

Academic integrity and artificial intelligence in higher education contexts: A rapid scoping review

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Abstract

Artificial intelligence (AI) developments challenge higher education institutions' teaching, learning, assessment, and research practices. To contribute evidence-based recommendations for upholding academic integrity, we conducted a rapid scoping review focusing on what is known about academic integrity and AI in higher education before the emergence of ChatGPT. We followed the Updated Reviewer Manual for Scoping Reviews from the Joanna Briggs Institute (JBI) and the Preferred Reporting Items for Systematic reviews Meta-Analysis for Scoping Reviews (PRISMA-ScR) reporting standards. Five databases were searched, and the eligibility criteria included higher education stakeholders of any age and gender engaged with AI in the context of academic integrity from 2007 through November 2022 and available in English. The search retrieved 2,223 records, of which 14 publications with mixed methods, qualitative, quantitative, randomized controlled trials, and text and opinion studies met the inclusion criteria. The results showed bounded and unbounded ethical implications of AI. Perspectives included: AI for cheating; AI as legitimate support; an equity, diversity, and inclusion lens into AI; and emerging recommendations to tackle AI implications in higher education. The evidence from the sources provides guidance that can inform educational stakeholders in decision-making processes for AI integration, in the analysis of misconduct cases involving AI, and in the exploration of AI as legitimate assistance. Likewise, this rapid scoping review signals possibilities for future research, which we explore in our discussion.

Keywords

academic integrity, artificial intelligence, academic misconduct, higher education, rapid scoping review, large language models (LLM)

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Introduction

With the emergence of new Artificial Intelligence (AI) tools that can generate, paraphrase, or translate text and assist writing, writing may no longer be a purely human skill. AI refers to “computing systems that are able to engage in human-like processes such as learning, adapting, synthesizing, self-correction and use of data complex processing tasks” (Popenici & Kerr, 2017, p. 2). Even though some AI experts have announced progress in the area in recent years and suggested exploring the ethical implications of AI in education (Bearman & Luckin, 2020; Zawacki-Richter et al., 2019), it was arguably the release of ChatGPT that has substantially raised public interest about the issue (Brusini, 2023; Foltýnek et al., 2023; Perkins, 2023). In this milieu, the term Generative AI (GenAI) has been coined to denote AI systems designed to create content or data in ways that resemble what humans can do (Farrelly & Baker, 2023), and ChatGPT is recognized as a notable instance of GenAI.

New GenAI advancements go beyond text generation to include multimodal capabilities that involve visual data in com-

bination with textual data based on Foundation Models (Myers et al., 2024). However, the significance of text in the higher education sphere has placed text generation and Large Language Models (LLMs) at the center of current debates concerning AI implications. GenAI tools that generate text are examples of algorithmic writing technologies, i.e., software tools that can create original texts from scratch or with little user input (Dans, 2019; Mindzak, 2020). The basic approach combines rule-based models of human language with machine learning and involves training a neural network on an extensive data set (i.e., deep learning) to create a model that understands both the context and intent of natural languages (Kublik & Saboo, 2022). The resulting LLMs can respond to human prompts by predicting the next word in a text using predictive statistical analysis (Lesage et al., 2023; Sabzalieva & Valentini, 2023).

AI tools are not only limited to algorithmic writing technologies. Other tools, such as online translators and paraphrasing tools, have also made remarkable progress in access and accuracy (Roe et al., 2023). Reactions to AI in higher education have been diverse. AI tools' capabilities have raised con-

cerns about the authentication of individual attainment and urged institutions to ensure that work submitted for academic progression does not involve the unauthorized use of AI (Australian Academic Integrity Network (AAIN), 2023; Foltýnek et al., 2023; Monash University, 2023). Popular assessment tasks, such as tests and essays, might now be more vulnerable to cheating (Cochrane & Ryan, 2023; Delaney, 2023; Murphy, 2023; Sloan, 2023). Many higher education institutions suspect some students might submit work produced by algorithmic writing technologies (Brake, 2022; Hiatt, 2023; Sabzalieva & Valentini, 2023). At the same time, some higher education institutions realize the potential of AI to build a more inclusive teaching and learning environment (Dignum, 2021). These tools could support students with diverse communication disabilities (Hemsley et al., 2023), provide a more personalized learning experience (Khan, 2023) and offer new forms of expression (Delisio & Butaky, 2019).

Amidst these tensions, academic integrity dialogue has flourished. Academic integrity involves a commitment to honesty, trust, fairness, respect, responsibility, and courage (International Center for Academic Integrity (ICAI), 2021). Academic integrity also implies “compliance with ethical and professional principles, standards, practices and consistent system of values, that serves as guidance for making decisions and taking actions in education, research and scholarship” (Tauginienė et al., 2018, p. 9). Through an academic integrity lens, AI growth and expansion have raised questions about AI detection, academic integrity policy development and implementation, authorship, cheating, and plagiarism (Keith, 2023; Roe et al., 2023; Sabzalieva & Valentini, 2023).

Institutions have used diverse approaches to uphold academic integrity with the arrival of enhanced AI tools (Sullivan et al., 2023). Some institutions have banned or sanctioned the use of AI (Cassidy, 2023). However, LLMs are being increasingly introduced in common daily software (Hotson & Bell, 2023), making this option more challenging. Other institutions created guidelines and offered training opportunities for faculty and students to work with AI (Eaton, 2023; Eaton & Anselmo, 2023; Tertiary Education Quality and Standards Agency (TEQSA), 2023) and focused on understanding what AI can do and on helping develop the skills that might be relevant in an AI future (Dans, 2019).

Recommendations on the ethical use of AI are also expanding; these recommendation reports include the up-and-coming challenges, ethical considerations, values, and principles that should shape the use of AI; likewise, they provide areas of policy action and some practical recommendations and applications for the ethical use of AI relevant to educators, institutions, and students (Australian Academic Integrity Network (AAIN), 2023; European Union, 2022; Foltýnek et al., 2023; Sabzalieva & Valentini, 2023; Tertiary Education Quality and Standards Agency (TEQSA), 2023).

The higher education sector could benefit from a more pro-

found understanding of emerging AI risks and benefits (Anselmo et al., 2023; Dignum, 2021). AI ethical implications in higher education have proved to be complex to unpack because there are too many gray areas and risks at this moment; for instance, AI’s potential for perpetuating bias and generating fake information (Roe et al., 2023; UNESCO, 2021). Many efforts and contributions will be needed before we deeply understand this issue (Popenici & Kerr, 2017; Roe et al., 2023; Zawacki-Richter et al., 2019). For now, the sector needs contributions that provide evolving and evidence-based support that considers longer-term applicability. These notions inspired us to develop this rapid scoping review. Likewise, developing and tracking our understanding of AI to constantly identify the benefits and risks of emerging technologies could facilitate building a developmental perspective on the issue.

To the best of our knowledge, no rapid scoping reviews directly address the ethical implications of AI in teaching, learning, assessment, and research. However, systematic reviews have been developed in adjacent areas. The systematic review by Zawacki-Richter et al. (2019) identified profiling and prediction, intelligent tutoring systems, assessment and evaluation and adaptive systems, and personalization as critical AI applications in higher education. This systematic review also highlighted the need to analyze AI from teaching and ethics lenses and engage authors affiliated with Education faculties in AI research.

Another systematic review by Ouyang et al. (2022) focused on AI’s empirical applications in higher education online learning. In this article, the authors identified that the main functions of AI applications were predicting the student learning status (e.g., dropout risks, academic performance, and satisfaction), providing resource recommendations to students, implementing automated assessment, and improving the learning experience with learning environments or resources. This article also found some effects and implications of AI applications, such as predicting students’ performance, creating recommendations based on students’ characteristics, supporting their academic performance, and improving their engagement and participation. Our rapid scoping review builds upon the needs expressed by Zawacki-Richter et al. (2019) and Ouyang et al. (2022) in a quickly changing research landscape.

