as Moreno (1999) insightfully noted years ago, educational settings often serve as initial arenas for dishonest behaviours, encapsulated in the adage, "corruption is also learned" (p. 71).

The scholarly discourse on academic integrity and the phenomenon of assessment fraud among university students is both broad and deep (Gallent & Comas, 2024), traversing numerous perspectives and disciplines. Literature reviews on this subject have illuminated the complex and multifaceted nature of academic dishonesty. The following paragraphs outline the primary characteristics of this doctrinal corpus.

1.1. Dishonest conduct and prevalence

Academic dishonesty represents a widespread challenge within higher education, impacting institutions globally (Foltýnek et al., 2020). This phenomenon encompasses a broad range of unethical practices, including but not limited to plagiarism, cheating on exams and assessment tests, falsification or fabrication of data, impersonation by advanced artificial intelligence writing tools, and the commercial exchange of academic activities or "contract cheating" (Cerdà-Navarro et al., 2023).

Within the context of these dishonourable conducts, Lynch et al. (2017) undertook a comprehensive analysis of plagiarism among future nursing professionals, synthesizing the findings from 20 distinct studies. This review illuminated the prevalence of plagiarism within the nursing student community, revealing significant discrepancies in how students and educators perceive this issue.

In a systematic review of the literature on plagiarism within computer science studies, Awasthi (2019) found that most of the research is centred on discussing strategies to reduce plagiarism opportunities and developing detection tools. This review also highlighted a range of justifications provided by students for engaging in plagiarism, particularly those arising from misunderstandings about what constitutes plagiarism. Concurrently, studies like that of Muñoz Cantero et al. (2021) propose various measures to mitigate plagiarism in educational settings. Despite these efforts, there remains a significant gap in empirical research assessing the efficacy of such strategies and tools.

Newton (2018) synthesized findings from an extensive dataset to evaluate the prevalence of contract cheating in higher education. Collating data from 54,514 participants across 71 samples and 65 studies since 1978, Newton calculated a historical average of 3.52% of students involved in such transactions. Notably, data post-2014 indicated that 15.7% of students had engaged in paying for academic assignments and essays, suggesting an annual global impact involving approximately 31 million students.

Ali et al. (2020) categorized academic misconduct into five primary themes through the analysis of 129 articles: plagiarism, commercial transactions of academic activities, distance education fraud, academic collusion, and scientific misconduct (data fabrication, data falsification, and ghost authorship).

The review by Newton and Essex (2023) addressed the surge in academic fraud during online examinations, a trend that intensified with the rapid shift to virtual education prompted by the COVID-19 pandemic. Surveying 4,672 participants from studies conducted since 2012, they reported a significant increase in cheating—from 29.9% pre-pandemic to 54.7% during the pandemic. Similarly, Maryon et al. (2022) explored the pandemic's effect on academic integrity, noting an exacerbation of pre-existing concerns. This transition to online learning amplified opportunities for academic dishonesty and heightened faculty apprehensions, especially in science-related subjects and courses involving practical laboratory work.

A particularly noteworthy area of recent inquiry is the impact of Artificial Intelligence (AI) on academic integrity. Rodrigues et al. (2024) delved into this issue proposing a framework based on an analysis of 163 publications that outlines the relationship between AI and academic integrity. Despite rapid advancements in AI that pose challenges to maintaining academic integrity in higher education, there is a noticeable scarcity of research on how AI can be leveraged to enhance it.

1.2. Causes of Academic Dishonesty

Numerous reviews have elucidated the principal factors influencing academic dishonesty. Moss et al. (2018) analysed 83 studies and identified specific circumstances correlated with plagiarism, such as a utilitarian approach to academic success ("the end justifies the means"), deficient self-confidence, impulsive behaviour, and skewed perceptions. Yet, these tendencies appear to diminish when students' academic and personal lives align with their future goals and expectations.

Parnther (2020) reviewed 29 studies to untangle the demographic intricacies of students prone to academic dishonesty, finding that 40% to 70% of students confess to engaging in or being aware of dishonest practices. The influence of peer groups and external pressures significantly affects student decisions, with the drive for high grades and the perception of widespread dishonesty among peers exacerbating this issue. Furthermore, international students might be disproportionately affected due to unfamiliarity with the academic integrity standards of Western educational systems.

Bazoukis et al. (2020), focusing on the analysis of evidences on health sciences degrees, observed a normalization of attitudes towards academic dishonesty in recent times. While technology has both facilitated dishonest acts and enhanced detection methods, they also noted a strong correlation between male gender and increased dishonesty risk.

Zhao et al. (2022) combined data from 38 studies involving 24,181 participants, spanning from 1941 to 2021. Their findings underscore the pivotal role of peer influence: the higher the perceived prevalence of dishonesty within a peer group, the higher the individual propensity for such behaviours.

Wang and Zhang (2022) conducted a literature review that examined the interplay between personality traits, attitudes towards norms, and academic dishonesty. They concluded that specific personality differences significantly forecast the likelihood of dishonest actions.

