

Artificial Intelligence and Socialization: Impact on Young Students Social Interactions and Cultural Dynamics

Jharendra Bishwakarma^{1*}  and Vishal Jhadav² 

¹Department of Sociology, Spicer Adventist University, Pune, Maharashtra, India

²Department of Sociology, Pondicherry University, Puducherry, India

E-mail: vishalsocio@pondiuni.ac.in

*Corresponding author: jharendra.publications@gmail.com

(Received 14 September 2025; Revised 25 October 2025; Accepted 11 November 2025; Available online 5 December 2025)

Abstract - Artificial Intelligence has recently become synonymous with any technology, be it in any field; the paradigm shift is being observed in every sector, and the ongoing discourse is being dominated by this talk. With its growing influence on individuals and, as a whole, on society, it is imperative to reflect on its outcomes. The growing integration of artificial intelligence (AI) in the education sector has been transforming the traditional learning and socialization process, and it is also presenting concerns. This paper dives into a primary understanding of AI technology, specifically its influence on the development of young students in terms of social interactions and cultural dynamics. This paper studied the AI's influence on socialization and cultural dynamics through the lens of Vygotsky's sociocultural theory and Bandura's social learning theory. While the analysis reveals that AI does enhance personal learning and global collaborations, there is a risk of a reduction in face-to-face interactions, which could weaken skills such as empathy and nonverbal communication. Further, the finding also suggests that AI facilitates cross-cultural exposure, but there is a possible risk of cultural homogenization, which could marginalize the homegrown traditions. Data privacy, algorithmic bias, and social isolation are the other areas of concern that would further complicate AI's role in education.

Keywords: Artificial Intelligence, Education, Socialization, Hybrid Learning, Digital Socialization, Education Technology

I. INTRODUCTION

A. The importance of socialization in young students' development

Socialization is a popular term among sociologists, but it is often heard in the general discourse of the entire education fraternity, from regional to international. The passing generation sees it as an essential task to prepare the next generation to continue believing in social norms and desired behaviors. It also wants to see further stability in society; to do so, society inherently develops institutions to reinforce the young generation to keep them under the influence of set norms and social ideals. For instance, school not only teaches academic knowledge but also imparts cultural values and social behaviors; the family passes on moral and traditional lessons; religion offers ethical guidelines; and media plays a role of reflection and reinforcement.

Giddens and Sutton (2017) define the term socialization as the process of acquiring and internalizing values, beliefs, and social norms. Socialization is something that is not inherited, it is a way an individual gets inducted into society. Primary socialization begins at home and during early childhood and in later stages of secondary socialization education, peers and media plays a greater role. Socialization shapes young students' social, emotional, and cognitive abilities and is essential to their development. Children acquire the communication, teamwork, and social norm-navigating skills necessary for their assimilation into society through their interactions with peers, teachers, and family (Vygotsky, 1978).

Additionally, socialization helps students develop empathy, emotional control, and cultural awareness, which aids in their ability to form lasting bonds and adjust to a variety of situations (Bandura, 1977). By encouraging cooperation, problem-solving, and a feeling of community, socialization helps students succeed academically in educational settings (Wentzel, 2017). In the world of technological advancement, AI mediated tools such as virtual peers or chatbots taking space in the process of socialization and with efficiency of imitation, suggestions could possibly play role models to young students. Nickerson (2024) affirms that this shifting social interactions would likely disrupt traditional socialization processes, through induction of new norms. To ensure the holistic development of young students in both virtual and physical environments, it is essential to comprehend the changing dynamics of socialization as they interact with digital and AI-driven platforms more and more.

B. Role of AI in modern education and social interactions

Human beings are known for their innovation, and they would constantly look for simpler ways to achieve a task, especially repetitive ones. We have seen throughout human civilization the development of innovative tools; these tools were highly focused on reducing effort and increasing maximum productivity. These inclinations of human beings are the key factor that results in the push of technological development, which includes artificial intelligence (AI).

