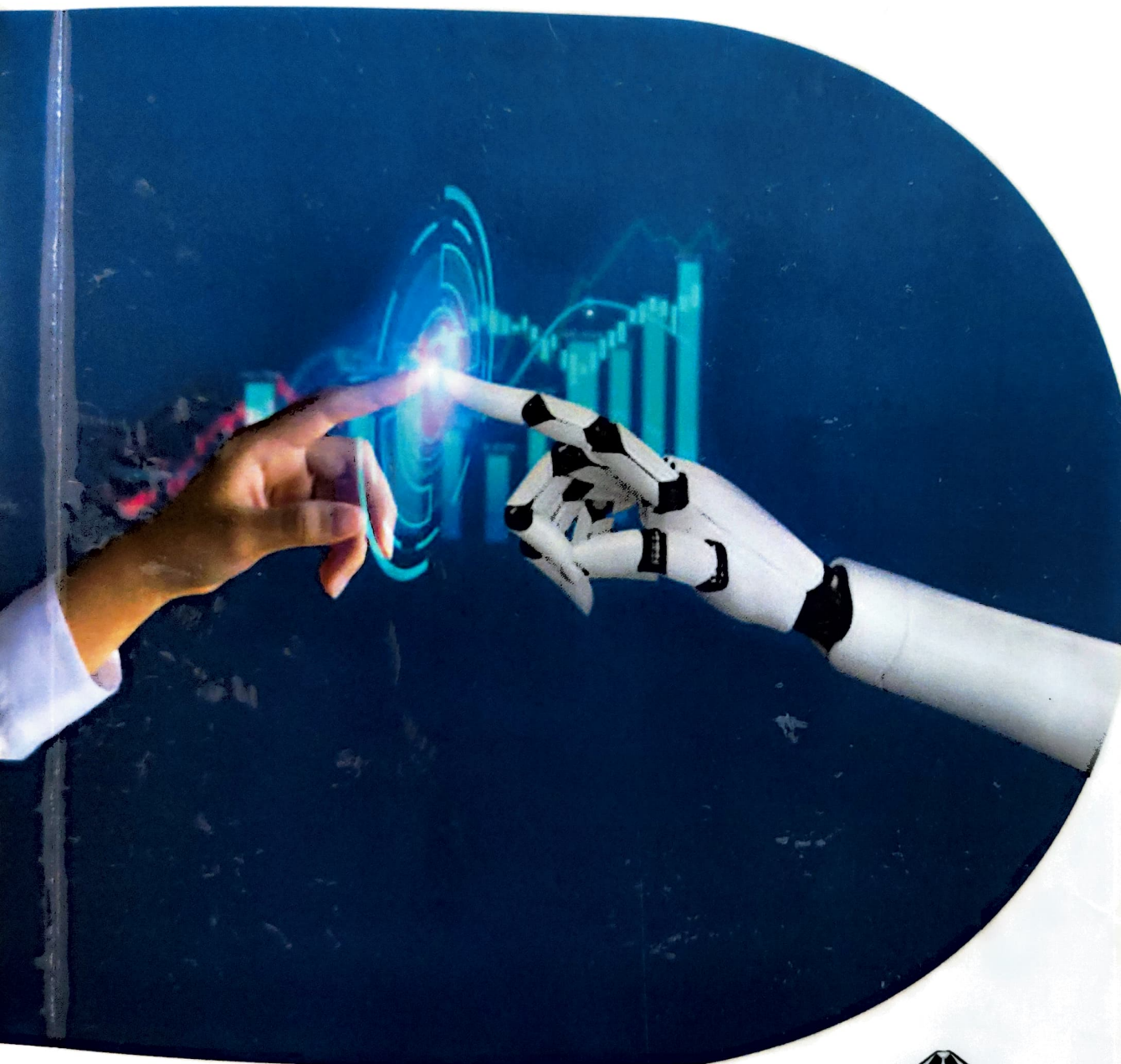


# **SYNTHETIC SAPIENS: A CYBERNETIC ELYSIUM AND THE SHIFTING PARADIGM OF INTELLIGENCE**

*(EXPLORING THE FACETS OF ARTIFICIAL INTELLIGENCE)*



**Prof. (Dr.) Sreekala K.L.  
Dr. P.K. Rajagopal**







2024

**SYNTHETIC SAPIENS: A CYBERNETIC ELYSIUM AND  
THE SHIFTING PARADIGM OF INTELLIGENCE  
(EXPLORING THE FACETS OF ARTIFICIAL  
INTELLIGENCE)**

*by Prof. (Dr.) Sreekala K.L. & Dr. P.K. Rajagopal*

© 2024 Prof. (Dr.) Sreekala

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without the prior written permission from the publisher.