Kampa et al. (2024) analysed 166 articles to pinpoint the predominant reasons behind plagiarism, highlighting the accessibility of electronic resources, task overload and procrastination, insufficient academic writing and citation skills, and the absence of stringent penalties for misconduct.

1.3. Prevention and intervention strategies

Benson and Enstroem (2023) contend that combating academic dishonesty necessitates a multifaceted strategy encompassing the formulation of robust regulations and policies, the adoption of technological systems for detecting dishonest behaviours (notably plagiarism), and the cultivation of an integrity-centric culture within the academic community. Complementing this perspective, the systematic review by Hayden et al. (2021) scrutinized the efficacy of plagiarism detection software through an analysis of 129 articles published between 2016 and 2021. This review advocates that reliance on detection technologies alone is insufficient; instead, they should be integrated into a broader, institution-wide commitment to academic integrity.

Similarly, Amsberry (2022) examined strategies for instilling academic integrity within nursing education by analysing 11 studies. This investigation revealed a significant gap in evidence-based strategies capable of positively influencing academic practices in this field, highlighting an urgent need for further research.

The literature on this topic consistently emphasizes the intricacy of academic dishonesty and the necessity for a comprehensive strategy in its prevention and management. This entails not only educating students about the paramount importance of academic integrity but also delving into the psychological and contextual factors that contribute to dishonest behaviours. Moreover, it necessitates the establishment of effective policies and practices designed to discourage unethical conduct. Central to overcoming the challenges posed by academic dishonesty is the development of a strong culture of integrity within educational institutions, a critical factor in safeguarding the quality and trustworthiness of higher education.

2. Objectives

This study extends the range of extant scholarly reviews by conducting a systematic analysis of the scientific literature on academic integrity within preservice teacher education. The study is driven by several key objectives:

- To analyse the evolution of research on academic integrity in initial teacher education.
- Identify and classify the dishonest behaviours analysed.
- Determine the prevalence of academic dishonesty amongst preservice teachers.
- Investigate the causes or explanatory factors of academic dishonesty in initial teacher training.
- Systematize and analyse the strategies adopted in favour of academic integrity.

3. Methodology

Systematic reviews are pivotal in synthesizing and consolidating the extant body of knowledge within a specific domain, thereby offering a comprehensive summary of findings across multiple studies. Such reviews provide invaluable insights that inform future research directions and practical applications (Moreno-Küstner et al., 2018). Accordingly, this academic article employs

a systematic review methodology to fulfil the research objectives previously delineated. The review process adheres to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Page et al., 2021), ensuring a methodological rigor and transparency throughout the presentation. The subsequent sections elaborate on the research methodology employed.

This study follows the systematic review framework proposed by Tawfik et al. (2019), which comprises several distinct phases. The initial step involves formulating the research questions, which then guide the commencement of a preliminary search aimed at identifying pertinent articles. This initial exploration serves multiple purposes: verifying the research hypothesis, assessing the feasibility of the review based on available literature, and refining the search strategy and relevant terms based on preliminary findings. Following this, we established specific inclusion and exclusion criteria to filter the publications for the final analysis. With these preparatory steps completed, a comprehensive search across multiple databases was undertaken.

The execution of the PRISMA guidelines facilitated a structured approach, encompassing the phases of identification, selection, and inclusion of data. This meticulous process ensured the retrieval of relevant publications, which were then subjected to an in-depth and systematic analysis. The goal of this analysis was to distil significant insights and draw meaningful conclusions from the aggregated data.

3.1. Search equations and databases

The methodology for identifying search terms and keywords employed the Boolean search strategy, an approach that integrates descriptors and truncations within search equations to optimize result retrieval (Moncada-Hernández, 2014). This technique facilitated the comprehensive accumulation of pertinent literature. The investigation predominantly sourced literature from two principal academic databases: Web of Science (WoS) and Scopus, recognized for their extensive repository of scholarly articles (Moreta & Hung, 2020). Detailed configurations of the search terms, alongside the Boolean operators used, are systematically catalogued in Table 1 for reference.

Table 1. Search Equations, Databases, and Records

Database	Search Equation	Results	Search Run Date
SCOPUS	(TITLE-ABS-KEY ("academic integrit*" OR honest* OR copy OR plagiarism OR plagiarism* OR cheat* OR fraud* OR dishonest* OR miscond* OR unethic* OR Cribb* OR Deceit* OR Malpract* OR Uprightness) AND ABS (preservice OR pre-service OR "teacher training" OR "future teache*" OR "prospective teache*" OR "future educat*" OR "education stude*" OR "education degree*" OR "Teacher Education" OR "Initial Teacher Training" OR "Teacher Preparation Programs" OR "Pre-service Teacher Education" OR "Bachelor of Education")	388	30/11/2023
Wos	AB=("academic integrit*" OR honest* OR copy OR plagiarism OR plagiarism* OR cheat* OR fraud* OR dishonest* OR miscond* OR unethic* OR Cribb* OR Deceit* OR Malpract* OR Uprightness) AND AB=(preservice OR pre-service OR "teacher training" OR "future teache*" OR "prospective teache*" OR "future educat*" OR "education stude*" OR "education degree*" OR "Teacher Education" OR "Initial Teacher Training" OR "Teacher Preparation Programs" OR "Pre-service Teacher Education" OR "Bachelor of Education")	305	01/12/2023
Total		693	

Source: Authors' own elaboration.

