



PROSPECTS OF ARTIFICIAL INTELLIGENCE (AI) AND PERSONALIZED LEARNING IN INCLUSIVE EDUCATION INTEGRATED TO THE NATIONAL EDUCATION POLICY (NEP) - 2020

VOLUME - I

Chief Editors

Dr.T.Mohana Sundari | Dr.P.Archanaa

Editors

Dr.B.Indira Priyadharshini | Dr.T.Vijaya Chithra
Dr.P.Gomathi Devi | Dr.M.Deepa
Dr.M.Shanmuga Priya | Dr.R.Ramya



**PROSPECTS OF ARTIFICIAL INTELLIGENCE (AI) AND
PERSONALIZED LEARNING IN INCLUSIVE EDUCATION
INTEGRATED TO THE NATIONAL EDUCATION POLICY (NEP) - 2020**

© **Chief Editors**

Dr.T.Mohana Sundari, *Assistant Professor, Department of Commerce (CA)*

Dr.P.Archanaa, *Assistant Professor & Head, Department of Commerce (CA)*

Editors

Dr.B.Indira Priyadharshini | Dr.T.Vijaya Chithra

Dr.P.Gomathi Devi | Dr.M.Deepa

Dr.M.Shanmuga Priya | Dr.R.Ramya

Assistant Professor, Department of Commerce (CA)

ISBN: 978-93-94004-29-0

Price: Rs. 650.00/-

Copyright

All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted. In any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of the author.

Printed at

SHANLAXPUBLICATIONS

61, 66 T.P.K. Main Road

Vasanthanagar

Madurai - 625003

Tamil Nadu, India

Ph: 0452-4208765

Mobile: 7639303383

[email:publisher@shanlaxpublications.com](mailto:publisher@shanlaxpublications.com)

[web: www.shanlaxpublications.com](http://www.shanlaxpublications.com)

66	Promoting Lifelong Learning That Support Continuous Learning Beyond Formal Schooling Dr.G.Arut Geevitha & Ms. V. Mohana	362
67	NEP 2020 and the Future of Teacher Roles: AI as Partner, Not Replacement Dr. D. Rajasekaran & Ms. P. M. Sri Raja Mahalakshmi	369
68	Human-AI Collaborative Pedagogy and its Impact on Student Engagement and Socio-Emotional Learning Dr.D.Divya	374
69	Empowering Teachers for the AI-Driven Classroom: NEP 2020 Perspective Chitra.C & Divyabharathi.S	379
70	Human-AI Collaboration in Classrooms Support and Focus on Student Engagement and Socio-Emotional Learning Dr. T.M. Hemalatha & Ms. I. Swetha	388
71	Human-AI Collaboration In Classrooms Support and Focus on Student Engagement And Socio-Emotional Learning Raju Warriar & Dr.R.Velmurugan	394
72	Perceptions of College Faculty Towards AI Inclusive Education Under The National Education Policy in Virudhunagar District ¹Dr.P.K.Balamurugan, ²Dr.M.Lakshmana Kumar & ³Dr.S.Muthu Kumar	402
73	Shifting From Summative To Formative Assessment Provide Instant Feedback and Track Individual Progress S. Abirami¹, S. Pooja²	410
74	Building Teacher AI Literacy Emphasized By The NEP 2020. V. Charan, V. Dharaneesh & R. Prasanth	417
75	Fostering 21st-Century Skills Preparing Them for an AI-Driven World as Envisioned by NEP 2020 T.A Varsha¹, G. Kanmani² & K. Ganesh³	422
76	Professional Development for Educators to Effectively Use and Integrate AI Tools into their Pedagogical Methods ¹P Kirthikadevi, ²I Tawfeeqajasmine, ³Tani thayanand R	430
77	Ethical Considerations and Data Privacy Collecting and Analyzing Sensitive Student Data for Personalization N.Jayaprakash & Dr.R.Velmurugan	437