**First Published:** January 2024

**Design & Layout:** Jabez, E-mail: [onlineprinting.pala@gmail.com](mailto:onlineprinting.pala@gmail.com)

**Printed at :**

Jyoti Printers, C - 12, Sector - 8, Noida, U.P. - 201301

Ph: 9289199317, e-mail: [jyotiprinters.noida@gmail.com](mailto:jyotiprinters.noida@gmail.com)

**Published by:** Media House°

**Regd Office:**

375 - A, Pocket 2, Mayur Vihar Phase - I, Delhi - 110 091

Phone: 09555642600

E - mail: [mediahousedelhi@gmail.com](mailto:mediahousedelhi@gmail.com)

**Admin Office:**

C - 12, Sector 8, Noida, UP - 201301

Phone: 0120 - 4222346

E - mail: [books.mediahouse@gmail.com](mailto:books.mediahouse@gmail.com)

[www.mediahouse.online](http://www.mediahouse.online)

ISBN: 978-93-94507-82-1

Price: ₹ 1200/-



8. Human Rights in the Era of AI  
Dr. Anitha S.M.
9. AI in Shaping Future Technology:  
Concerns and Prospects  
Prof.(Dr.) Sreekala K.L.
10. The Rise of Conversational AI in Higher Education  
Jayalakshmy P.M.
11. Generative AI in Teacher Education - Revolutionising  
the Teacher Training Programmes  
C. Rachana & Dr. Chitra. L
12. AI and Human Rights: Promises and Challenges  
Dr. Rajagopal. P.K.
13. Synergising AI and Performing Arts for Teaching English  
Lulu S Kappil & Dr. Mumthas. N.S.
14. The Synergy of AI and Education For Landscaping  
The Future of Teaching and Learning  
Soumya M S & Dr. S. Devika ✓
15. Harvesting SustAInability: The Transformative Impact  
of AI in Revolutionising Food System  
Sreelakshmi C & Dr. P Sheela ✓
16. Empowering Research: Unveiling the Synergy Between  
AI Tools and Intellectual Advancements  
Dr. K S Sajan
17. Role of AI in Framing a Sustainable Future:  
Solutions to Social and Environmental Challenges  
Dr. Revati N.
18. Revolutionizing Language Learning: AI Chatbots as  
Independent Study Partners  
Dr. Saritha Rajeev
19. Unleashing Creativity in Learning: The Impact of  
Diligent AI Integration  
Prof. (Dr.) Sajna Jaleel & Geethu T.G.



# THE SYNERGY OF AI AND EDUCATION FOR LANDSCAPING THE FUTURE OF TEACHING AND LEARNING

14

**Soumya M S**

Research Scholar, N.V.K.S.D. College of Education, Attoor

**Dr. S. Devika**

Assistant Professor in Education  
N.V.K.S.D. College of Education, Attoor

## **Abstract**

Artificial Intelligence (AI) in Education is a field that deals specifically with the development of computer systems that perform cognitive tasks associated with the human mind, such as learning and problem-solving. Artificial Intelligence in Education aims to make modern educational processes more effective, efficient, and personalized. In this context, it aims to



enable computers to mimic human-like intelligence and learning abilities. AI paves the way for a bright future in education via the many tools and resources it makes accessible to students and teachers alike. If artificial intelligence (AI) is to help assist educators and students in growing as educators and learners, educators and students must improve their usage and comprehension of AI. By making learning more accessible and personalized, AI has the potential to revolutionize education for the better. But today, many priorities for improvements to teaching and learning are unmet. This article highlights how synergy of AI and education can bring advancement in teaching and learning.

*Keywords: artificial intelligence, education, teaching, and learning*

## **Introduction**

Education plays a key role in the development of human civilization. Since ancient times, the method of learning is constantly evolving and undergoing numerous changes due to new technologies. We are all familiar with traditional ways of learning where education is imparted within the walls of classrooms to a group of students. With the intervention of the internet and digital technology, the online platform is trending slowly and surely taking the place of classrooms. Today, many priorities for improvements to teaching and learning are unmet. Educators seek technology-enhanced approaches addressing these priorities that would be safe, effective, and scalable. Naturally, educators wonder if the rapid advances in technology in everyday life could help. Like all, educators use Artificial Intelligence (AI) powered services in their everyday lives, such as voice assistants in their homes; tools that can correct grammar, complete sentences, and write essays; and automated trip planning on their phones. Many educators are actively exploring AI tools as they are newly released to the public. Educators see opportunities to use AI-powered capabilities like speech recognition to increase the support available to students with disabilities, multilingual learners, and others who could benefit from greater adaptivity and



personalization in digital tools for learning. They are exploring how AI can enable writing or improving lessons, as well as their process for finding, choosing, and adapting material for use in their lessons.