Building from our collective knowledge, we defined the following research question for this rapid scoping review: What is known about academic integrity and AI in higher education involving faculty, students, teaching assistants, academic support for students, and educational developers? The rationale and development of our research question are described in a previously published protocol (Moya et al., 2023). This question is also aligned with the nature of rapid scoping reviews as it seeks to provide an overview to relevant educational stakeholders (Munn et al., 2018, 2022) that focuses on evidence developed in a Pre-ChatGPT era.

Methodology

Design

This rapid scoping review was conducted following a protocol (Moya et al., 2023). We organized the rapid scoping review following the Updated Reviewer Manual for Scoping Reviews by the Joanna Briggs Institute (JBI) (Aromataris & Munn, 2020) and the Preferred Reporting Items for Systematic reviews and Meta-Analysis for Scoping Reviews (PRISMA-ScR) (Page et al., 2021).

This rapid scoping review is a preliminary and streamlined exercise to contribute to a scholarly discussion (Munn et al., 2022; Tricco et al., 2015) about AI and academic integrity to benefit various educational stakeholders' decision-making processes. We sought to fulfill this purpose by offering an overview of the currently available key concepts in the literature, knowledge gaps, and types of evidence (Munn et al., 2018, 2022) related to the research question guiding this review. We expect to provide an initial understanding of this emerging area (Peters et al., 2020). We also acknowledge that its narrower scope may limit the recommendations provided in this work (Hartling et al., 2017). Some considerations that we have taken to ensure the quality of this work include developing an a priori protocol, formulating a relevant research question, clarifying priorities and strategies during the planning stage, implementing sound methods, and safeguarding the reliability of the sources (Hartling et al., 2017; Wollscheid & Tripney, 2021). The research team included four researchers, a librarian, and two research assistants with combined expertise in academic integrity, engineering, communication, information technology, and inclusion and accessibility.

Inclusion and exclusion criteria

The inclusion criteria for this rapid followed the Population, Concept, and Context (PCC) framework for scoping reviews (Peters et al., 2020, 2022). In this review, the main qualifying criterion (Lunny et al., 2021; Peters et al., 2022) for the population was the involvement in specific teaching and learning roles in higher education, with higher education understood as Tertiary-type A and Tertiary-type B postsecondary education (OECD, 2022). We analyzed the presence of faculty, students, teaching assistants, academic student support staff, librarians, and educational developers of any age and gender in the studies. We examined the population from an all-encompassing perspective by including full professors, associate professors, assistant professors, lecturers, instructors and other teaching staff (Statistics Canada, 2022), students attending various universities, colleges, and institutes (Statistics Canada, 2022), teaching assistants employed as instructors (Education USA, n.d.), academic student support staff delivering pedagogical assistance and other types of professional staff helping students (UIS OECD EUROSTAT, 2002), librarians working in the selection, development, organization, and maintenance of library collections and in the provision of support to library users (Statistics Canada, 2018), and educational developers

collaborating with instructors, departments, and campus units (Kim, 2018). We excluded studies that were unclear about the involvement of these educational stakeholders or those developed in primary and secondary education contexts.

As for concepts which are vital issues for exploration (Lunny et al., 2021; Peters et al., 2022), we included studies referring to AI more broadly and those referring to intelligent tutoring services, natural language processing, language prediction model, machine learning, and neural network. The context of this study, representing the field of the concept and participants (Peters et al., 2022), is academic integrity. Academic integrity informs ethical decision-making in various activities in higher education (Bretag, 2016), and AI use is part of it. In this review, we added ethics, integrity assurance, and research integrity.

Regarding the study design, we included mixed methods, qualitative, quantitative, randomized controlled trials, and text and opinion studies, which align with the diversity of the sources for the rapid scoping review (Peters et al., 2020). Likewise, we excluded social media postings, product information and advertising. The inclusion and exclusion criteria are summarized in Table 1.

Search strategy

We selected a limited number of library or bibliographic databases based on their reproducibility. The research team provided initial keywords as well as relevant studies. From the analysis of these resources, the first search was developed by a librarian (KAH) in ERIC (EBSCO). This initial search strategy included text words and subject headings in titles and abstracts, as well as author-supplied keywords, from the retrieved sources in ERIC (EBSCO) (Peters et al., 2020). The research team reviewed the initial search, which was finalized based on feedback. The refined search strategy was then translated to other databases, and while keywords were constant in all searches, the subject headings were determined by each database. The databases searched in this review include Academic Search Complete (EBSCO), Education Research Complete, ERIC (EBSCO), Web of Science Core Collection (Clarivate), and Scopus (Elsevier). The final search strategies were run on November 11, 2022, and are included in Appendix 1. Search results were uploaded to Covidence and automatically deduplicated.

We did not restrict studies by geographic location and focused on sources written in English since this is the language all authors speak. As for publication dates, we focused on articles written since 2007, as Siri was introduced that year and became an AI milestone for being the first introduction of mainstream AI (Zawacki-Richter et al., 2019).

Source selection

Three screeners defined the inclusion and exclusion criteria. The source selection process began with a calibration interrater exercise using 50 randomly assigned records from

Table 1. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
1. Studies where the population is faculty, students, teaching assistants, academic student support staff, and educational developers in higher education. The main qualifying criterion is that these stakeholders have specific roles connected to teaching and learning in higher education.	1. Studies that are unclear about the involvement of any of these participants: faculty, students, teaching assistants, academic student support staff, and educational developers.
2. Studies developed in Tertiary-type A and Tertiary-type B postsecondary education.	2. Studies focused solely on primary and secondary education contexts.
3. Studies about artificial intelligence in the context of academic integrity.	3. Studies that address artificial intelligence and do not refer to academic integrity or the ethical implications of artificial intelligence use.
4. Studies concerning artificial intelligence tools that assist text generation and writing.	4. Studies involving algorithmic technology used for the purpose of plagiarism detection (e.g., text-matching software and code similarity detectors).
5. Studies published from 2007 to the present.	5. Studies published before 2007.
6. Studies published in English.	6. Studies published in languages other than English.
7. Peer-reviewed studies: the studies have been published in journals recognized as peer-reviewed on Ulrich's web or have undergone a process that involves the scrutiny of experts.	7. Not peer-reviewed studies.
8. Studies with a clearly defined methodology.	8. Studies with a methodology that is unable to determine.

the final search results provided by a librarian in a spreadsheet. Two screeners independently analyzed the 50 titles and abstracts for inclusion relevancy (Lunny et al., 2021); the options were “No” (exclude), “Yes” (include) and “Maybe” (unsure, which counted as an include vote). The two screeners attended to the pre-defined criteria for each document to ensure the quality of the process (Khangura et al., 2012). The third reviewer acted as a tiebreaker. The percent agreement of the calibration exercise was 56%. The calibration exercise helped update the criteria (see Table 1) to ensure clarity and consistency for the next step: the screening process.

Once the calibration exercise was completed and the eligibility criteria refined, the screening for eligibility was conducted via Covidence. Covidence is a tool designed to ease the screening, selection, data extraction, and quality assessment stages of systematic reviews (Covidence, n.d.). We used the version available online from November 2022 to March 2023 via an institutional membership. The same two reviewers who participated in the calibration exercise conducted all the screening in both the title and abstracts phase and the full-text phrase. The percent agreement of the screening was 98.7%. A third reviewer resolved any disagreements throughout the screening.

Critical appraisal

Although critical appraisal is not normally a component of a scoping review, the research team decided to conduct a critical appraisal of each included study to improve confidence in the review's validity. Two reviewers conducted the critical appraisal. The reviewers used the tools for text and opinion (McArthur et al., 2020), randomized control trials (Barker et al., 2023) and qualitative research (Lockwood et al., 2015) provided by the JBI. The reviewers also used the tools for mixed methods and quantitative descriptive studies from the Mixed Methods Appraisal Tools (MMAT) (Hong et al., 2018) to determine the quality of the evidence through independent

reviews. The authors agreed to use different tools to appraise the studies with the most suitable tool. Three studies that could not be categorized were excluded during the critical appraisal phase (see Appendix 2 for more information). The reviewers ranked the remaining 14 studies as high, medium, and low, following the guidelines in Table 2.