HUMAN-AI COLLABORATIVE PEDAGOGY AND ITS IMPACT ON STUDENT ENGAGEMENT AND SOCIO-EMOTIONAL LEARNING

Dr.D.Divya

Assistant Professor

Department of Commerce (Finance), NGM College, Pollachi

Abstract

The rapid advancement of Artificial Intelligence (AI) is reshaping educational practices worldwide, including in India, where digital initiatives and policy reforms have accelerated technology adoption in classrooms. Rather than replacing teachers, AI is increasingly used as a collaborative partner to support instruction, assessment, and learner engagement. This paper examines the concept of Human-AI Collaborative Pedagogy and analyses its impact on student engagement and socio-emotional learning in the Indian educational context. From the existing literature, Indian policy documents such as the National Education Policy (NEP) 2020, and emerging classroom practices, the study highlights how collaboration between human teachers and AI systems enhances personalized learning, emotional well-being, and inclusive education. The paper also discusses challenges such as the digital divide, ethical concerns, and teacher preparedness. The study concludes that human-AI collaboration, when implemented responsibly and contextually, has the potential to strengthen student engagement and socio-emotional competencies while supporting the holistic development envisioned in India's education reforms.

Keywords: *Human-AI collaboration, collaborative pedagogy, student engagement, socio-emotional learning, AI in education, Indian education, NEP 2020*

1. Introduction

1.1 Background of the Study

Digital technologies are gradually shaping the education sector in the 21st century in an attempt to enhance access, quality, and equity. Of these technologies, Artificial Intelligence (AI) has become a disruptive technology that has the potential to analyse the data about learners, personalise the instructional content, and facilitate individualised learning. The adoption of AI in education in India has been accelerated by programs like Digital India, SWAYAM, DIKSHA, and the adoption of the national education policy (NEP) of 2020. Although AI is efficient and scalable, education is an inherently human process that requires emotional attachment, moral judgement and social engagement. Therefore, increased awareness of the fact that AI is not to replace teachers but to collaborate with them is increasing. This cooperative model is the foundation of Human-AI Collaborative Pedagogy wherein human intelligence and artificial intelligence are complimentary to each other to improve the learning outcomes.

1.2 Rationale for the Study

The classrooms in India are multicultural, in terms of languages, cultures, social-economic statuses, and learning abilities. Educators can deal with many students in a classroom and diverse needs and skills of learners, so they cannot easily pay individual

attention to them. The tools based on AI may support teachers with information grounded in data, tailored feedback, and detection of learning problems in the early stages. With the support of the empathy of the teachers, culture sensitivity and pedagogic skills, AI may be useful in contributing a lot to academic interaction and socio-emotional growth.

1.3 Objectives of the Study

The objectives of this paper are:

1. To explain the concept of Human-AI Collaborative Pedagogy
2. To examine its impact on student engagement
3. To analyse its role in promoting socio-emotional learning
4. To identify challenges and future prospects in the Indian context

2. Concept of Human-AI Collaborative Pedagogy

2.1 Meaning and Scope

Human-AI Collaborative Pedagogy is a type of instructional system in which teachers collaborate with AI systems to facilitate teaching and learning. In this model, AI will act as a facilitator that will help with data analysis, adaptive instruction, and generating feedback, though the teachers will retain the control over making pedagogical choices, providing emotional support, and ethical guidance.

2.2 Roles of Teachers and AI

In collaborative pedagogy, responsibilities are distributed as follows:

- Teachers: Lesson Planning, emotional support, value education, classroom interaction, and contextual interpretation
- AI Systems: Learning Plan, performance analytics, formative assessment, and feedback

This balance ensures that learning remains human-driven but technology-enabled.

3. Student Engagement in Human-AI Collaborative Classrooms

3.1 Concept of Student Engagement

Student engagement is a multidimensional concept involving:

- Behavioral engagement – participation in academic activities
- Emotional engagement – interest, motivation, and sense of belonging
- Cognitive engagement – deep learning, problem-solving, and critical thinking

Engagement is particularly significant in India, where dropout rates and learning gaps remain key concerns.

3.2 Impact on Behavioral Engagement

AI applications assist in monitoring attendance, submissions of assignments, and learning rate. This data is used by teachers to intervene early and assist students that display signs of disengagement. Studies conducted in Indian contexts indicate that AI-enabled

adaptive learning platforms improve participation and reduce learning anxiety, especially among first-generation learners (Goyal et al., 2025).

