

# CURRENT AWARENESS SERVICE (CAS)

## MAY 2024

ARTIFICIAL INTELLIGENCE (AI) IN EDUCATION



Prepared By:

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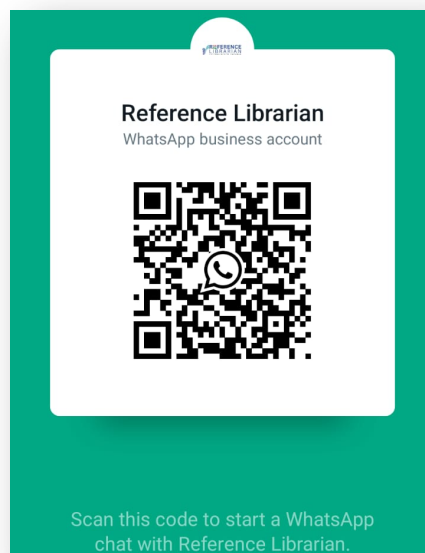
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TOPIC OF CURRENT AWARENESS SERVICES@PUSTAKA FOR MAY:  
**ARTIFICIAL INTELLIGENCE (AI) IN EDUCATION**

Artificial Intelligence (AI) has increasingly become a transformative force across various sectors, and education is no exception. The integration of AI in education offers a myriad of opportunities to enhance teaching and learning experiences, personalize education, and improve administrative efficiency.

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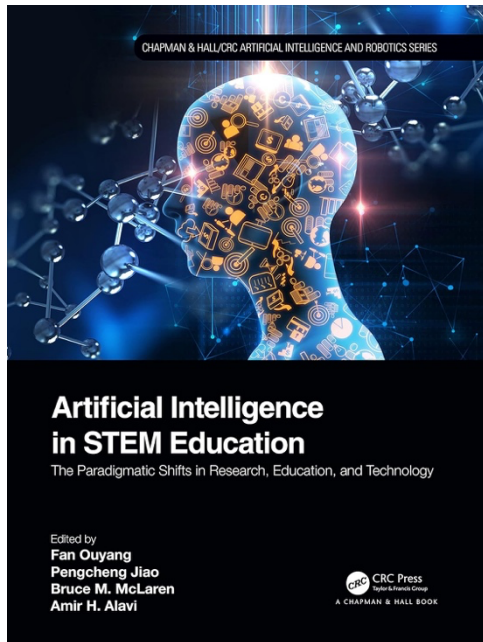
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## List of Resources on Artificial Intelligence (AI) in Education in Pustaka's Collection

### LIST OF BOOKS

**Note:** Kindly scan the QR Code for full text online.



Title : Artificial Intelligence in STEM Education : The Paradigmatic Shifts in Research, Education, and Technology

Author : Fan Ouyang, Jiao Pengcheng, Bruce M. McLaren & Amir H. Alavi.

Publisher : CRC Press, 2023

Call Number : 371.334/ART

ISBN : 9781032009216

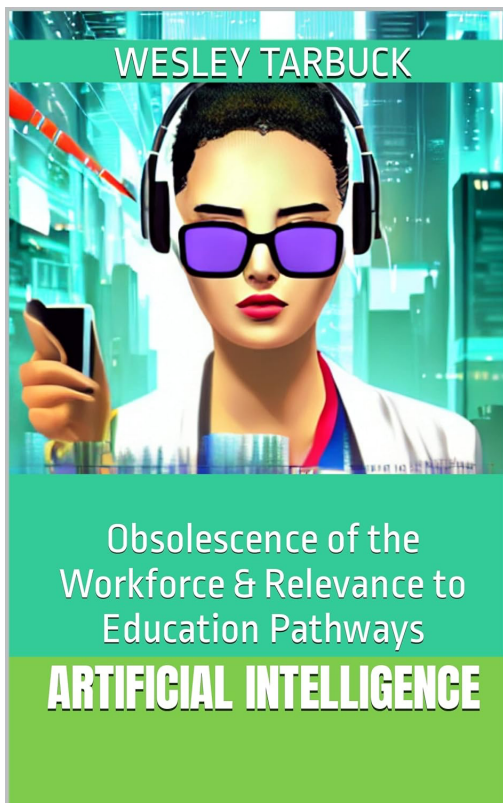
Location : Pustaka Negeri Sarawak (Kuching)