3.2. Eligibility criteria

To be considered for inclusion in the systematic review, existing publications, as well as associated search terms and keywords, needed to meet the eligibility criteria specified in Table 2.

Table 2. Inclusion and exclusion criteria applied

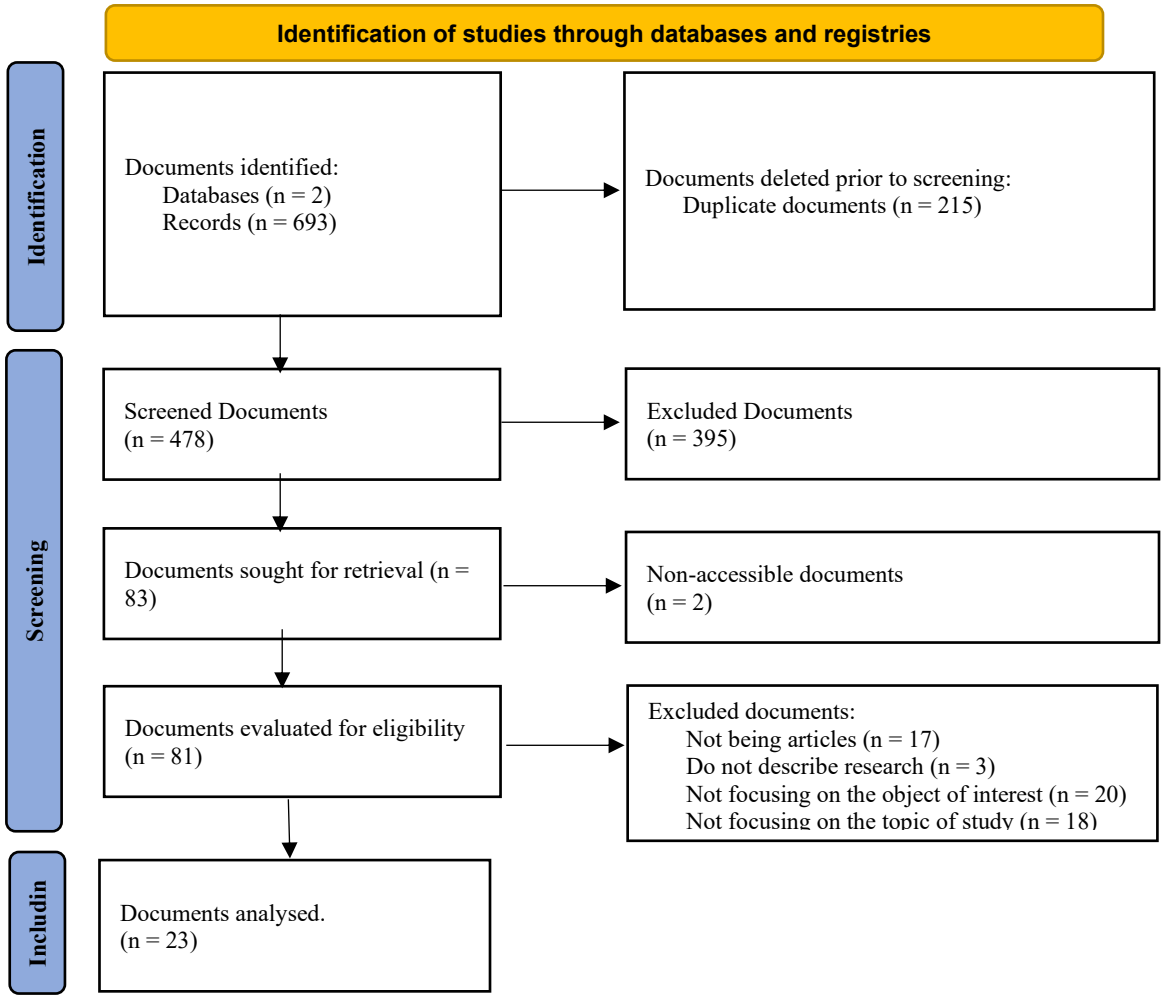
Inclusion criteria	Exclusion Criteria
Journal Articles	Other types of documents (theses, book chapters, conference proceedings, etc.)
Articles submitted to a peer review process	Articles that do not describe research (editorials, reviews, etc.)
Articles detailing research in which the sample studied is exclusively students or teachers of degrees aimed at initial teacher training	Articles that have different samples of students or teachers of degrees aimed at initial teacher training
Articles detailing research focused exclusively on academic integrity in initial teacher education	Articles derived from research in which the study of academic integrity is secondary or tangential

Source: Authors' own elaboration.