3.3 Emotional Engagement

AI systems can identify patterns such as prolonged inactivity or inconsistent performance, which may indicate emotional stress. With this knowledge, teachers are in a position to counsel, support and peer counsel. This partnership makes students have an emotional attachment to learning.

3.4 Cognitive Engagement

The AI-driven solutions can modify the difficulty of the content based on the progress of learners to encourage the most effective cognitive challenge. Another way through which teachers can promote cognitive engagement is through promoting discussions, promoting reflection, and relating learning to real life situations that are pertinent to the Indian society.

4. Human-AI Collaboration and Socio-Emotional Learning (SEL)

4.1 Importance of SEL in Indian Education:

Self-awareness, self-regulation, empathy, social responsibility and ethical decision-making are the skills associated with Socio-emotional learning. NEP 2020 puts a lot of emphasis on holistic development as academic achievement should be accompanied by emotional health and social competency.

4.2 AI as a Support for SEL:

AI tools can support SEL by a) Reflective journal analysis and learning behaviour, b) Detecting indicators of emotional state, e.g. stress or disengagement c) Encouraging individual feedback and self-reflection. Nevertheless, AI will not be able to substitute human compassion or ethics. In general, teachers can be the key factor in interpreting AI insights and developing emotional intelligence.

4.3 Collaborative Practices for SEL:

Efficient Human-AI partnering measures involve Reflections with the assistance of AI were followed by discussions guided by a teacher. Teacher-intervention dashboards which are emotion-sensitive and Social simulations guided by educators. These practices enhance self-awareness, peer relationships, and responsible decision-making among students.

5. Indian Initiatives and Classroom Practices

5.1 AI in Indian Classrooms

Adaptive learning and assessment are applied in several Indian EdTech platforms through the usage of AI. Government programs like Centers of Excellence in AI in Education and DIKSHA encourage innovation and training of teachers. Those programs indicate that Human-AI Collaborative Pedagogy is practically applicable in India.

5.2 Rural and Inclusive Education

Artificially intelligent-based educational devices have demonstrated how they can help overcome the educational problems in rural India by enabling individuals to receive personalized content and assist teachers working in multi-grade classrooms (Shukla and Pandey, 2025). These tools enhance inclusiveness and interaction when used together with teacher facilitation. Difficulties in using Human-AI Collaborative Pedagogy.

6. Challenges in Implementing Human-AI Collaborative Pedagogy

6.1 Digital Divide

Unequal access to digital infrastructure remains a significant challenge in India, particularly in rural and economically disadvantaged regions.

6.2 Teacher Preparedness

Educators need lifelong learning opportunities to be able to decipher the insights provided by AI and implement them in teaching.

6.3 Ethical and Privacy Concerns

The problem of privacy, algorithmic bias, and transparency is a sensitive issue that should be handled using powerful policy frameworks and codes of ethics.

7. Future Directions

Future research should focus on:

- Longitudinal studies on the impact of Human-AI collaboration
- Context-specific AI design for Indian classrooms
- Scalable teacher training models
- Ethical governance and inclusive access

8. Conclusion

Human-AI Collaborative Pedagogy is a progressive and moderate view of educational innovation in India. This model allows teachers to boost the level of student engagement and socio-emotional learning by integrating analytical functions of AI with the emotional intelligence and pedagogical skills of teachers. The strategy is in line with the NEP vision 2020 direction that focuses on holistic, inclusive, and learner-centered education. Even though the issues of access, ethics, and teacher preparedness remain, the responsible and situation-specific application can make AI a helpful ally in the process of raising engaged, emotionally intelligent, and future-ready learners.

References

1. Government of India. (2020). National Education Policy 2020. Ministry of Education.
2. Shukla, H., & Pandey, K. (2025). Human-AI collaboration in teaching and learning. *International Journal of Science and Social Science Research*, 5(2), 45–56.

3. Goyal, H., Garg, G., Mordia, P., Ramachandran, V., Kumar, D., & Challa, J. S. (2025). The impact of large language models on K-12 education in rural India. arXiv Preprint.
4. UNICEF India. (2025). AI and human capability: India's role in shaping the future of learning. UNICEF India.
5. Ministry of Education. (2025). Centers of excellence in artificial intelligence for education. Government of India