Format : Book material



#### Description:

AI in education (AIED) has undergone several research, practice, and technological paradigmatic shifts in its brief history, which can be particularly observed in science, technology, engineering and mathematics (STEM) education. In general, it has been reshaped to gradually emphasize the learner-centered, while weakening the teacher-directed instruction mode. This has led to a change between the three paradigms: learner-receiver, learner-partner, learner-leader. Consequently, supporting AI frameworks have been significantly improved from intelligent tutoring systems (ITSs), exploratory learning environments (ELEs) to human-centered participatory (HCP) smart education. This book aims to track the paradigmatic shifts of AI in STEM education and intends to highlight the reasons behind these changes as well as explain how the AI techniques have been improved to ensure the efficiency of the shifts. AI in STEM Education is a must-read for researchers, engineers, educators and policy-makers who are interested in opportunities and challenges of this field.

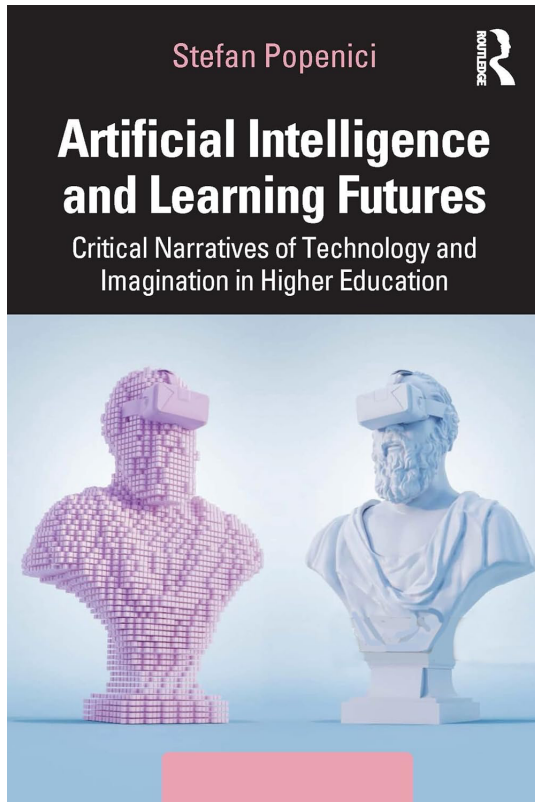


Title : Artificial Intelligence :  
Obsolence Of The  
Workforce & Relevance  
To Education Pathways  
Author : Wesley Tarbuck  
Publisher : Independently  
Published, 2023.  
Call Num- : 006.3/TAR  
ber  
ISBN : 9798372189942  
Location : Pustaka Negeri Sarawak  
(Miri)  
Format : Book  
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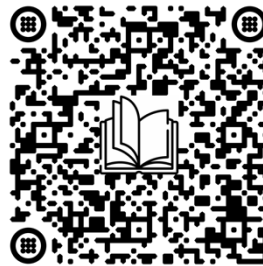


#### Description:

As AI becomes more sophisticated and widespread, it is transforming the job market and the way we work. While AI has the potential to automate or replace certain jobs, it is also likely to create new job opportunities that require new skills and knowledge. This means that individuals and educational institutions will need to adapt and be proactive in building the skills and knowledge that will be necessary in the future. In this book, we explore the fastest industries that are likely to become obsolete due to AI and the implications for education pathways. This book will cover the implications of things like classical and quantum computing, AI, the Blockchain / Cryptography, Moores law, social and economic implications for a Universal Basic Income (UBI) using methods such as the efficient market hypothesis.