3.3. Database search and selection

The subsequent stage of the study entailed a comprehensive search across the previously mentioned primary journal databases, Web of Science (WoS) and Scopus. This extensive search yielded an initial total of 693 articles, with their distribution detailed in Table 2. To streamline the review process, the articles were meticulously catalogued and organized utilizing Rayyan, a collaborative platform specifically tailored for facilitating systematic literature reviews (Ouzzani et al., 2016). Consistent with PRISMA guidelines (Page et al., 2021), the articles underwent a rigorous screening and eligibility evaluation process, details of which are illustrated in Figure 1.

Figure 1. Flow diagram of the process of identifying, screening and selecting documents



Source: Authors' own elaboration.

During the initial sorting phase within Rayyan, a total of 478 articles were processed, with 215 duplicates being efficiently identified and removed to streamline the dataset. The screened 478 articles underwent a detailed examination of titles and abstracts against the pre-defined search criteria. From this thorough assessment, 83 articles were identified as potentially relevant; however, 2 of these were not available for retrieval.

The full texts of the remaining 81 articles were then procured, and their conformity to the established inclusion criteria was rigorously evaluated. Through this stringent review process, 58 articles were determined to be inconsistent with the inclusion standards, leading to the exclusion of these from further consideration. Consequently, 23 articles that met all eligibility requirements were selected to constitute the core of the systematic review's document corpus, as detailed in Table 3.

Table 3. Bank of documents analysed in the review

Journal	Authors and year	Country in which the study was carried out
American Educational Research Journal	Cummings et al. 2001	USA
Assessment & Evaluation in Higher Education	Eret and Ok 2014	Turkey
Canadian Journal of Education	Jeffrey and Dias 2019	Canada
Distance Education	Compton et al. 2010	USA
Education XX1	Cebrián-Robles et al. 2018	Spain
Education Sciences	Cebrián-Robles et al. 2023	Spain
Educational Research and Reviews	Unal 2011	Turkey
Frontiers in Education	Baidoo-Anu et al. 2023	Ghana
Frontiers in Psychology	Eshet and Margaliot 2022	Israel
Íkala, Journal of Language and Culture	Vargas-Franco 2019	Colombia
International Journal for Educational Integrity	Fontaine et al. 2020; DiPaulo 2022	Canada USA
International Journal of Information and Education Technology	Robledo et al. 2023	Philippines
Journal of Academic Ethics	Romanowski 2022	Gulf Cooperation Council
Perspectives in Education	Mtshali 2021	South Africa
Research in Higher Education	Daniel et al. 1991; Ferrell and Daniel 1995	USA USA
Scandinavian Journal of Educational Research	Merkel 2022	Norway
South African Journal of Education	Akbaşlı et al. 2019	Turkey
South African Journal of Science	Mahabeer and Pirtheepal 2019	South Africa
Support for learning	Karlsudd 2018	Sweden
The Anthropologist	Ozmercan 2015	Turkey
Turkish Online Journal of Distance Education	Martínez-Romera et al. 2020	Spain

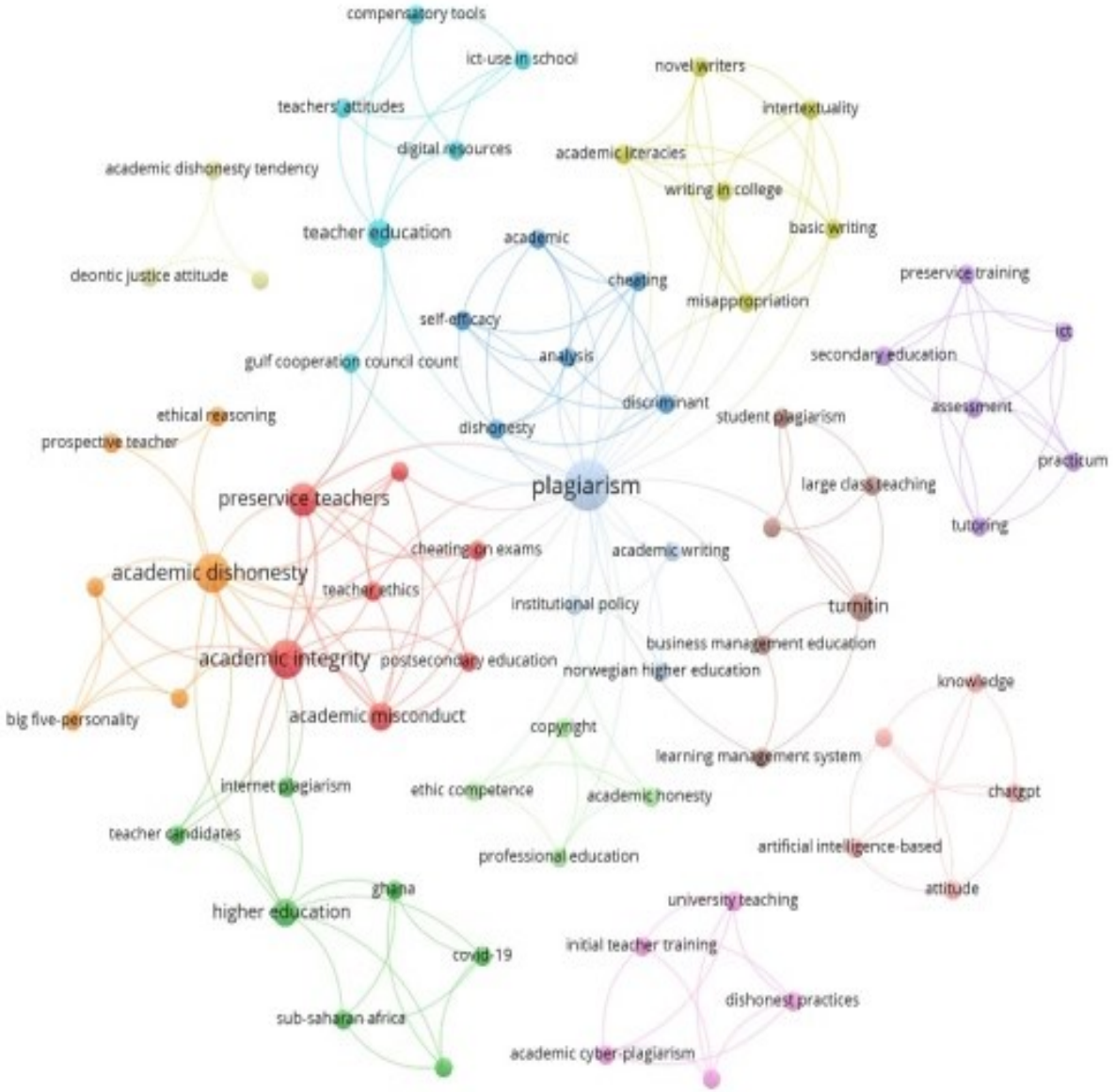
Source: Authors' own elaboration.

