Exploring the philosophy and practice of AI literacy in higher education in the Global South: a scoping review

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Abstract

Artificial Intelligence (AI) is at the top of the agendas of higher education and education leaders are required to give direction in educating the next generation of students and citizens. AI holds positive answers to technological innovations, but the potential for continued inequities, exclusion and divides must not be ignored. As a relatively new concept, AI literacy is often viewed as a complex concept requiring more detailed conceptualisation. Furthermore, with the recent hype around generative AI (GenAI), discussions and explorations around what AI literacy is, are now being deliberated. Historically AI was the domain of mathematicians and computer scientists. This is changing as the wider implication of AI permeates all aspects of society, in particular the ethical and informed use of AI and GenAI is paramount. This leaves higher education with the dilemma of deciding who is responsible in teaching and facilitation AI literacy. Keeping in mind that there is an abundance of new literacies in academia. This problem is particularly pronounced in the Global South countries, where digital exclusions and social injustice are becoming more complex. This scoping review evaluated 40 screened and eligible peer reviewed articles and conference proceedings published between 2020- 2024 on AI literacy in higher education in the Global South. The aim of the study was to gauge the extant research on AI literacy and its subsequent ethical implications in higher education in the Global South. The study further explored which philosophies and frameworks inform and guide AI literacy research and support in higher education within the selected region. Findings are that while the disciplines of education are engaging in research, other disciplines such as

Information Science are interdisciplinary actors in teaching and facilitating AI literacy, but that there is a pronounced paucity in research being conducted.

Research design

The purpose of this review is to gauge the coverage of recent peer-reviewed articles and conference proceedings to get a clear indication of the disciplines and their respective focuses on the philosophy and practice of AI literacy in higher education in the global south. For this purpose, the review considers interdisciplinary studies conducted between 2020 and 2024. This study employs a scoping review for evidenced knowledge synthesis of articles with a strong philosophical underpinning.

The Search strategy

To answer the research question of what the current status quo of reported research is in or about the Global South with regards to AI literacy in higher education, a scoping review guided by the PRISMA Extension for Scoping Reviews were conducted. The flow chart in Figure 1 explains the knowledge synthesis of sources. Peer-reviewed articles and conference proceedings in English, published between 2020 and 2024 were selected. Based on the recent escalation AI and GenAI developments (as reported by Floridi, 2019 and others) the study is limited to the past four years.

Peer-reviewed articles in English, published between 2020 and 2024 published in or about the Global South. Answering to the following criteria:

- The context of the articles and documents looks at higher education in the global south;
- The discussion includes teaching and information philosophy and literacies;
- The content addresses AI literacy in teaching and in academic libraries.

The search strategy covers philosophy, ethics, information science, business studies and computer science data bases. The databases included in the search strategy in this study are Google Scholar, Scopus and Web of Science.

Websites were searched using the local search functionality and a combination of the following keywords: " AI AND Philosophy; "Artificial Intelligence OR AI AND Literacy"; " Artificial intelligence OR AI AND Higer Education"; "Information ethics

AND AI literacy OR Artificial Intelligence Literacy", and "Ethics AND artificial intelligence" as systematically as possible within the search functionality and capabilities of each website. These results were screened and refined for studies that took place between 2020- 2024 in or about the Global South.

Databases were queried during June 2024. Databases were searched using keywords and search strings representing the three main concepts of AI in higher education, AI technology and AI ethics. These results were then filtered according to document type and then further refined to look for aspects such as philosophy of information and ethics, social justice and exclusion issues, LIS adoption of AI and the information society. A data log of the search strategies and results with links are archived in an Excel spreadsheet.

Inclusion and Exclusion criteria

The scoping review includes sources that are published in peer review articles and conference proceedings. Covered from 2020-2024. It excludes grey literature, and abstract- only- publications. It further excludes articles that does not address AI in higher education falling outside of the Global South countries. Articles about education, but not higher education were excluded.

The selection of evidenced sources

The aim of this study is to consider peer-reviewed articles on the Global South or about the Global South related to AI literacy in higher education. The search strategy covers philosophy, ethics, information science, education, sociolinguistics and computer science data bases. The databases included in the search strategy in this study are Google Scholar, Scopus and Web of Science. Databases were queried during July 2024. Databases were searched using keywords and search strings representing the two main concepts of AI technology and AI ethics.

These results were then filtered according to document type and then further refined to look for aspects such as literacy frameworks, applied philosophy of ethics, intergovernmental initiatives, inclusivity and digital exclusion. A data log of the search strategies and results with links are archived in an Excel spreadsheet.

The selection of evidenced sources

Guided by the PRISMA Extension for Scoping Reviews (Tricco et al. 2018), the flow chart in Figure 1 explains the knowledge synthesis of sources. From the three databases the initial search delivered 98 100 results. When the search was refined Web of Science had 278 results, Google scholar 3670, and Scopus 65. After

duplicates were removed, and filtering was done there was a total of 275 articles selected.