Artificial intelligence (AI) has recently taken its front seat and created a huge buzz across, but limited to, a particular industry. Very few people would know that the term artificial intelligence (AI) is a 70-year-old term, coined by John McCarthy. The first-ever artificial intelligence conference took place in 1956 at Dartmouth College. Later in 1977, Alan Turing, who is known for his substantial role in the emergence of artificial intelligence (AI), predicted that computers would be able to play chess. The scientific forecast became true when Deep Blue, a chess computer designed by IBM, defeated world chess grandmaster Garry Kasparov. This technology has now travelled and gained mileage in the modern world and has become a tool in almost every known industry.

In the current trend, artificial intelligence (AI) is influencing and drastically altering our social interactions, knowledge transfer systems, and educational institutions' administration. For example, tests related to intelligence, psychological and behavioral assessments, personality tests, automated grading, personalized learning systems, intelligent tailored tutoring systems, etc., are becoming more and more integrated. Holmes *et al.*, (2019) confirm that AI-powered tools are being used to improve engagement and cater to individual learning needs. With AI-powered tools, the teachers are able to find quick and close to accurate data and its analysis, which helps towards finding ways to offer curated help and promote academic progress. Luckin *et al.*, (2016). These tools bring together global connectivity, allowing students to have social interactions and collaborations across national and cultural borders.

However, there are concerns that there is a possibility of over-reliance on AI, which will probably reduce face-to-face interactions and create biased systems. These issues underscore the need to carefully integrate AI into systems that enhance socialization and cultural exchanges rather than harming them (Selwyn, 2019).

As AI continues to advance, it is important to assess its impacts on the social and educational arena. By harnessing personalized learning, global collaborations, and other beneficial features and underlining and addressing risks like biases and reducing human interactions, we make certain that AI contributes positively to these fields. The way to achieve balance would be careful integration and ethical considerations.

C. Objectives of the Study

The primary objective of this study is to examine how artificial intelligence (AI) influences various aspects of young students' cultural dynamics and social interactions. Specifically, the study aims to:

1. To examine in which ways AI platforms and tools influence students' social skill development.
2. To examine how cultural beliefs and behaviors are shaped by AI in young students.

3. To assess the effects of AI technology on the quality of interactions and the character of young students.

D. Research question

1. What are the impacts of AI on the social skill development of young students?
2. How does AI influence young students' cultural beliefs and behaviors?
3. What are the facets of young students' interactions that are affected by AI technologies?

E. Significance of the Study

This study holds significant importance for several reasons:

1. *Relevance to Education:* Since the use of AI is increasing, it is absolutely important to understand how it may change the social interactions among students. There is a need to find the right balance to see that AI technology enhances learning while keeping intact the essence of social interactions.
2. *Social Development:* The young minds are at the formative stage of their lives, especially in the phase of social and emotional development. This study highlights how AI can play a role in this process; it can go both ways, either form strong relationships and adapt social norms or hindering their ability.
3. *Cultural Awareness:* There is a need to thoughtfully leverage AI to promote cultural understanding and encourage diversity among students. By fostering this inclusivity, AI can help students to appreciate and embrace global perspectives. As the world becomes more connected, AI has the potential to either bridge or widen the cultural gaps.
4. *Policy and Practice:* Findings of this study will provide recommendations for the stakeholders, specifically policymakers and educators, to ensure that AI technologies are implemented in a way that will enhance young students' social and cultural developments rather than undermine them.
5. *Theoretical Contribution:* By integrating the theories of socialization and technology, this research aims to reduce the gaps in knowledge on how AI impacts the domain of education and socialization. Further, this study will add valuable insights towards the growing research inclination towards the research related to AI and its long-term implications on society.

II. THEORETICAL FRAMEWORK

This study explores the relationship between socialization and artificial intelligence. The particular emphasis is put on the AI's effects on the social relationships and cultural dynamics of the students. The study is based on the important theories related to socialization and the function of technology in society.