4. Results

4.1. Topics addressed in the studies analysed

Figure 1 represents the central themes identified in the analysed literature, along with their interrelations, presented through a keyword cloud created using VOSviewer software. The dimension of each keyword and its linkages not only reflect the usage frequency within the articles but also illustrate the intricate connections among various facets of academic integrity as explored in the scholarly works.

Figure 2. Representation and connection of the keywords of the analysed literature



Source: Authors' own elaboration based on VOSviewer.

Considering the central themes addressed, the key concepts considered, the frequent interactions among these concepts, the educational contexts of focus, the tools employed in evaluations, and the concepts pertaining to cultural and regional aspects, the analysis produced an interconnection map among descriptors in the reviewed literature with the following characteristics:

- "Academic dishonesty," "academic integrity," "plagiarism," and "cheating on exams" are key topics discussed in multiple articles. Likewise, "attitude", "self-efficacy" and "attitudes of teachers" are broader psychological or pedagogical constructs that are likely to be discussed in relation to academic integrity. There are secondary terms such as "cheating," "misappropriation," and "internet plagiarism" that further specify the types of academic dishonesty. Finally, the emergence of "COVID-19" suggests that some articles discuss the impact of the pandemic on academic integrity, which includes the rise of online learning and its challenges.

- Among the main connections between concepts, there is a strong association between "academic dishonesty" and "teacher in training", which implies a significant focus on the tendencies or behaviours of trainee teachers with respect to academic dishonesty. "Plagiarism" is closely associated with "academic writing" and "student plagiarism" indicating a focus on this specific form of academic dishonesty within the context of writing. "Teaching ethics", "ethical reasoning" and "ethical competence" are also grouped together, suggesting discussions around the ethical training of teaching staff.

- Regarding the educational context, there is a relevant connection between terms such as "higher education", "teacher training", "professional education" and "post-secondary education", highlighting the educational levels and environments in which academic integrity is examined.

- Among the main tools employed in the assessment, anti-plagiarism software such as "Turnitin" is mentioned linked to "knowledge", indicating discussions about practical measures to ensure academic integrity. On the other hand, "assessment" and "ICT" have a strong linkage, indicating a significant association of technology and assessment practices on academic integrity.

- Finally, reference is made to places such as "sub-Saharan Africa" and "Ghana" that indicate a geographical focus or case studies within the literature, addressing academic integrity in initial teacher education in these specific contexts.

4.2. Typology of dishonest conduct in initial teacher training qualifications

Dishonest behaviours cover a broad array of actions, ranging from cheating on exams to submitting assignments completed by another student as one's own. Consequently, these diverse behaviours have been organized into four overarching categories, following the taxonomy proposed by Comas et al. (2011): examination and assessment-related dishonesty, assignments and essays preparation and submission, research misconduct, and other forms of improper academic conduct.

Dishonest Conduct in Exams and Assessment Tests

Among the categories identified in the literature review, dishonest behaviour during exams and assessment tests emerged as a notably prevalent theme. This category encompasses a wide range of misconduct, including copying another student's answers, attempting to influence grading by interacting with faculty post-examination, altering answers on an already graded exam under the guise of correcting supposed marking errors, utilizing mobile phones or other electronic devices to seek assistance during a test, acquiring questions or answers from peers who have previously taken the exam, and employing unauthorized notes or materials during the assessment process (Akbaşlı et al., 2019; Compton et al., 2010; Cummings et al., 2001; DiPaulo 2022; Ferrell & Daniel 1995; Fontaine et al., 2020).