Table 2. Guidelines Used to Categorize the Sources

Methodology	Type of Checklist	High	Medium	Low
Mixed methods	Mixed Methods Appraisal Tool (MMAT)	5 - 6 points	3 - 4 points	0 - 2 points
Qualitative research	Joanna Briggs Institute (JBI)	8 - 10 points	5 - 7 points	0 - 4 points
Quantitative descriptive	MMAT	5 - 6 points	3 - 4 points	0 - 2 points
Randomized controlled trials	JBI	11 - 13 points	7 - 10 points	0 - 6 points
Text and Opinion	JBI	5 - 6 points	3 - 4 points	0 - 2 points

Data extraction

Two reviewers implemented a calibration exercise with six studies to confirm their understanding of the extraction table. They agreed on the final version of the table and started the full data extraction. Table 3 shows the categories used for this process.

Data synthesis

Two authors compiled the data extraction and critical appraisal information (see Appendix 3 for more information). These authors summarized the information in five descriptive tables: (a) ethical implications of AI in teaching, learning, assessment, and research, (b) AI for cheating, (c) AI as legitimate assistance, (d) AI through an equity, diversity, and inclusion lens,

Table 3. Data Extraction Categories

Component	Description
Author(s)	The name(s) of the author(s), including last name and first name initial.
Year	The year when the source was published.
Citation	The citation information of the source following APA 7 guidelines.
Country	The country of the institution where the author(s) is/are affiliated from a drop-down list.
Multiple Countries	The countries of the institution(s) where the authors are affiliated; it lists the countries of co-authors from institutions different from the main author.
Specific city(ies), town(s), and campus (if applicable)	The specific locations (e.g., city, town, and campus) where the study was implemented.
Type of source	The type of source chosen from a drop-down list: 1) blog, 2) book, 3) book section, 4) conference paper, 5) conference proceedings, 6) journal article, 7) magazine article, 8) newspaper article, 9) thesis, and 10) webpage.
Participants	The source's participants are from a drop-down list: 1) faculty, 2) students, 3) teaching assistants, 4) academic support staff, 5) educational developers, and 6) multiple.
Discipline	The source could be connected to one of the following disciplines (drop-down list): 1) Social Sciences, 2) Humanities, 3) Computer Science/Engineering, 4) Natural Sciences, 5) Fine Arts, and 6) Other.
If multiple disciplines	The source is connected to more than one discipline.
Purpose(s)	The purpose of the source as indicated by the authors. It includes the direct quote(s) and page numbers.
Research question	The research question(s) as indicated by the authors.
Study design	The source's study design (drop-down list): Qualitative, Quantitative Randomized, Quantitative Non-Randomized, Quantitative Descriptive, Mixed Methods, Program Description, Opinion, Theoretical, Other, Unable to determine
Participants' information	The source's information about participants. It includes the direct quote(s) and page numbers.
AI Tool	The source's type of AI tool under study.
Intervention (if applicable)	The source's intervention details.
Data collection (if relevant)	The source's information in how the data was collected. Other details concerning data collection, such as variables and instruments can also be included.
Author Identified Limitations	The source's limitations, as communicated by the author(s).
Conclusions/ Closing	The source's conclusions, as outlined by the author(s).
Other data extraction elements	Source's information on a) ethical implications of AI in teaching, learning, research, and assessment in higher education, b) AI used for cheating in higher education, c) AI as legitimate assistance in writing in higher education, d) AI from an equity, diversity, and inclusion lens, and e) recommendations to tackle the ethical implications of AI in education.

and (e) recommendations to tackle AI ethical implications in higher education. For each table, the authors developed a narrative synthesis. Using that data as a platform, the authors developed descriptive thematic summaries (Lunny et al., 2021; Wollscheid & Tripney, 2021).

Results

Figure 1 shows the flow of the articles through the screening process. The search (November 2022) yielded 2,223 records; 807 were duplicates. The screeners independently reviewed 1,416 titles and abstracts in Covidence (Hartling et al., 2017; Lunny et al., 2021). This process yielded 18 discrepancies, which a third reviewer resolved independently. As a result, 1,390 of the records were screened as irrelevant, and 24 full-text studies were assessed for eligibility.

The second stage of the screening process was also completed in Covidence, and it focused on the full-text analysis using the criteria presented in Table 1. The reviewers examined 26 full texts; two could not be screened due to lack of access. The tiebreaker addressed six discrepancies. The reviewers excluded seven articles because they were not peer-reviewed

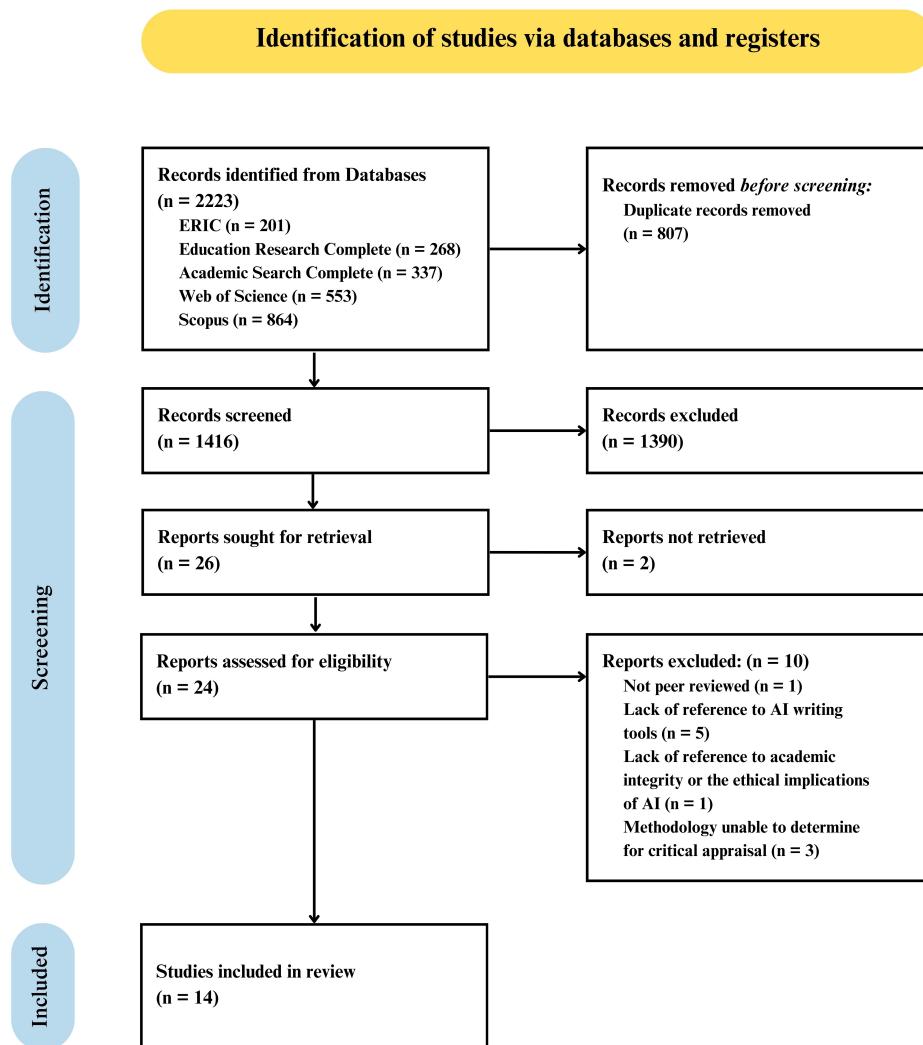
($n = 1$), not connected to AI tools to assist writing ($n = 5$) or did not provide insight into the ethical implications of AI ($n = 1$). A total of 17 articles met the inclusion criteria. After this, the reviewers excluded three studies during the critical appraisal process as their methodologies were regarded as unable to determine. We included a section of the data extracted from these three articles in Appendix 2. Thus, the total number of articles included in the final synthesis was 14.

Table 4 shows the critical appraisal results. Most articles were assessed as High quality ($n = 11$, 79%), with the remaining being assessed as Medium quality ($n = 3$, 21%). There were no articles of Low quality.