A. Theories of Socialization

1. Vygotsky's Sociocultural Theory: Lev Vygotsky's sociocultural theory highlights the importance of social interactions and cultural tools in forming how an individual perceives and learns. According to Vygotsky, learning happens through cultural tools such as language, symbols, and technology. He highlighted that learning happens not in isolation but through interactions with individuals with greater knowledge; they could be parents, teachers, or classmates.

2. Application to AI and Socialization: The emphasis put forth by Vygotsky's social theory is on greater knowledge. The AI here acts as "more knowledgeable others" in the learning process of young students. The AI-mediated platform acts as a resource that mediates social interactions and offers a learning model that may influence the way students pick up cultural norms and social skills. However, the concern is that AI interactions lack human emotional depth.

3. Bandura's Social Learning Theory: Albert Bandura's social learning theory explains that people acquire behaviors, attitudes, and emotional responses by imitating and observing others around them. He highlights that reinforcement plays an important role in shaping behaviors. Additionally, the environment or context impacts people's choice of what to imitate.

4. Application to AI and Socialization: In terms of Bandura's social learning theory, the young students may copy how their peers are interacting with AI or may imitate the behaviors modeled by AI systems.

These platforms create opportunities for learning by observing via social media or educational games. However, this raises concerns related to the cultural values these platforms endorse and the behavior being encouraged through passive or active consumption.

B. Theories of Technology's Role in Society

The theory of technological determinism suggests that developments in technology, such as artificial intelligence, necessarily influence how people communicate and interact with each other. The theory suggests that technology is largely accountable for societal change, impacting social structure, cultural norms, and behavior.

1. Application to AI and Socialization: This viewpoint coincides with the revolutionary power of artificial intelligence that is redefining the way young students engage with one another. The tools, such as chatbots and virtual reality, are likely to decrease in-person interactions, impacting the traditional socialization process and leading

towards the establishment of new systems of communication and relationship development.

2. Social Construction of Technology (SCOT): SCOT theory emphasizes that society has an influence on the development of technology. The technology doesn't get developed in a vacuum; the social forces, cultural norms, and user influences are responsible for it. The success or failure of the technology relies on how it is perceived and used by the social groups.

3. Application to AI and Socialization: The incorporation of AI will be determined by the way educators, parents, and policymakers incorporate it into the learning systems that will determine how students are socialized by technology. For instance, AI tutoring systems could isolate the students if incorporated for individual learners, while they may foster collaboration if developed to incorporate into teamwork.

C. Integrating Theories: AI and Socialization

The alliance of socialization and technology theories offers an effective framework for understanding how AI influences the social interactions and cultural aspects of young students.

Bandura's social theory stresses how artificial intelligence technology can guide behaviors and affect social norms, while Vygotsky's sociocultural theory stresses its functions as a mediator in communication and learning.

While the social construction of technology highlights that the outcome of AI utilizations relies on its implementation, requiring the stakeholders to negotiate the outcome by enforcing the guidelines to enhance the essential social skills.

Technological determinism argues that technology, such as AI, has strong capabilities to drive societal change alone; the theory sees it as an autonomous, unstoppable force to model the way people socialize and, in predictable ways, impact traditional socialization.

AI presents opportunities to improve socialization through the formation of global connections and individual learning systems. However, there are disadvantages; the overreliance of individuals on AI may decline face-to-face interactions, weakening real-life social skills.

Furthermore, AI has the potential to promote unfair bias by endorsing dominant culture. To extract the best out of technology, such as AI, requires a balanced approach; the use of AI can be promoted to enhance human interaction rather than replace it.