Misconduct in the elaboration and submission of academic assignments

A significant category of academic dishonesty pertains to the preparation and submission of academic essays and assignments. This includes soliciting assignments from peers for the purpose of copying them, collaborating on assignments designated for individual completion, contracting the execution of assignments (contract cheating), or re-submitting essays previously handed-out for other courses or subjects (Compton et al., 2010; DiPaulo, 2022; Romanowski,

2022). There is a significant attention on plagiarism phenomenon; this category bifurcates into two distinct subcategories:

1) Online plagiarism (cyber-plagiarism): This subcategory encompasses copying text fragments from websites and incorporating them into one's work without proper citation, employing ChatGPT or similar tools fraudulently, using images or videos from the internet without attribution, or presenting an entirely internet-obtained essays as one's own for a course (Cebrián-Robles et al., 2023; Eret & Ok, 2014; Robledo et al., 2023).
2) Printed sources plagiarism: This is a category with fewer evidences than the previous one in the analysed literature and involves copying excerpts from printed materials into one's work without citation or reusing segments of previously submitted assignments in new submissions, again without proper attribution (Cebrián-Robles et al., 2023).

Misconduct in research activities

Another critical category relates to research activities, incorporating behaviours such as a lack of familiarity with academic writing rules, "patchwriting" (inadequate paraphrasing), misuse of resources (e.g., conducting research for other students), and engaging in practices previously mentioned but within the context of research activities (Cummings et al., 2001; Vargas-Franco, 2019).

Improper behaviours or conduct

The final category, the less represented in the literature, addresses behaviours deemed improper or detrimental, including damaging peers' materials, insulting or harassing others (Daniel et al., 1991).

4.3. Prevalence and perception

Although there is no clear consensus on the prevalence of academic dishonesty, likely due to the wide variability in definitions of the term, it is evident that behaviours deviating from the principles of academic integrity are remarkably common among future teaching staff. Fontaine et al. (2020) highlight this prevalence, while DiPaulo's (2022) survey-based study underscores the extent, revealing that over 80% of respondents admitted to engaging in some form of dishonest behaviour in the last two years. Furthermore, 68% of these admitted to committing serious acts of dishonesty, including cheating on exams or in the submission of written papers and essays. Eshet and Margaliot (2022) provide additional evidence, finding that 71% of the students surveyed admitted to cheating during their preservice teacher training. Despite these high rates, a significant disconnect in perception exists, with many not considering academic dishonesty a serious issue, deeming such incidents as "rare" or "occasional" (Daniel et al., 1991).

Following the previous classification, the first category, dishonest conduct in examinations and evaluations, has been widely mentioned in the literature due to its frequency, with its prevalence notably increasing over the years: estimated at 61% in 1992, rising to 71% in 2000, and reaching 74% in 2002 (Unal, 2011). This trend is also highlighted in the study by Fontaine et al. (2020), where the use of hidden notes and copying from a classmate during an exam were identified as prevalent cheating methods.

Although most students understand what plagiarism constitutes, the second category, dishonest behaviour in the preparation and submission of assignments, also sees widespread occurrence. Astonishingly, a student might have 80% of his/her essay plagiarized without being

aware of it, suggesting a rudimentary understanding of plagiarism that is limited to verbatim copying (Cebrián-Robles et al., 2018; DiPaulo, 2022; Jeffrey & Dias, 2019; Merkel, 2022; Romanowski, 2022; Vargas-Franco, 2019). The rise in academic dishonesty has been partly attributed to the integration of new technologies in education, leading students to believe it is easier to commit plagiarism virtually than in person (Compton et al., 2010; Eret & Ok, 2014; Karlsudd, 2018; Romanowski, 2022). Despite familiarity with the concept of plagiarism, the definitions provided by future teachers are basic, focusing on direct copying of texts without acknowledging the complexity involved in academic dishonesty (Cebrián-Robles et al., 2018; DiPaulo, 2022; Romanowski, 2022).

The literature mentions dishonest conduct in research activities and inappropriate behaviours less frequently than the first two categories, yet these practices persist (Cummings et al., 2001; Daniel et al., 1991; Vargas-Franco, 2019).

A significant aspect in the perception of academic dishonesty is the influence of observing dishonest behaviour among peers. Studies show that future teachers are more likely to admit to engaging in similar behaviours if they perceive their peers have done so (Eshet & Margaliot, 2022; Unal, 2011). Moreover, more negative attitudes or perceptions toward academic dishonesty are associated with a lower incidence of these behaviours, indicating that attitudes toward academic integrity can predict their perpetuation (DiPaulo, 2022; Fontaine et al., 2020). Differences in the perception of academic dishonesty also exist depending on the degree program. Cebrián-Robles et al. (2023) observed that future Early Childhood Education teachers exhibited a higher prevalence of dishonest behaviour during the pandemic compared to those in Primary Education, underscoring the importance of implementing specific strategies to prevent academic dishonesty tailored to the unique characteristics of each group. The progression through academic levels appears to correlate with shifting perceptions regarding academic dishonesty.