Title : Artificial Intelligence and Learning Futures : Critical Narratives of Technology and Imagination in Higher Education  
Author : Stefan Popenici  
Publisher : Routledge, 2023.  
Call : 378.17344678/POP  
Number  
ISBN : 9781032208527  
Location : Pustaka Negeri Sarawak (Kuching)  
Format : Book  
material



#### Description:

Artificial Intelligence and Learning Futures explores the implications of artificial intelligence's adoption in higher education and the challenges to building sustainable instead of dystopic schooling. As AI becomes integral to both pedagogy and profitability in today's colleges and universities, a critical discourse on these systems and algorithms is urgently needed to push back against their potential to enable surveillance, control, and oppression. This book examines the development, risks, and opportunities inherent to AI in education and curriculum design, the problematic ideological assumptions of intelligence and technology, and the evidence base and ethical imagination required to responsibly implement these learning technologies in a way that ensures quality and sustainability. Leaders, administrators, and faculty as well as technologists and designers will find these provocative and accessible ideas profoundly applicable to their research, decision-making, and concerns.

## LIST OF ARTICLES

**Note:** Kindly scan the QR Code for full text online.

Title : Identifying gaps in using artificial intelligence to support students with intellectual disabilities from education and health perspectives  
Authors : Faten F. Kharbat, Abdallah Alshawabkeh, and M. Lynn Woolsey  
Online Database : Emerald Insight  
Format : e-Article

The current issue and full text archive of this journal is available on Emerald Insight at:  
<https://www.emerald.com/insight/2050-3806.htm>



# Identifying gaps in using artificial intelligence to support students with intellectual disabilities from education and health perspectives

Identifying gaps in AI to support ID/DD students

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Faten F. Kharbat and Abdallah Alshawabkeh  
*Al Ain University, Abu Dhabi, United Arab Emirates, and*  
M. Lynn Woolsey

*Emirates College for Advanced Education, Abu Dhabi, United Arab Emirates*

Received 28 February 2020  
Revised 13 August 2020  
28 October 2020  
16 November 2020  
Accepted 19 November 2020

### Abstract

**Purpose** – Students with developmental/intellectual disabilities (ID/DD) often have serious health issues that require additional medical care and supervision. Serious health issues also mean increased absence and additional lags in academic achievement and development of adaptive and social skills. The incorporation of artificial intelligence in the education of a child with ID/DD could ameliorate the educational, adaptive and social skill gaps that occur as a direct result of persistent health problems.

**Design/methodology/approach** – The literature regarding the use of artificial intelligence in education for students with ID/DD was collected systematically from international online databases based on specific inclusion and exclusion criteria. The collected articles were analyzed deductively, looking for the different gaps in the domain. Based on the literature, an artificial intelligence-based architecture is proposed and sketched.

**Findings** – The findings show that there are many gaps in supporting students with ID/DD through the utilization of artificial intelligence. Given that the majority of students with ID/DD often have serious and chronic and comorbid health conditions, the potential use of health information in artificial intelligence is even more critical. Therefore, there is a clear need to develop a system that facilitates communication and access to health information for students with ID/DD, one that provides information to caregivers and education providers, limits errors, and, therefore, improves these individuals' education and quality of life.

**Practical implications** – This review highlights the gap in the current literature regarding using artificial intelligence in supporting the education of students with ID/DD. There is an urgent need for an intelligent system in collaboration with the updated health information to improve the quality of services submitted for people with intellectual disabilities and as a result improving their quality of life.

**Originality/value** – This study contributes to the literature by highlighting the gaps in incorporating artificial intelligence and its service to individuals with ID/DD. The research additionally proposes a solution based on the confounding variables of students' health and individual characteristics. This solution will provide an automated information flow as a functional diagnostic and intervention tool for teachers, caregivers and parents. It could potentially improve the educational and practical outcomes for individuals with ID/DD and, ultimately, their quality of life.