Study characteristics

The publication dates of the studies ranged from 2015 to 2022, with eight of them published in 2022. Most of the studies were conducted in the United States of America ($n = 5$, 36%), followed by Australia ($n = 4$, 29%), the United Kingdom ($n = 3$, 21%), Singapore ($n = 1$, 7%) and Taiwan ($n = 1$, 7%). As for the source type, journal articles ($n = 11$, 79%) were the most common. Additionally, the most prevalent study design was theoretical ($n = 6$, 43% and included in the text and opinion

Figure 1. PRISMA Diagram Depicting the Stages in the Review Process



critical appraisal category), followed by qualitative ($n = 4$, 29%), quantitative descriptive ($n = 2$, 14%), mixed methods ($n = 1$, 7%), and quantitative randomized ($n = 1$, 7%). These studies focused on faculty (36%, $n = 5$), students (36%, $n = 5$) or multiple stakeholders (29%, $n = 4$). The type of AI tools under study were text generators based on LLMs (21%, $n = 3$), online translators based on Machine Translation (MT) (21%, $n = 3$), paraphrasing tools (21%, $n = 3$), both online translators and paraphrasing tools (14%, $n = 2$), and AI tools in general (7%, $n = 1$).

Ethical implications of AI in teaching, learning, assessment, and research

In this section, we outline some of the main ethical implications of AI in teaching, learning, assessment, and research found in the documents retrieved for this scoping review. We identified some bounded and unbounded ethical implications. While the bounded ethical implications refer to those which

educational stakeholders recognized and showed certain levels of agreement, the unbounded ones reveal more nuanced perspectives, no clear answer exists, and more research is needed. Table 5 synthesizes these ethical implications.

Bounded ethical implications of AI in teaching, learning, assessment, and research

The most visible bounded ethical implications of AI use in teaching, learning, assessment, and research in this rapid scoping review include (a) the potential of AI for supporting untraceable cheating, (b) the likely repercussions of GenAI fabrications, and (c) the issues of the propagation of biases with GenAI tools.

The potential for AI to support untraceable scale cheating.

The similarity of AI-generated text with human-generated text and the effects of the arms race in AI detection contribute to the potential of AI for untraceable cheating. Similarity, in this scoping review, comes to the surface with online trans-

Table 4. Guidelines Used to Categorize the Sources

Methodology (Tool)	High (n)	Medium (n)	Total (n)
Mixed methods (MMAT)	1 (Gero et al., 2022)		1
Qualitative research (JBI)	3 (Fyfe, 2022; Groves & Mundt, 2021; Rogerson & McCarthy, 2017)	1 (Prentice & Kinden, 2018)	4
Quantitative descriptive (MMAT)	1 (Merine & Purkayastha, 2022)	1 (Alonso, 2022)	2
Randomized controlled trials (JBI)		1 (Chen et al., 2015)	1
Text and opinion (JBI)	6 (Anson, 2022; Dawson, 2020; Dinneen, 2021; Ducar & Schocket, 2018; Roe & Perkins, 2022; Sharples, 2022)		6
Grand Total	11	3	14

lators and text generators. Due to the rapid advancements of online translators, beginner and intermediate English language learners can successfully ask questions related to their language learning assignments or assessments to online translators; at the same time, educators can no longer easily spot their use (Alonso, 2022; Dawson, 2020; Ducar & Schocket, 2018). Online translators are not “laughable” anymore (Ducar & Schocket, 2018, p. 782), and there is “nothing obviously robotic” (Dawson, 2020, p. 88) about them. As a result, building cases for suspected misconduct is difficult (Alonso, 2022; Ducar & Schocket, 2018). At the same time, preventing their use outside the classroom might not be the best approach (Alonso, 2022; Ducar & Schocket, 2018).

Online translators can also write as humans (Anson, 2022; Gero et al., 2022). These technologies have reached a point where even graduate-level students cannot tell if a summary was written by AI or humans when analyzing texts from their fields of study (Merine & Purkayastha, 2022).

The arms race has already begun. Even though some companies have developed technical solutions intended to detect AI use and some institutions and educators hope for new developments (Roe & Perkins, 2022), we found that many companies promote fee-based and free online tools that can paraphrase text or spin articles in ways that prevent plagiarism detection (Fyfe, 2022; Rogerson & McCarthy, 2017). The arms race will continue; however, experts believe it to be an ineffective strategy (Rogerson & McCarthy, 2017; Sharples, 2022).

The likely repercussions of genAI fabrications. In an innovative educational experience, some students used text generators to write an essay and identified that the tool created

fictitious statements by false experts (Fyfe, 2022). Through this experience, students recognized the potential of algorithmic writing technologies to generate fake news (Fyfe, 2022). In another study, students identified GenAI fabrications; however, they found them helpful because they brought forward common misconceptions in their fields and provided a starting point for their writing (Gero et al., 2022). However, if non-experts used GenAI, liability issues could increase since people’s decisions might be based on inaccurate information (Merine & Purkayastha, 2022). As Sharples (2022) suggests, these tools were not created to check references or evidence.

The issues of the propagation of biases with GenAI. As for the issues of the propagation of biases with GenAI, this rapid scoping review highlighted concerns about discriminatory languages, particularly racism and sexism embedded in the data used for LLMs training (Anson, 2022; Fyfe, 2022; Gero et al., 2022; Merine & Purkayastha, 2022).

Unbounded Ethical Implications of AI in Teaching, Learning, Assessment, and Research

The review also sheds light on the unbounded ethical implications of AI in teaching, learning, assessment, and research. The most prevalent ones in this scoping review were: (a) Is writing with AI plagiarism? (b) Where do we draw the acceptability line with AI? (c) Who is the author when writing with AI? and (d) Can students show evidence of learning with AI?

Is writing with AI plagiarism? This question emerged in studies focusing on text generators and online translators. We identified in this scoping review that equating writing with AI with plagiarism did not come with a straightforward answer. Anson (2022) proposed theorizing and contextualizing the use of AI and reviewing the socially constructed definitions of plagiarism, which matched Groves and Mundt’s (2021) view to embrace more complex and nuanced perspectives on academic integrity. Similarly, Fyfe (2022) explained the need to renegotiate the terms and expectations of writing and the hermeneutic contract. Likewise, Fyfe (2022) proposed acknowledging our posthuman dependencies in a world where current notions of agency should expand to open space for developing new skills for a future with AI. Gero et al. (2022) proposed that quality LLMs do not generate copies from the sources and that it might not be possible to plagiarize from them in the traditional sense.

Anson’s (2022) exploration of GenAI use and plagiarism also showed how carrying out some academic tasks with AI might be acceptable when not connected to a rewards or credit system. He argued that copying or using teaching materials in unattributed ways has not concerned faculty for years. He added that some disciplines might be more open to AI than others; for example, some STEM contexts would not consider auto-written methods sections in research articles, or AI-generated lab reports would not be considered plagiarism. Anson (2022) added that since computers cannot be regarded as authors, their use should be considered contract cheating.

Table 5. Most Prevalent Ethical Implications of AI in Teaching, Learning, Assessment, and Research

Category	Sub-category	Authors	AI Tools
Bounded	The potential of AI to support supporting un-traceable cheating	Alonso (2022); Dawson (2020); Ducar & Schocket (2018); Fyfe (2022); Gero et al. (2022); Merine & Purkayastha (2022); Roe & Perkins (2022); Rogerson & McCarthy (2017); Sharples (2022)	Online translators; Paraphrasing tools; Text generators
	The likely repercussions of GenAI fabrications	Fyfe (2022); Gero et al. (2022); Merine & Purkayastha (2022); Sharples (2022).	Text generators
	The issues of the propagation of biases with GenAI tools	Anson (2022); Fyfe (2022); Gero et al. (2022); Merine & Purkayastha (2022).	Text generators
Unbounded	Is writing with AI plagiarism?	Alonso (2022); Anson (2022); Dinneen (2021); Fyfe (2022); Gero et al. (2022); Groves & Mundt (2021)	Online translators; Paraphrasing tools; Text generators
	Where do we draw the acceptability line with AI?	Alonso (2022); Dawson (2020); Dinneen (2021); Ducar & Schocket (2018); Fyfe (2022); Groves & Mundt (2021); Merine & Purkayastha (2022); Prentice & Kinden (2018); Roe & Perkins (2022).	Online translator; Paraphrasing tools; Text generators
	Who is the author when writing with GenAI?	Anson (2022); Fyfe (2022); Gero et al. (2022); Groves & Mundt (2021).	Text generators
	Can students show evidence of learning with AI?	Ducar & Schocket (2018); Fyfe (2022); Merine & Purkayastha (2022).	Online translators; Text generators

Anson's (2022) perspectives reflect a stage where GenAI content generation had not still massively disrupted views of plagiarism and authorship.