According to Ozmercan (2015), students at more advanced stages of their educational trajectories reported a higher frequency of engaging in behaviours indicative of academic dishonesty compared to those newly initiated into their academic programs. This observation implies an incremental acceptance and possibly a normalization of dishonest practices as students advance in their academic careers.

Gender differences, amongst future teachers, also impact the perception and engagement in academic dishonesty. Akbaşlı et al. (2019) found that women were less likely to engage in dishonest behaviour compared to men, with women demonstrating a greater sense of moral obligation, suggesting a link between engaging in dishonest behaviour and attitudes toward deontic justice.

4.4. Explanatory causes

The numerous causes leading future educators to engage in academically dishonest behaviours are diverse, spanning from deficits in essential academic skills such as creativity, expression, organization, and analysis, to personal factors including a lack of motivation and predispositions towards lethargy and procrastination (Romanowski, 2022; Vargas-Franco, 2019). Cebrián-Robles et al. (2018) delineate a model categorizing the principal reasons for plagiarism into three distinct groups. The model's first facet emphasizes internal motivations, attributing plagiarism among future teaching staff to difficulties related to academic writing competencies, as well as a lack of understanding or familiarity with the assigned tasks. The second facet concerns external motivations, pointing to the lecturers' incapacity to detect plagiarism and the absence of consequences for students if their dishonest behaviours are unearthed. The third aspect highlights

disinterest in the assigned tasks as a motivational factor. This conceptual model accentuates the critical role of supporting students in overcoming knowledge deficits and training evaluative staff in the detection and addressing of dishonest behaviours, thereby signalling that such actions bear consequences. It also underscores the significance of crafting engaging assignments to mitigate student disinterest.

Furthermore, students often engage in a process of neutralizing their unethical behaviours, justifying them with various rationalizations. This mechanism of justification diminishes students' perceived culpability for these dishonest acts, underlining the necessity to tackle not only the dishonest actions themselves but also the underlying beliefs that motivate these actions (Daniel et al., 1991; Fontaine et al., 2020). In this vein, the ethical reasoning capacity of the students emerges as pivotal; individuals with a heightened capability to evaluate situations from an ethical standpoint are less inclined to engage in academic dishonesty (Cummings et al., 2001; Unal, 2011).

Another contributory factor to the inclination towards academic dishonesty is the external pressure exerted by family members or educators. Such expectations can impose significant pressure on students to excel at any cost, potentially driving them towards academic dishonesty. Concurrently, the pursuit of high grades can lead students to justify or rationalize the significance of the means employed to achieve them, even when those means involve engaging in academically inappropriate practices (Vargas-Franco, 2019).

4.5. Strategies for academic dishonesty

The literature review underscores a pivotal shift towards preventative rather than punitive measures in mitigating academic dishonesty. This approach advocates for equipping students with the resources and materials necessary to deter engagement in dishonest behaviours. Notably, the emphasis is placed on the development and implementation of academic integrity training activities, particularly targeting university students in their initial years, as highlighted by DiPaulo (2022) and Vargas-Franco (2019). Furthermore, the significance of delivering comprehensive training on plagiarism, encompassing both ethical and pedagogical dimensions, is accentuated, aligning with the recommendations of Jeffrey and Dias (2019).

The corpus of evidences also proposes the active participation of students in combating academic dishonesty through the establishment of student-led committees or panels tasked with the assessment of dishonest conduct incidents (DiPaulo, 2022). Moreover, fostering creativity and originality within the student body is deemed essential, with research suggesting that individuals possessing higher levels of creative capabilities are less prone to engage in dishonest behaviours, thereby stressing the importance of nurturing these skills within higher education (Eshet & Margaliot, 2022).

In the realm of Information and Communication Technologies (ICTs), the promotion of their safe and responsible usage is imperative, as endorsed by Baidoo-Anu et al. (2023), Eret & Ok (2014), Karlsudd (2018), and Martínez-Romera et al. (2020).

Addressing the challenge of cyberplagiarism, it is advisable to impart digital literacy through an institutional framework that supports ethical and secure task completion by students. Additionally, there's a call for the formulation of national policies to overcome the complexities introduced by the advancement of artificial intelligence in education (Cebrián-Robles et al., 2023). With the increasing integration of technologies like ChatGPT in academic settings, it becomes imperative to devise instruments to gauge future teachers' knowledge and practices regarding these

innovations, offering insights into the educational usage of these applications by students (Robledo et al., 2023).

An intriguing aspect to consider is the emotional response of students implicated in dishonest conduct. Mtshali (2021) explores varied student reactions to the plagiarism detection tool Turnitin, ranging from stress and indignation to gratitude. A segment of the students viewed the tool's protective measures against plagiarism positively, considering it a conduit for enhancing their work's quality and originality. This perspective advocates for a re-evaluation of anti-plagiarism strategies, recognizing them as facilitators of independent learning and academic integrity (Mahabeer & Pirtheepal, 2019).