## **Role of Artificial Intelligence in Education**

Artificial Intelligence in Education is a field that deals specifically with the development of computer systems that perform cognitive tasks associated with the human mind, such as learning and problem solving. Artificial Intelligence in Education aims to make modern educational processes more effective, efficient, and personalized. In this context, it aims to enable computers to mimic human-like intelligence and learning abilities. Artificial Intelligence in Education includes technologies such as learning analytics, personalized learning materials, and student progress tracking, which are developed to provide better guidance to teachers and education professionals while monitoring students' learning paths (Baker et al., 2019). Actually, AI-powered computer systems interact with the world using human-like abilities and intelligent behaviours, aiming to make implicit knowledge specific in education (Luckin & Holmes, 2019).

These technologies have the potential to make educational processes more effective, efficient, and customized. AI technologies have great potential to provide students with personalized learning opportunities. Every student is a different individual with unique learning styles, abilities, and needs. While traditional educational methods often fail to fully accommodate these differences, AI technologies aim to maximize the potential of each student by providing customized solutions to individual needs. This enriches the learning experience by enabling students to be better motivated, show more interest, and gain independence (Ventura et al., 2017).

AI in Education explores the use of Artificial Intelligence methods to understand human teaching practices and create systems



that enhance the process of human learning. It involves the application of AI technologies to improve and analyze teaching methods and educational systems (Woolf, 1991). Furthermore, AI technologies have great potential to support students with learning difficulties to become more engaged in the educational process. AI-supported applications can be used to understand the specific needs of students and provide appropriate learning material or methods. In this way, students with learning disabilities can be more supported and included. AI technologies can provide students with a more personalized, interactive and efficient learning experience, while providing instructors with better guidance and student tracking (Wang, 2017).

## The Potential Benefits of AI in Education

AI does not detract from classroom instruction but enhances it in many ways. He summarizes five intriguing potential pluses of integrating AI in education:

*Personalization:* It can be overwhelmingly difficult for one teacher to figure out how to meet the needs of every student in his/her classroom. AI systems easily adapt to each student's individual learning needs and can target instruction based on their strengths and weaknesses.

*Tutoring:* AI systems can gauge a student's learning style and pre-existing knowledge to deliver customized support and instruction.

*Grading:* Sure, AI can help grade exams using an answer key; but it can also compile data about how students performed and even grade more abstract assessments such as essays.

*Feedback on course quality:* For example, if many students are answering a question incorrectly, AI can zero in on the specific information or concepts that students are missing, so educators can deliver targeted improvements in materials and methods.

*Meaningful and immediate feedback to students:* Some students may be shy about taking risks or receiving critical feedback in the



classroom, but with AI, students can feel comfortable to make the mistakes necessary for learning and receiving the feedback they need for improvement.

Much of the potential envisioned for AI in education centers on reducing time spent by teachers on tedious tasks to free up time for more meaningful ones.

Automating administrative tasks is also one of the five potential benefits spotlighted by Bernard Marr, an author, futurist and technology advisor who cites figures forecasting 47.5% growth from 2017-2021 in the use of artificial intelligence in education in the U.S.

In a video on the potential of AI in education, Marr explains why he sees AI having a massive impact in education emphasizing that "AI is not a threat to teachers; it is not there to replace teachers," but rather to deliver a better education to our children." He envisions a future hybrid model that is designed to "get the best out of our artificially intelligent-enabled systems and our teachers." Marr outlines the potential of AI to help our education provide enhanced, differentiated and individualized learning, automation of administrative tasks, tutoring and support outside the classroom and universal access for all students.

Lynch reviews a wide range of topics in a piece titled "26 Ways That Artificial Intelligence Is Transforming Education For The Better." For example some of the ways he quotes have been mentioned below.

*Adaptive Learning:* Used to teach students basic and advanced skills by assessing their present skill level and creating a guided instructional experience that helps them become proficient.

*Assistive Technology:* AI can help special needs students access a more equitable education, for example by reading passages to a visually impaired student.



*Early Childhood Education:* AI is currently being used to power interactive games that teach children basic academic skills and more.

*Data and Learning Analytics:* AI is currently being used by teachers and education administrators to analyze and interpret data, enabling them to make better-informed decisions.

*Scheduling:* Helping administrators to schedule courses and individuals to manage their daily, weekly, monthly or yearly schedules.

*Facilities Management:* AI is effective at monitoring the status of power, Wi-Fi and water services; alerting the facilities management workers when problems arise.

*Overall, School Management:* AI is currently being used to manage entire schools, powering student records systems, transportation, IT, maintenance, scheduling, budgeting, etc.