**Keywords** Artificial intelligence, Health information, Adaptive skills, Developmental/intellectual disabilities, Edu-health intelligent system, Education advisory system

**Paper type** Research paper

Title : Artificial intelligence for education and its emphasis on assessment and adversity quotient: a review  
Authors : Jyoti Mudkanna Gavhane and Reena Pagare  
Online Database : Emerald Insight  
Format : e-Article

The current issue and full text archive of this journal is available on Emerald Insight at:  
<https://www.emerald.com/insight/0040-0912.htm>



# Artificial intelligence for education and its emphasis on assessment and adversity quotient: a review

AI for education

Jyoti Mudkanna Gavhane and Reena Pagare  
MIT Art Design and Technology University, Pune, India

## Abstract

**Purpose** – The purpose of this study was to analyze importance of artificial intelligence (AI) in education and its emphasis on assessment and adversity quotient (AQ).

**Design/methodology/approach** – The study utilizes a systematic literature review of over 141 journal papers and psychometric tests to evaluate AQ. Thematic analysis of quantitative and qualitative studies explores domains of AI in education.

**Findings** – Results suggest that assessing the AQ of students with the help of AI techniques is necessary. Education is a vital tool to develop and improve natural intelligence, and this survey presents the discourse use of AI techniques and behavioral strategies in the education sector of the recent era. The study proposes a conceptual framework of AQ with the help of assessment style for higher education undergraduates.

**Originality/value** – Research on AQ evaluation in the Indian context is still emerging, presenting a potential avenue for future research. Investigating the relationship between AQ and academic performance among Indian students is a crucial area of research. This can provide insights into the role of AQ in academic motivation, persistence and success in different academic disciplines and levels of education. AQ evaluation offers valuable insights into how individuals deal with and overcome challenges. The findings of this study have implications for higher education institutions to prepare for future challenges and better equip students with necessary skills for success. The papers reviewed related to AI for education opens research opportunities in the field of psychometrics, educational assessment and the evaluation of AQ.

**Keywords** Education, Artificial intelligence, Teaching-learning analytics, Assessment, Adversity Quotient

**Paper type** Literature review

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Revised 31 August 2023  
26 November 2023  
30 January 2024  
Accepted 3 March 2024

## 1. Introduction

Modern technology is conquering “artificial intelligence” (AI) (Chen *et al.*, 2020a), which is the center of significant computer research, design and application. Humans are trying hard to embed AI in a machine by making use of natural intelligence. Why? Because it has been proved by earlier researchers, the need for time competes with smart systems (Carbonell, 1970; Sarker, 2022; Spector and Ma, 2019), which take less effort to operate, work automatically, efficiently, etc. The field is in demand in the 21st century characterized by many varied and independent efforts. Intelligence (Atrizka and Pratama, 2022) means the capability to attain and apply information, knowledge and skills. AI does not exactly work like human cognitive intelligence, and it is closer to the realm on which this research review focuses. AI is spanning the education sector speedily. Education is multidimensional (Ouyang and Jiao, 2021). Education accommodates administration, academic monitoring, counseling, teaching-learning, assessments, exams and feedback. Some policies help to improve quality of education. Recently Indian education System devised New Education Policy in 2020 (NEP) (Aktar, 2021). It is introduced as NEP 2020. It signifies skill-based assessment. NEP 2020 talks about the 360-degree development of a student which is incorporated in the following section. NEP focuses on talent, capabilities and life skills. This literature discusses about AI-based assessment framework to evaluate the adversity quotient

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**Conflicts of interest:** The authors declare no conflict of interest.