Fyfe's (2022) understanding of AI use and plagiarism was informed by his intention to decriminalize plagiarism to create new opportunities for creative and critical exploration with GenAI. He found that some students felt they were cheating when using GenAI; these students also felt they lost control, voice, and the pedagogical value of writing. This group of students realized their willingness to cite text was not at reach because they could not find the original sources. These students' perspectives matched Gero et al.'s (2022) findings, as many participants expressed deep concerns about using GenAI-generated as they did not know where the content came from. Another relevant element in Fyfe's (2022) study was that some groups of students saw working with GenAI as a kind of collaboration that allowed bringing humans with AI together; to them, using AI developed hybrid thoughts that required their intellectual effort (Fyfe, 2022).

As for online translators, Dinneen (2021) suggested that some students might already be using technology to enhance their performance. Alonso (2022) found that 60% of the participants, who were language teachers, regarded online translators' use as plagiarism; among the instructors who did not consider it plagiarism, some shared that it could represent an example of collusion or commissioning. The plagiarism analysis in some studies posed questions for future work: should we focus on content and how this content is explained in a second/foreign/additional language? Or should only content be the primary focus, paying less attention to how students' explanations in a second/foreign/additional language came to

be? Where should the intellectual effort be placed? (Alonso, 2022; Groves & Mundt, 2021).

Where do we draw the acceptability line with AI? The results show no clear agreement on whether using AI is acceptable. However, there is consensus on the need for more research (Alonso, 2022; Fyfe, 2022; Groves & Mundt, 2021; Merine & Purkayastha, 2022; Roe & Perkins, 2022). While some AI uses seem unproblematic, such as spellchecks, autocorrect, autocomplete, and grammar suggestions (Fyfe, 2022), we identified some concerns with using online translators and text generators.

For some educators, online translators could be controversial because students might use them to mask their actual language proficiency (Alonso, 2022; Ducar & Schocket, 2018; Groves & Mundt, 2021; Roe & Perkins, 2022). Online translators are of more concern for instructors if used by lower-level students (Alonso, 2022). Other educators saw translators as less controversial when used as a reading aid rather than a writing aid; in other words, translators used to support reading would not be regarded as academic misconduct, while for composition, it would be (Groves & Mundt, 2021).

Regarding text generators, Fyfe (2022) provided a space for students to experience new forms of composition with GenAI. In this context, GenAI, as a writing assistant, would not replace human content but rather be a social negotiation between humans and machines, with humans in charge of conceptually assembling content. Although GenAI was perceived to provide useful content and ideas, some students highlighted that they were still involved in a complex engaged activity (Fyfe, 2022).

We realized that determining when the use of AI constitutes plagiarism may need to account for disciplinary differences (Anson, 2022; Fyfe, 2022). Determining if AI use equates to plagiarism also involves reflecting on what cheating and plagiarism mean in an AI landscape and finding strategies to protect the validity of the assessments and the value of the degrees offered by educational institutions (Alonso, 2022; Dawson, 2020; Ducar & Schocket, 2018; Fyfe, 2022; Roe & Perkins, 2022). Some authors pose that institutions could choose their approach after deep explorations into AI use (Fyfe, 2022; Merine & Purkayastha, 2022).

Who is the author when writing with GenAI? Text generators challenge traditional notions of authorship. Does providing a prompt mean that the outputs generated by GenAI belong to the prompt writer? Results show no straightforward answer to this question but give some insights (Anson, 2022; Fyfe, 2022; Gero et al., 2022). Anson (2022) suggested that, by most academic standards, GenAI could not yet be regarded as an author. From Fyfe's study, we could draw that when GenAI became part of the equation, the students' author role transitioned into a posthuman editor role, and this transition did not imply less intellectual effort. As for Gero et al.'s (2022) study, student research participants raised authorship concerns only when using GenAI-generated unique ideas.

For online translators, we identified some views suggesting that if students used them to translate their arguments, this would not always imply an authorship issue; however, students should always be transparent about their use (Groves & Mundt, 2021).

Can students show evidence of learning with AI? In some articles, we identified concerns that an over reliance on online translators and text generators would impact learning (Ducar & Schocket, 2018; Merine & Purkayastha, 2022). For instance, Merine and Purkayastha analyzed how developing summarization, comprehension, explanatory, and writing skills were key elements in students' education. If GenAI eventually could do this for students, chances were that students would use them and lose opportunities to learn how to extract the core idea of a text, remove irrelevant information to produce summaries, understand text, remember critical information, learn new vocabulary, synthesize key points, provide clear explanations, and edit texts effectively. Together, these elements could provoke a higher probability of dependence on GenAI or create unwanted plagiarism opportunities due to lacking foundational skills (Merine & Purkayastha, 2022).

A perspective on AI for cheating

We identified one perspective on AI for cheating that we present in Table 6, with the authors contributing to it and the tools involved.

AI possibilities to cover cheating

Experts explored how AI tools could be used to cheat. One way was to prompt text generators and present the outputs as

original work, which could be regarded as contract cheating (Anson, 2022; Dawson, 2020). Other ways include using paraphrasing tools and online translators unethically to enhance language proficiency in unauthorized ways or to reuse other's work without acknowledgement, which depending on the academic integrity policies in place, would represent examples of collusion, contract cheating, and plagiarism (Alonso, 2022; Dawson, 2020; Dinneen, 2021; Prentice & Kinden, 2018; Roe & Perkins, 2022; Rogerson & McCarthy, 2017). One of the unethical practices associated with using others' work without attribution was back translation, which involved translating text from the target language to another and then using the result to translate the text back to the target language to bypass text-matching software (Dawson, 2020; Roe & Perkins, 2022). This approach is related to cross-language plagiarism, where people use unattributed ideas from others who wrote them in other languages (Dinneen, 2021).

We identified in this review that experts cautioned to take a deep look into unintelligible texts (e.g., the use of bizarre synonyms to refer to standard terminology) since they believed these cases were not always examples of patchwriting but rather the outputs of paraphrasing tools used to bypass detection (Prentice & Kinden, 2018; Rogerson & McCarthy, 2017). Likewise, experts have warned that some students used these tools without intending to cheat (Dinneen, 2021; Prentice & Kinden, 2018; Rogerson & McCarthy, 2017).

Insight on AI as legitimate support

We identified one insight about AI as legitimate support, which we present in Table 6, along with the authors that back it up and the corresponding AI tools.

Potential Legitimate and Authorized Uses

Online translators could have legitimate and authorized uses in the language-learning classroom. They could help students develop a greater understanding of target language texts when used as bilingual dictionaries, as they can translate written, oral, and visual input effectively, even recognizing high-frequency idioms and uncommon or archaic words (Alonso, 2022; Ducar & Schocket, 2018; Groves & Mundt, 2021). They can also provide spelling feedback as they have been trained to provide suggestions and translate even when input includes spelling mistakes (Dinneen, 2021). Likewise, online translators can offer examples of translation techniques taught by instructors as they have been trained to avoid literal translations (Alonso, 2022; Ducar & Schocket, 2018). They can work as pronunciation aids by providing the right pronunciation of any written text, listening to the students' pronunciation, and transforming it into text in real-time (Ducar & Schocket, 2018).