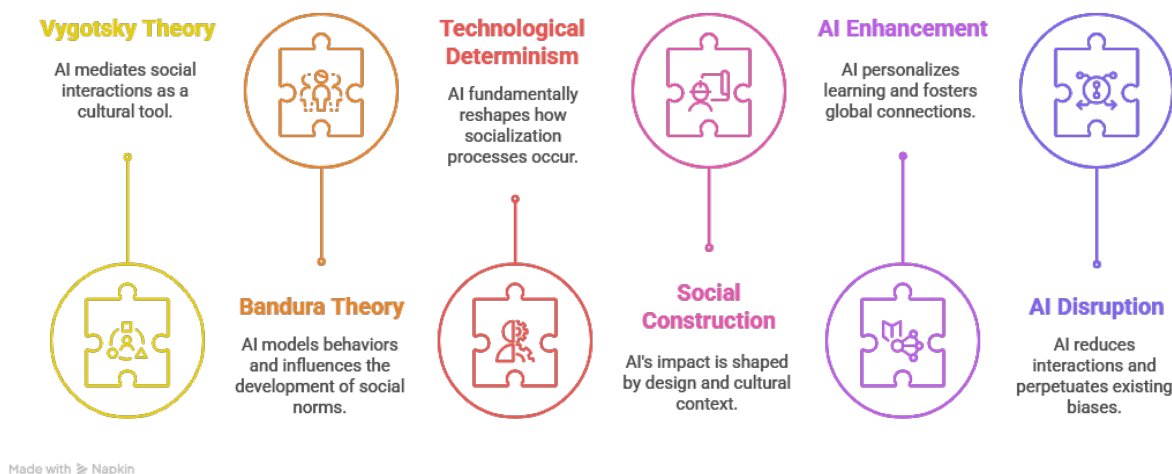


Fig.1 The Interplay of Socialization and Technology Theories in Understanding AI Impact on Young Students

III. LITERATURE REVIEW

A. Overview of existing research on AI in education and socialization

The recent advancement in AI and its influence in all sectors, especially in education and socialization. While on one hand it offers transformative possibilities, on the other hand, there is a rise in domains related to ethical and practical concerns. The overview of various articles has highlighted areas such as personalized learning-moving away from “one-size-fits-all” to tailored learning; teacher augmentation-enhancing teaching ability with AI technology; socialization- improving social engagement through AI; and ethical challenges-privacy concerns such as protecting sensitive data and dilemmas over moral principles.

Artificial intelligence (AI) is being widely utilized to improve educational outcomes through the inclusion of tools such as chatbots, virtual reality, and intelligent tutoring systems (Luckin *et al.*, 2016). Chatbots act as virtual helpers to learners by answering their questions. Virtual reality platforms reduce the time and distance, making it possible to visually experience things such as visiting historical sites, conducting experiments, and experiencing impossible visuals, such as visiting the sun. Hu (2024) the meta-analysis of 36 experimental studies, 31 of which have shown moderate improvements in learning outcomes through artificial intelligence assistance in terms of knowledge, competence, and emotional development. According to Hwang & Tu (2021), AI technology in education has, on the one hand, an impact on students' learning processes; on the other hand, it also guides teachers towards improving pedagogical practices over traditional ones. However, the results matter in how the curriculum aligns and how teachers are trained.

In the other areas where the AI has shown promising sides, some scholars have also highlighted concerns, such as student surveillance and panoptic effects. AI involvement in

educational institutions, especially in the administrative areas. The administration, while desiring better functioning, may rely on continuous data collection, which may include constant monitoring of teachers and students. Though it will help in better judgments, it can also raise concerns regarding consent.

Understanding the boundary would greatly impact the learning and also the development of social skills. The work of Holmes, Bialik, & Fadel (2019) has highlighted the area of the social domain of students' lives. Their views conform to Hwang & Tu (2021) and Lukin (2020) on adaptive learning efficacy due to AI capability in hyper-personalized education and Selwyn's (2019) views on teacher augmentation, AI being helpful in relieving teachers of firm grading and paperwork to focus on mentorship and developing higher-order skills. Further, their work also complements Ouyang, Xu, & Cukurova (2023) in terms of social skills development through simulation of virtual peers; the skills of empathy, collaboration, and conflict resolution can be gained. Miller & Morris (2016) suggest that the virtual peer association has similar influence as traditional, face-to-face interactions.