Education + Training  
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Title : A bibliometric analysis of artificial intelligence chatbots in educational contexts  
Authors : Yupeng Lin and Zhonggen Yu  
Online Database : Emerald Insight  
Format : e-Article

The current issue and full text archive of this journal is available on Emerald Insight at:  
<https://www.emerald.com/insight/1741-5659.htm>



# A bibliometric analysis of artificial intelligence chatbots in educational contexts

Artificial intelligence chatbots

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Beijing, China

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Received 4 December 2022  
Revised 10 February 2023  
Accepted 19 February 2023

## Abstract

**Purpose** – The application of artificial intelligence chatbots is an emerging trend in educational technology studies for its multi-faceted advantages. However, the existing studies rarely take a perspective of educational technology application to evaluate the application of chatbots to educational contexts. This study aims to bridge the research gap by taking an educational perspective to review the existing literature on artificial intelligence chatbots.

**Design/methodology/approach** – This study combines bibliometric analysis and citation network analysis: a bibliometric analysis through visualization of keyword, authors, organizations and countries and a citation network analysis based on literature clustering.

**Findings** – Educational applications of chatbots are still rising in post-COVID-19 learning environments. Popular research issues on this topic include technological advancements, students' perception of chatbots and effectiveness of chatbots in different educational contexts. Originating from similar technological and theoretical foundations, chatbots are primarily applied to language education, educational services (such as information counseling and automated grading), health-care education and medical training. Diversifying application contexts demonstrate specific purposes for using chatbots in education but are confronted with some common challenges. Multi-faceted factors can influence the effectiveness and acceptance of chatbots in education. This study provides an extended framework to facilitate extending artificial intelligence chatbot applications in education.

**Research limitations/implications** – The authors have to acknowledge that this study is subjected to some limitations. First, the literature search was based on the core collection on Web of Science, which did not include some existing studies. Second, this bibliometric analysis only included studies published in English. Third, due to the limitation in technological expertise, the authors could not comprehensively interpret the implications of some studies reporting technological advancements.

The authors would like to extend sincere gratitude to their funders, journal editors, anonymous reviewers, and all other participants who have offered help to review and publish this paper. The first author want to express his special gratitude to the supervisors for his MA program, Prof./Dr. Zhonggen Yu and Associate Prof./Dr. Yan Zhang.

**Funding**: This work is supported by 2019 MOOC of Beijing Language and Culture University (MOOC201902) (Important) "Introduction to Linguistics"; "Introduction to Linguistics" of online and offline mixed courses in Beijing Language and Culture University in 2020; Special fund of Beijing Co-construction Project-Research and reform of the "Undergraduate Teaching Reform and Innovation Project" of Beijing higher education in 2020-innovative "multilingual+" excellent talent training system (202010032003); The research project of Graduate Students of Beijing Language and Culture University "Xi Jinping: The Governance of China" (SJTS202108).

**Authors' contributions**: The conceptualization was performed by Yupeng Lin and Zhonggen Yu. Material preparation, data collection and analysis were performed by Yupeng Lin. The first draft of the manuscript was written by Yupeng Lin and was revised and edited by Yupeng Lin and Zhonggen Yu. The processes of investigation and writing were supervised by Zhonggen Yu. All authors read and approved the final manuscript.



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## LIST OF CASE STUDY

**Note:** Kindly scan the QR Code for full text online.

Title : What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education  
Authors : Ahmed Tlili, Boulus Shehata, Michael Agyemang Adarkwah, Aras Bozkurt, Daniel T. Hickey, Ronghuai Huang and Brighter Agyemang  
Online Database : Mendeley (SpringerOpen)  
Format : Research Article

Tlili et al. *Smart Learning Environments* (2023) 10:15  
<https://doi.org/10.1186/s40561-023-00237-x>

Smart Learning Environments



RESEARCH

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# What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education



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## Abstract

Artificial Intelligence (AI) technologies have been progressing constantly and being more visible in different aspects of our lives. One recent phenomenon is ChatGPT, a chatbot with a conversational artificial intelligence interface that was developed by OpenAI. As one of the most advanced artificial intelligence applications, ChatGPT has drawn much public attention across the globe. In this regard, this study examines ChatGPT in education, among early adopters, through a qualitative instrumental case study. Conducted in three stages, the first stage of the study reveals that the public discourse in social media is generally positive and there is enthusiasm regarding its use in educational settings. However, there are also voices who are approaching cautiously using ChatGPT in educational settings. The second stage of the study examines the case of ChatGPT through lenses of educational transformation, response quality, usefulness, personality and emotion, and ethics. In the third and final stage of the study, the investigation of user experiences through ten educational scenarios revealed various issues, including cheating, honesty and truthfulness of ChatGPT, privacy misleading, and manipulation. The findings of this study provide several research directions that should be considered to ensure a safe and responsible adoption of chatbots, specifically ChatGPT, in education.