Moreover, they can provide drafts of foreign language content for students to correct, edit, improve, or assess for register, context, regional variety, sociocultural items, syllabification, rhyming, and alliteration (Alonso, 2022; Ducar & Schocket, 2018). However, these tools also present some gen-

Table 6. Insight on AI for Cheating and as Legitimate Assistance, an Equity, Diversity, and Inclusion (EDI) Lens into AI, and Recommendations for AI Integration

Category	Sub-category	Authors	AI Tools
Perspectives on AI for cheating	AI possibilities to cover cheating	Alonso (2022); Anson (2022); Dawson (2020); Dinneen (2021); Ducar & Schocket (2018); Prentice & Kinden (2018); Roe & Perkins (2022); Rogerson & McCarthy (2017)	Online translators; Paraphrasing tools; Text generators
Perspectives on AI as legitimate assistance	Potential legitimate and authorized uses	Alonso (2022); Anson (2022); Ducar & Schocket (2018); Fyfe (2022); Gero et al. (2022); Groves & Mundt (2021); Merine & Purkayastha (2022); Sharples (2022)	Online translators; Paraphrasing tools; Text generators
Perspectives on AI with an EDI lens	Opportunities to level the playfield	Alonso (2022); Dinneen (2021); Groves & Mundt (2021); Prentice & Kinden (2018)	Online translators; Paraphrasing tools
Recommendations for the integration of AI in higher education	Provide training for faculty and students	Alonso (2022); Anson (2022); Dawson (2020); Dinneen (2021); Ducar & Schocket (2018); Fyfe (2022); Groves & Mundt (2021); Prentice & Kinden (2018); Roe & Perkins (2022); Rogerson & McCarthy (2017); Sharples (2022)	Online translators; Paraphrasing tools; Text generators
	Update academic integrity policies	Alonso (2022); Dawson (2020); Dinneen (2021); Groves & Mundt (2021)	Online translators; Paraphrasing tools

eral limitations; online translators make errors when conveying the meaning of idioms, struggle with levels of formality, and present some pragmatic breakdowns (Ducar & Schocket, 2018).

Text generators can have legitimate and authorized uses. They can help writers start a task or offer them alternative data representations. They can provide ideas to serve as starting points for people to write, help overcome writer's block, and catalyze any writing process. As for alternative data representations, these tools can propose perspectives, options, or angles, translate complex ideas into simpler ones, offer input for creative writing processes, or serve as prompts for anyone to critique and improve (Anson, 2022; Fyfe, 2022; Gero et al., 2022; Sharples, 2022). However, text generators have some limitations. Their outputs can sometimes be difficult to control, and they can sometimes generate irrelevant or low-quality information (Fyfe, 2022; Gero et al., 2022).

An Equity, Diversity, and Inclusion (EDI) Lens into AI

Table 6 highlights the connection we draw from this review about AI with an EDI lens.

Opportunities to level the playing field

The reviewed studies connect to EDI considerations by looking at how the AI tools may be able to support English as an Additional Language Learners. They note that these tools may help support and scaffold students in English-language post-secondary institutions (Alonso, 2022; Dinneen, 2021; Groves & Mundt, 2021; Prentice & Kinden, 2018). However, these possibilities are undercut by the expectation of English-language mastery at graduation and concerns that AI use would replace this skills acquisition (Groves & Mundt, 2021).

Recommendations to tackle AI ethical implications in higher education

We summarized the two main recommendations found in the sources in Table 6.

Provide training for faculty and students

Many authors proposed more training for faculty and students in AI tools. Behind faculty training, we found reasons related to situational factors, such as AI's pervasiveness and progressive sophistication and the potential educators' lack of awareness of new AI tools. Likewise, we identified other reasons linked to the enhancement of teaching and learning, for example, the need to design assessments to assess students' skills effectively, the potential of AI to support students' learning, and the expectations of the labour market (Alonso, 2022; Anselmo et al., 2023; Dawson, 2020; Ducar & Schocket, 2018; Roe & Perkins, 2022; Rogerson & McCarthy, 2017). On the other hand, the arguments for training students were connected to the need to better equip them with the necessary skills to use AI ethically (Dawson, 2020; Dinneen, 2021; Ducar & Schocket, 2018; Fyfe, 2022; Prentice & Kinden, 2018).

Update Academic Integrity Policies

We also found calls for updating academic integrity policies to attend to the needs of language learning educational contexts and provide better guidance to educators for them to make decisions concerning AI use in alignment with institutional perspectives on academic integrity (Alonso, 2022; Dinneen, 2021; Groves & Mundt, 2021). Some educators believed that academic integrity policies or codes were not always detailed enough to guide them in navigating misconduct cases involving unethical use of AI (Dawson, 2020; Ducar & Schocket, 2018).

Discussion

This study had a small and non-homogenous dataset, and we used critical appraisal tools from MMAT for mixed methods and quantitative descriptive studies and tools from JBI for text and opinion, randomized control trials and qualitative research. The selection of the most appropriate tool for each source resulted from iterations that involved individual reviewers' work and collaborative dialogue at research meetings.

This rapid scoping review was guided by the question: What is known about academic integrity and AI in higher education involving faculty, students, teaching assistants, academic support staff for students, librarians, and educational developers? Based on the 14 studies we reviewed and the data extraction categories we chose, we present the three key knowledge areas we noted: a) informing the decision-making for AI integration, b) analyzing academic misconduct cases involving AI, and c) promoting AI as legitimate assistance. We provide insights into these three areas, building from the interpretations of this rapid scoping review findings vis-à-vis previous research connected to this area. We also share these recommendations with caution as we recognize that even though most studies in this review were qualified as of high quality, almost half of them were in the category of text and opinion, and from those that involved empirical research, all of them involved small sample sizes.

Informing the decision-making process for AI integration in education

Building from the relevant literature and the results connected to the data extraction areas of (a) the ethical implications of AI in teaching, learning, assessment, and research, (b) the equity, diversity, and inclusion lens in AI, and (c) the recommendations to tackle AI ethical implications, we provide Figure 2, which highlights four areas of focus with questions and recommendations for educators to ponder when deciding how to integrate AI into their teaching, learning, assessment, and research activities. We also believe this figure could be relevant to teaching assistants, academic support staff for students, librarians, and educational developers.

Analyzing academic misconduct cases involving AI

Understanding the potential uses of AI for cheating is relevant for higher education institutions as it is in their best interest to prevent the potentially harmful consequences of AI and ensure that graduates can adequately perform the roles for which they were trained (Dawson, 2020; European Union, 2022; Foltýnek et al., 2023). We learned the potential for cheating beyond the possibility of having exam questions answered with AI (Delaney, 2023; Murphy, 2023; Sloan, 2023), which included various unethical uses of text generators and online translators. AI detection is still developing (Fyfe, 2022; Brusini, 2023); it is hard to differentiate texts generated by humans from those generated, paraphrased or translated by AI (Alonso, 2022; Anson, 2022; Dawson, 2020; Ducar & Schocket, 2018).

When analyzing academic misconduct cases with AI, it is crucial to understand that they could be problematic (Alonso, 2022; Ducar & Schocket, 2018). Still, we provide Figure 3 with some examples for further reflection. After identifying the possibility of misconduct, unpacking the context could be a starting point. Context involves exploring practices of the field where the case is embedded (Anson, 2022; Brusini, 2023), reviewing the expectations that were communicated before the case happened (Eaton & Anselmo, 2023; Keith, 2023), and analyzing the learning outcomes attached to the specific activity (Brake, 2022). Academic misconduct cases involving AI could also be framed under Dawson's (2020) concept of e-cheating. E-cheating is "cheating that uses or is enabled by digital technology" Dawson, 2020, p. 4. This concept highlights the potential tasks that could be offloaded to AI and the skills students might not develop due to its unethical use (Dawson, 2020).

Another valuable framework for analyzing academic misconduct cases that involve AI tools is the academic integrity continuum, which highlights differences between academic misconduct and academic integrity (Eaton et al., 2023). While academic integrity refers to education, skill-building and communication of expectations, academic misconduct, when adequately confirmed, involves the application of sanctions according to university policy (Eaton et al., 2023). The continuum offers a gray area, representing a suspected or actual incident that triggers an investigation (Eaton et al., 2023). Attention to the gray area might be especially relevant nowadays as our comprehension of unethical uses of AI grows. Figure 3 summarizes some sample academic misconduct cases emerging from this review, framed as e-cheating, and placed under the academic integrity continuum; this figure also presents the cognitive offloads that could be involved in the cases, the skills under threat, the key explorations in the gray area, and the potentially associated misconduct categories for each one of the cases. Even when this figure provides some initial guidance, some cases might require connecting with individuals with the skills to investigate misconduct cases (Eaton, 2022).