Lynch also cites current uses of AI in education that include:

Classroom/Behaviour Management, Lesson Planning, Classroom Audio-Visual, Parent-Teacher Communication, Language Learning, Test Preparation, Assessment, Learning Management Systems, Gamification for Enhanced Student Engagement, Staff Scheduling and substitute management, Professional Development, Transportation, Maintenance, Finance, Cybersecurity and Safety and Security.

Examples of how artificial intelligence is currently being used in higher education include:

Plagiarism Detection, Examination Integrity, Chatbots for Enrollment and Retention, Learning Management Systems, Transcription of Faculty Lectures, Enhanced Online Discussion Boards, Analyzing Student Success Metrics, Academic Research and Connected Campuses.



## AI in Education (Inclusion and Universal Access)

Bernard Marr explains that AI tools can enhance inclusion and universal access to education in a number of ways, including:

- Helping to make global classrooms available to all, including those who speak different languages or who might have visual or hearing impairments
- Creating access for students who might not be able to attend school due to illness
- Better serving students who require learning at a different level or on a particular subject that is not available in their own school

Overall, it is hoped that AI will ultimately help educators make continued progress in addressing the broad range of physical, cognitive, academic, social and emotional factors that can affect student learning and ensure that all students have equal opportunity in education, regardless of their social class, race, gender, sexuality, ethnic background or physical and mental disabilities.

## The Future of AI in Education

Though there continues to be widespread debate over the trade off of deploying AI technology in the field of education, including the concerns about depersonalization and the ethical considerations cited above, there is an emerging consensus that the extraordinary range of current and future benefits will carry the day.

## Conclusion

The effect of artificial intelligence and related technologies on current civilization is growing at a breakneck pace. Numerous research has previously been conducted to determine its impact on the educational system. It paves the way for a bright future in education via the many tools and resources it makes accessible



to students and teachers alike. If artificial intelligence (AI) is to help assist educators and students in growing as educators and learners, educators and students must improve their usage and comprehension of AI. By making learning more accessible and personalized, AI has the potential to revolutionize education for the better. And while the education industry is not yet ready to accept humanoid robots in the classroom, it is clear that Artificial Intelligence has a future in transforming education. Artificial Intelligence can play a crucial role in personalizing learning, enabling content, pace and teaching style to be tailored to individual students' needs and preferences. Through AI systems, personalized learning programmes can be created that foster the development of unique human skills by focusing on each student's specific strengths and interests. AI-based technologies can also facilitate communication and collaboration between students and between students and teachers. AI has firmly its stands in the lives of today and the synergy of it with education is expected to bring revolution in the landscape of teaching and learning.

## References

- 43 Examples of Artificial Intelligence in Education, University of San Diego, California. <https://onlinedegrees.sandiego.edu/artificial-intelligence-education/>
- Holmes, W. & Porayska-Pomsta, K. (Eds.) (2022). *The ethics of artificial intelligence in education*. Routledge. ISBN 978- 0367349721
- Luckin, R., & Holmes, W. (2016). *Intelligence Unleashed: An argument for AI in education*, UCL Knowledge Lab
- Maslej, N., Fattorini, L., Brynjolfsson E., Etchemendy, J., Ligett, K., Lyons, T., Manyika, J., Ngo, H., Niebles, J.C., Parli, V., Shoham, Y., Wald, R., Clark, J. and Perrault, R., (2023). *The AI index 2023 annual report*. Stanford University: AI Index Steering Committee, Institute for Human-Centered AI.



Ventura, Michele. (2017). Creating Inspiring Learning Environments by means of Digital Technologies: A Case Study of the Effectiveness of WhatsApp in Music Education. *EAI Endorsed Transactions on e-Learning*, 4(14), 152906. <https://10.4108/eai.26-7-2017.152906>.

Walton Family Foundation (March 1, 2023). Teachers and students embrace ChatGPT for education. <https://www.waltonfamilyfoundation.org/learning/teachers>-Baker, T., Smith, L., & Anissa, N. (2019). Educ-AI-tion rebooted? Exploring the future of artificial intelligence in schools and colleges. [https://media.nesta.org.uk/documents/Future\\_of\\_AI\\_and\\_education\\_v5\\_WEB.pdf](https://media.nesta.org.uk/documents/Future_of_AI_and_education_v5_WEB.pdf). and-students-embrace-chatgpt-for-education

Wang, F. H. (2017). An exploration of online behaviour engagement and achievement in flipped classroom supported by learning management system. *Computers & Education*, 114, 79-91. <https://doi.org/10.1016/j.compedu.2017.06.012>

Wolf, B. (1991). AI in education [Doctoral dissertation, University of Massachusetts at Amherst]. ProQuest Dissertations & Theses Global.