

Bibliometric Mapping of Artificial Intelligence in Higher Education: Evolution, Intellectual Structure and Knowledge Frontiers

ANDERSON ANTÔNIO DE LIMA
CENTRO UNIVERSITÁRIO SENAC

CRISTINA KEIKO YAMAGUCHI
UNIVERSIDADE DO PLANALTO CATARINENSE (UNIPLAC)

THIAGO DE LUCA SANTANA RIBEIRO
UNIVERSIDADE NOVE DE JULHO (UNINOVE)

MARCOS ANTONIO MAIA LAVIO DE OLIVEIRA
FATEC ITAPEVI/SP

ELOISA ELENA RAMOS DIAS SHINOHARA
FACULDADE DE TECNOLOGIA DE GUARULHOS (FATEC GR)

Introdução

Artificial intelligence (AI) has emerged as a transformative force in higher education, especially with ChatGPT. Despite growing interest, there is a scarcity of bibliometric studies that systematically map the knowledge domain. Technological innovations present challenges and opportunities, but understanding does not keep pace with innovations. Higher education is at the center of the debate about AI impacts and necessary responses for effective integration.

Problema de Pesquisa e Objetivo

There are no studies that map the intellectual structure through co-citation nor emerging frontiers via bibliographic coupling about AI in higher education. Objective: to map the emergence, evolution and knowledge frontiers about artificial intelligence in higher education through robust bibliometric analyses, identifying consolidated theoretical clusters, emerging trends and future research opportunities for theoretical-practical advancement of the field.

Fundamentação Teórica

AI seeks to create autonomous machines in complex environments. Since 1956, interest in educational applications has grown. The educational AI market may exceed US\$ 25.7 billion by 2030. It offers resources like chatbots, virtual reality, personalized tutoring and instant feedback. Benefits include learning personalization, but faces infrastructure challenges, financial resources, teacher training and ethical issues of privacy and academic integrity.

Discussão

4 co-citation clusters were identified: seminal studies, teaching-learning impacts, administrative effects and machine learning concepts. 8 coupling clusters: deep learning, ChatGPT, challenges/barriers, IoT/big data, ethics, international education, student perception and digital transformation. An operational framework with 8 dimensions was developed and a future research agenda with priority questions for systematic field advancement.

Conclusão

The field is structured on consolidated theoretical pillars, evolving towards an integrative multidisciplinary approach. AI offers significant transformative potential, but requires responsible implementation considering technological, pedagogical and ethical aspects. Systematic research is essential to maximize benefits while minimizing risks, promoting effective and equitable AI integration in higher education through robust scientific evidence.

Contribuição / Impacto

First systematization of the field's intellectual structure via co-citation and emerging frontiers via bibliographic coupling. Operational framework offers practical guide for institutional implementation. Research agenda directs future investigations. Contributes theoretically by identifying gaps and taxonomies, and practically by providing guidelines for educational managers on AI implementation policies, procedures and strategies based on scientific evidence.

Referências Bibliográficas

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