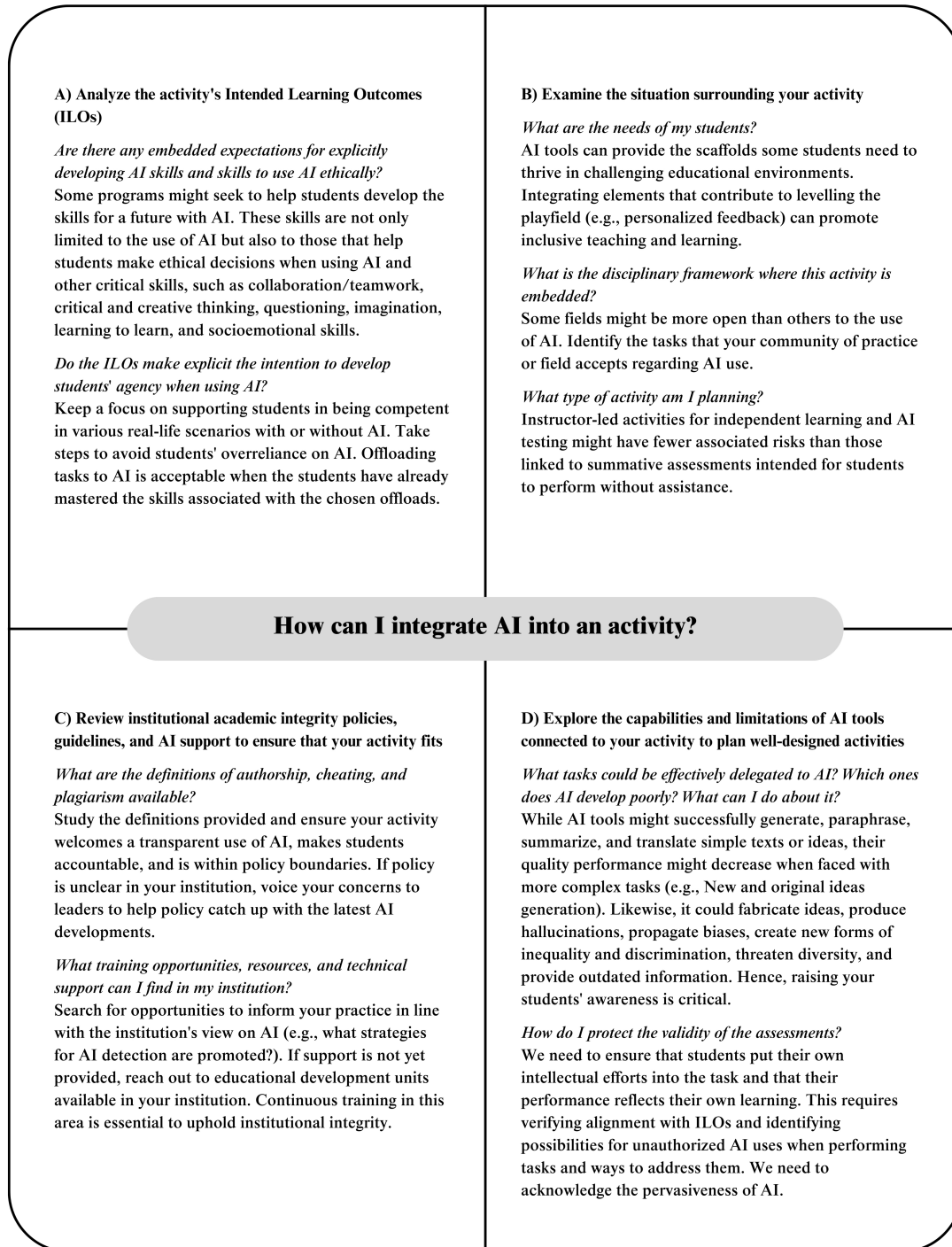
Exploring AI as legitimate assistance

AI tools can be ethically used to support learning (Anselmo et al., 2023; Eaton, 2023; Foltýnek et al., 2023). When ethically used, AI could help better address diverse students' needs (European Union, 2022). In Figure 4, we summarize examples of teacher-led and student-led activities drawn from this review that reflect legitimate uses of AI. We make the distinction since some AI uses might have more risks and require guidance (Merine & Purkayastha, 2022).

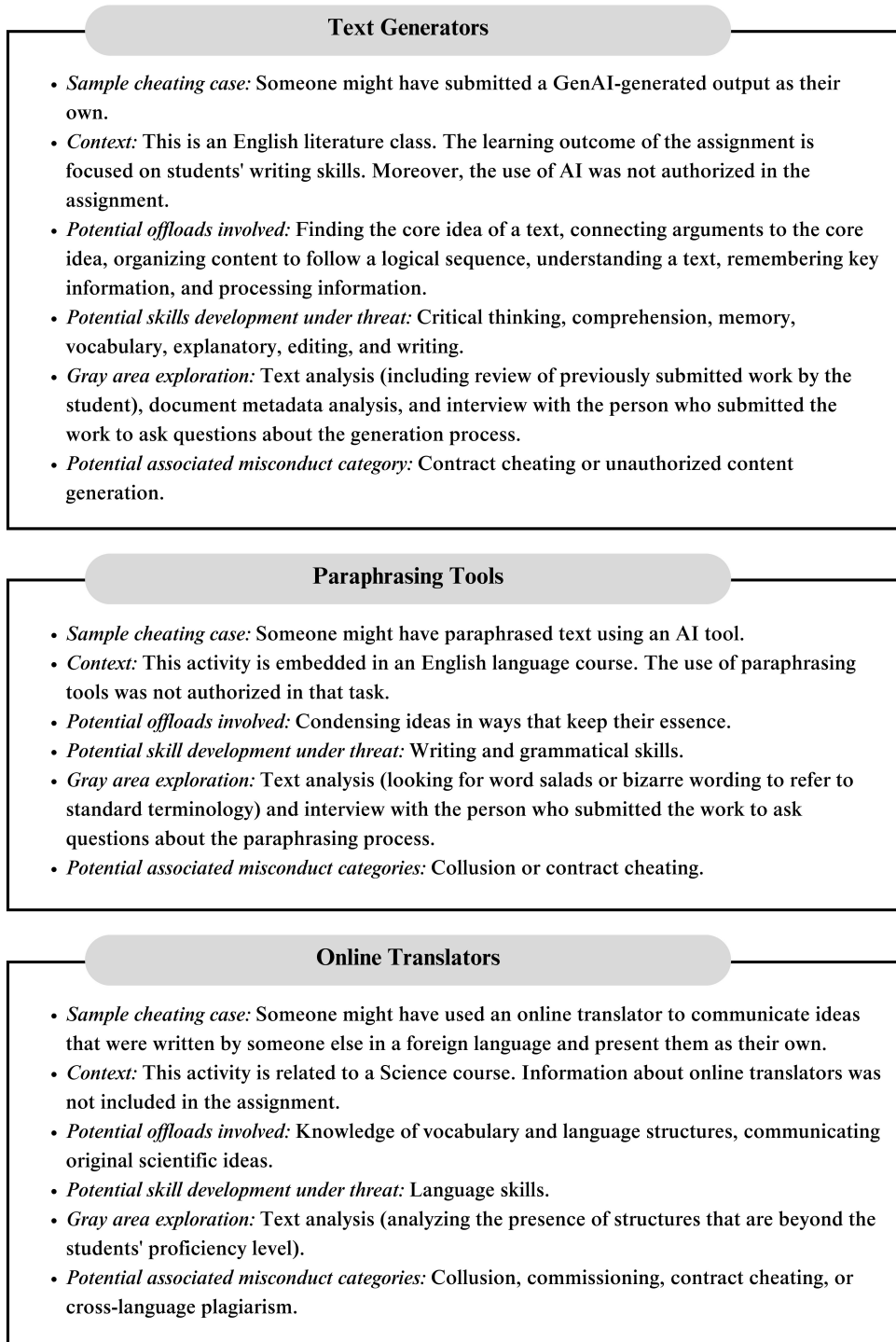
Limitations of this rapid scoping review