5. Limitations, discussion, and conclusions

The study's methodology and scope inherently carry limitations that warrant acknowledgment for a comprehensive understanding of the issues at hand. Firstly, the rapid technological advancements in education, particularly the integration of AI tools, introduce a dynamic challenge to academic integrity and authors are aware that this literature review provides a static representation of an extremely dynamic phenomenon. The capabilities of technology-based devices to both facilitate and detect academic dishonesty remain a double-edged sword, necessitating continuous monitoring and evaluation. The field is evolving at such a pace that consistent updates and studies are required to keep abreast of technological implications (Khalil et al., 2022).

Furthermore, the cultural dimension of academic dishonesty, while partially explored, remains underrepresented in current literature focused on preservice teachers. The study by Nguyen and Goto (2024) provides a useful comparison of attitudes towards academic integrity across cultures, yet the diversity and depth of global educational practices call for more extensive research. This includes not only cross-national comparisons but also intra-national studies that consider regional, institutional, and demographic variations.

Additionally, the reliance on self-reported behaviours in academic dishonesty research that has been reported in the review, as critiqued by Comas (2009), may not fully capture the complexity of the issue. The potential for social desirability bias, combined with the limitations of self-report methodologies in accurately reflecting behaviours and attitudes, suggests the need for innovative research techniques that can offer more objective and nuanced insights (Hren et al., 2006).

The challenge of academic dishonesty in the context of preservice teacher education is multifaceted, encompassing ethical, technological, and cultural dimensions. The emergence of AI as both a tool for academic misconduct and a means for its detection underscores the need for an ongoing dialogue between technological innovation and ethical education. Perkins (2023) highlights the potential of AI in reshaping the landscape of academic integrity, yet this potential comes with the responsibility to ensure ethical usage and understanding of such technologies among educators and students alike.

Ethical education, as emphasized by Kooli (2023), plays a crucial role in mitigating instances of academic misconduct. Integrating ethics and integrity training into teacher education programs can equip future educators with the moral compass necessary to navigate the complexities of academic and professional conduct. However, the effectiveness of these interventions hinges on their ability to resonate with students' values and to be applied in practical, real-world contexts.

Addressing academic dishonesty within preservice teacher education requires a comprehensive, multi-pronged approach that balances the benefits of technological advancements with the imperatives of ethical education. As we look towards the future, the development of robust detection tools, the integration of ethics and integrity training, and the cultivation of a culture that values honesty and responsibility emerge as critical pillars of this endeavour.

The potential of AI and digital technologies to support efforts in promoting academic integrity is significant, yet it demands careful consideration of ethical implications and accessibility issues. Ensuring that these technologies enhance rather than undermine academic standards will be an ongoing challenge for educators, technologists, and policymakers.

Cultural sensitivity and inclusivity in developing and implementing strategies to address academic dishonesty are crucial. The diversity of educational traditions and values across and within societies necessitates nuanced approaches that respect cultural differences while promoting universal principles of integrity.

Future research should prioritize the exploration of innovative methodologies for studying academic dishonesty, the assessment of the long-term effectiveness of ethics education programs, and the examination of cultural influences on academic integrity. Additionally, the evolving role of technology in education warrants continuous scrutiny to harness its potential for fostering a culture of integrity while mitigating risks associated with academic dishonesty.

Fostering academic integrity within preservice teacher education is a dynamic and complex challenge that requires concerted efforts from all stakeholders in the educational ecosystem. By embracing technological advancements, prioritizing ethical education, and respecting cultural diversity, the academic community can make significant strides towards upholding the principles of honesty and integrity that are foundational to educational excellence and societal progress.

The importance of academic integrity within the context of preservice teacher training cannot be overstated. As the foundation upon which future educators build their professional practices, the principles of academic honesty and ethical conduct are paramount. However, the evolving landscape of education, particularly with the advent of artificial intelligence (AI) and the expansion of online studies, presents new challenges to upholding these values. Academic dishonesty, in this context, not only undermines the credibility of educational institutions and the legitimacy of the qualifications they offer but also threatens the integrity of the teaching profession itself. The potential for AI to both aid and complicate issues of plagiarism, unauthorized collaboration, and other forms of academic dishonesty requires urgent attention.

There is a pressing need to enhance our understanding and evidence base concerning the impact of AI on academic integrity in preservice teacher training. As educators are increasingly implementing AI tools for teaching and assessment, it's critical to assess how these technologies can be used responsibly to uphold academic standards. Moreover, the incorporation of AI in educational settings demands a re-evaluation of what academic honesty means in the digital age and how it can be effectively taught and reinforced among student teachers. The integrity of the teaching profession, after all, relies not just on the knowledge and skills that educators possess but also on their ethical standards and practices.

To safeguard the values of academic integrity in this new technological era, it's essential to foster an ongoing dialogue and scholarship on the subject. This includes developing strategies and policies that address the unique challenges posed by AI and increasing online learning environments. By doing so, we can ensure that preservice teacher training programs not only prepare educators to use technology ethically and effectively but also instil in them a deep respect

for the principles of academic honesty. As we are rapidly transiting these complex issues, the commitment to maintaining integrity in education, as a static pillar, will be crucial for shaping a future where the teaching profession remains respected and valued for its ethical standards as much as for its educational impact.

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