**Keywords:** Generative AI, ChatGPT, Chatbots, Education, Artificial intelligence, Human-machine collaboration

## Introduction

## LIST OF NEWSPAPER ARTICLE

**Note:** Kindly scan the QR Code for full text online.

Article Name : Unlocking AI's potential in education  
Authors : Rachel Williams  
Newspaper : Gulf News  
Date of Published : 23 May 2024  
Online Database : PressReader

**GULF NEWS**

### Unlocking AI's potential in education

We must harness artificial intelligence technologies to transform teaching and learning while ensuring equity and inclusion

Futurology · Artificial Intelligence · Singularitarianism · Tech Trends · Education · Business Trends · Machine Learning · Tech  
23 May 2024 [+13 more](#) BY RACHEL WILLIAMS | Special to Gulf News Rachel Williams is a writer and rights activist.

Artificial Intelligence (AI) is rapidly becoming a transformative force in various sectors, and education is no exception. As a branch of computer science dedicated to creating software capable of mimicking human intelligence — including reasoning, learning, problem-solving, and creativity — AI offers significant opportunities to address some of the biggest challenges in education today. However, the rapid pace of technological development presents risks and challenges that have outpaced policy debates and regulatory frameworks. AI has the potential to significantly enhance educational practices and accelerate progress towards Sustainable Development Goal 4 (SDG 4), which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. One of the primary ways AI is transforming education is by automating administrative tasks. This automation frees teachers to focus more on teaching and personalised interactions with students. Moreover, AI can support per-



Article Name : MoE to improve teacher competencies  
Authors : Bernama  
Newspaper : The Borneo Post (Sabah)  
Date of Published : 25 May 2024  
Online Database : PressReader

The Borneo Post (Sabah)

## MoE to improve teacher competencies in guiding students in AI

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KANGAR: The Ministry of Education (MoE) aims to improve teacher competencies through suitable training to ensure they can effectively guide students in utilising artificial intelligence (AI) technology.

Minister Fadhlina Sidek said after the introduction of the Digital Education Policy (DEP), feedback indicated that students in the country possess

significant capabilities, especially in AI innovation.

“Our students demonstrate notable proficiency in AI, emphasising the need for competent teachers to guide them.

“As such, we shall prioritise enhancing the competency and training of our educators, particularly in AI,” she told reporters after visiting Sekolah Men-

engah Kebangsaan Agama (SMKA) (P) Al-Alawiyah at Persiaran Jubli Emas here yesterday.

Fadhlina highlighted that students in rural areas would be integrated into the digital community, thereby strengthening their proficiency in AI technology, adding that MoE initiatives such as teacher activity centres and the Digital Educa-



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**MyGuru** previously known as Learning Port Interactive is a set of highly effective online revision resources that assists with learning and prepares students for their exams.

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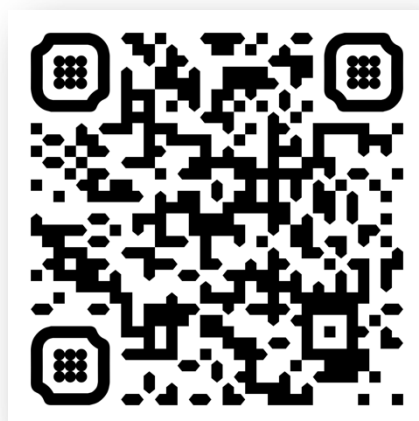
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