This review was limited to sources written in English and the analysis of AI tools that assist writing. Therefore, this scoping review left out AI tools that generate art, images, code, and music. Following the procedures of rapid scoping reviews, we reached a limited number of sources. Most sources were

Figure 2. A Model to Inform Decision-Making Processes about the Integration of AI



Note. Inspired by the works of AAIN (2023), Alonso (2022), Anson (2022), Dans (2019), Brake (2022), Dawson (2020), Dignum (2021), Dinneen (2021), Ducar & Schocket (2018), Eaton (2022), Eaton (2023), European Union (2022), Fyfe (2022), Foltýnek et al. (2023), Gero et al. (2022), Khan (2023), McNeill & Chaudhuri (2023), Merine & Purkayastha (2022), Monash University (2023), Roe & Perkins (2022), Roe et al. (2023), Rogerson & McCarthy (2017), Sabzalieva & Valentini (2023), Sharples (2022), and UNESCO (2021).

Figure 3. Sample Academic Misconduct Cases

Note. Inspired by the works of Alonso (2022), Anson (2022), Dawson (2020), Dinneen (2021), Ducar & Schocket (2018), Foltýnek et al. (2023), Groves & Mundt (2021), Prentice & Kinden (2018), Roe & Perkins (2022), and Rogerson & McCarthy, (2017).

based on opinions; hence, these recommendations need to be understood in that context. Likewise, the search ended

in November 2022, so it did not capture sources addressing new developments, such as ChatGPT. However, this review

Figure 4. Examples of Legitimate Uses of AI**Teacher-led activities**

- Ask students to experiment with writing with text generators and share their perspectives about the process.
- Ask students to critique or edit AI-generated outputs using previously defined criteria that students understand.
- Ask students to use text generators as opponents in developing their arguments.
- Guide students in using online translators and text generators as tutors, explaining the limitations and benefits.
- Scaffold writing activities that integrate a transparent use of AI by recording AI contributions.
- Show examples of translation techniques with online translators.

Student-led activities

- Ask questions to text generators about concepts while understanding the limitations of these tools.
- Ask questions to text generators concerning general knowledge.
- Prompt text generators to find ideas to explore in their assignments and discuss with the course instructor about the best choice.
- Use online translators, paraphrasing tools, or text generators to explore different ways to express an idea and ask for feedback from the course instructor after analyzing the options.
- Use an online translator as a pronunciation aid.
- Use an online translator to understand an idea from a text written in a foreign language.
- Use a text generator to overcome writer's block.
- Use a text generator to identify various perspectives of an issue.
- Write texts using autocorrect, proofreaders, spelling checkers, and thesaurus.

Note: Inspired by the works of AAIN (2023), Alonso (2022), Anson (2022), Brusini (2023), Dignum (2021), Ducar & Schocket (2018), Fyfe (2022), Foltýnek et al. (2023), Groves & Mundt (2021), Keith (2023), Roe & Perkins (2022), Sabzalieva & Valentini (2023), Sharples (2022).

synthesizes sources “pre-ChatGPT,” which may provide a valuable perspective to educators and policymakers. Also, this search did not yield results around digital writing assistants and AI tools as assistive technology for individuals with disabilities, which were relevant to our research question. We could not find information connecting the unethical use of AI with paper mills. While concerns around discriminatory language were discussed, results did not show if the LLMs displayed a preference for particular dialects. The insight into the perspectives of academic support staff for students, teaching assistants, librarians and educational developers was less visible than insights from educators and researchers. In this regard, we believe that the analysis of the ethical implications of AI needs a multi-stakeholder approach. Another limitation was the exclusion of three studies where research design could

not be established and the inclusion of peer-reviewed studies only.

We recognize our limitations while acknowledging that this study was carried out by a research team that includes academic integrity and artificial intelligence experts, as well as a librarian expert in evidence synthesis. This study also involved a comprehensive search, and bias was reduced via independent duplicate screening and data extraction.

Recommendations for future research

The study of the ethical implications of AI in teaching, learning, assessment, and research is an emerging area with multiple possibilities for future research. Building from this rapid scoping review, we believe that the more critical areas relate

to conceptual explorations of authorship, cheating, and plagiarism since the current definitions cannot adequately respond to disruptions. Further explorations will better equip the institution's approaches, practices, and academic integrity policies. Another key and related area relates to better defining the acceptability boundaries. These studies will require attention to disciplinary and local contexts. We call for more evidence-based and situated insights addressing the following questions in the higher education sector: Is writing with AI plagiarism? Where do we draw the acceptability line with AI? Who is the author when writing with AI? And can students show evidence of learning with AI? Reflecting on these questions in specific higher education settings will provide new directions for teaching, learning, assessment, and research in a world where AI is developing rapidly. We have just scratched the surface of these matters in this review. Considering prevalent inequities within the post-secondary learning environment will be key in such explorations.

Conclusion

The emergence of AI tools that mimic human writing has raised concerns in higher education institutions around the authentication of individual attainment and the integrity of the degrees. These concerns will only grow as these tools are expected to become more and more sophisticated. We developed this rapid scoping review to provide evidence-based recommendations to various educational stakeholders interested in expanding their knowledge about the ethical implications of AI in teaching, learning, assessment, and research. This rapid scoping review intends to embrace AI to take advantage of its affordances while trying to mitigate its harms. We identified studies that could inform the decision-making processes for integrating AI in educational activities, the analysis of academic misconduct cases involving AI, and the exploration of AI for legitimate assistance. The studies developed in a pre-ChatGPT era provide deep insight into critical questions that are still relevant in current dialogues about AI in the higher education sector.

Within the framework for AI integration decision-making, we highlighted some ethical implications we drew from the sources, such as the potential of AI for supporting untraceable cheating, the likely repercussions of GenAI fabrications, and the issues of the propagation of biases with GenAI. Likewise, we recognized the importance of integrating an equity, diversity, and inclusion lens in these processes to use AI in ways that can help level the playing field and the need for the provision of resources, educational opportunities for educators and students and a focus on academic integrity policy to navigate the murky waters of AI in education.

As for analyzing academic misconduct cases, this review also helped us realize AI's potential for contract cheating, collusion, plagiarism, and unauthorized content generation. Unethical practices could be linked to back translation, cross-language plagiarism, and submission of AI-generated content.

Due to the emerging nature of the issue, bringing relevant concepts and frameworks such as e-cheating and the academic integrity continuum could be critical.

Regarding the legitimate uses of AI's explorations, we identified that some activities need to be instructor-led while others can be developed by students autonomously. The difference lies in the expertise required to complete the task. AI tools could be great partners in assisting comprehension and writing processes when used ethically.

Although we positioned this rapid scoping review from an AI welcoming and prudent stance, alternative views involve banning or giving sanctions when used. However, we identify some limitations to such choices: they prevent the potential benefits of AI, they do not recognize the pervasiveness and ease of accessibility of these tools in our daily lives, they limit opportunities to develop the skills that students might need in an AI future, they can have effects that will be felt more strongly by minoritized groups, and they do not adequately acknowledge the difficulties of AI detection and the potential effects of an arms race.

We expect to contribute to the current dialogue in higher education as communities continue exploring how to approach new AI developments. We also respond to calls made by scholars regarding the need to examine the ethical implications of these technologies. The dialogue is still emergent, and we acknowledge that AI implications will only become more evident in the future.

Received

September 15, 2023

Accepted

February 24, 2024

Published online

March 31, 2024

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Appendix 1: Search Strategy

Please find the search strategy here: <https://osf.io/uzwjlr>

Appendix 2: Data Extracted from Articles Excluded in Critical Appraisal

Please find the data extracted from the articles excluded in the critical appraisal here: <https://osf.io/zb83f>

Appendix 3: Data Extraction Table

Please find the data extraction table here: <https://osf.io/73c8u>