Holmes, Bialik, & Fadel (2019), complementing the work of Kasneci *et al.*, (2023), highlighted that excessive dependency on AI companions could possibly weaken students' ability to steer through real-world social dynamics. Furthermore, the area related to ethical and equity challenges is a sensitive area and should not be overlooked. Lemay, Baek, and Doleck (2021) and UNESCO (2023) AI, if trained using incomplete or biased data, could unfairly favor certain groups of students, and it might suggest jobs based on stereotypes. Varsik & Vosberg (2024) raised a very valid concern that the digital divide due to lack of infrastructure may cause a greater challenge and marginalized groups will fall behind in the race. Though AI is powerful, there are limitations to the specific abilities that only humans possess, like creativity (thinking outside the box), ethics (the capacity to understand values, empathy, and moral principles), and critical thinking

(involving human intuition, reasoned judgment, and making moral decisions). Only humans possess the character of offering emotional depth, self-reflections, ethical considerations, compassions and determination which AI is not in a position to replicate. Combining the strength of AI such as efficiency, objectivity and swiftness is way forward for the world (Frey, 2023; HP Online Store, 2025; Newblom, 2024; Schwanke, 2024)

The research has shown that AI plays a great role and provides several benefits, such as exposure to diverse cultures, as AI brings information and perspectives from all around the world, which helps students to appreciate and understand the culture of various societies. It also provides possibilities of virtual collaboration without geographical boundaries, encouraging teamwork and communication along with the capability to personalize learning by adjusting to students' strengths and weaknesses. Some researchers have emphasized the benefiting potential of AI, and some have raised concern towards its capability of diminishing cultural diversity by homogenization, further weakening traditional social interactions (Selwyn, 2019). Meredith Broussard affirms AI's possibility of unintended endorsement of dominant cultural narratives over localized practices, leading to cultural diversity (Broussard, 2018).

TABLE I IMPACTS ON SOCIALIZATION AND CULTURAL DYNAMICS

AI Adoption in Education	
Positive	Negative
Exposure to Different Cultures	Reduction in Face-to-Face Interaction
Virtual Collaboration	
Personalized Learning	Risk of Social Isolation
Inclusive Learning Experiences	Cultural Homogenization

The socialization process and cultural dynamics of the young students are another important area of concern, and the AI's influence on these is lesser known. One of the major concerns is the rise in dependency on AI-powered communication tools and a decline in face-to-face interactions (Turkle, 2015). These rapid changes and involvement of technology have huge potential to impact the development of essential skills such as nonverbal communication and empathy, which are learned in the midst of society through interactions with others. Social isolation is another such possible issue due to overreliance on AI companions or virtual worlds further aggravating social interactions in the real world.

B. Gaps in the Literature and Areas for Further Exploration

It is observed that while various studies have presented information in terms of AI influencing social interactions and its impact on education, there remain several gaps that need to be ventured out. There are limited empirical data related to the effects of AI on young students' cultural dynamics when it comes to non-Western countries (Holmes *et al.*, 2021). This calls for the necessity to investigate the effects of AI-driven

platforms on education and culture. Further, to fully comprehend the long-term implications of AI on young children's emotional and social well-being, a longitudinal study is a necessity (Selwyn, 2019). To understand the AI's role in socialization and culture, interdisciplinary research is imperative that would integrate viewpoints from education, sociology, and technology studies. Finally, the ethical concerns, such as data privacy and algorithmic bias, must be addressed (Zawacki-Richter *et al.*, 2019). The gaps are many, and researchers in the area of sociology, education, and technology could invest time and effort to fine-tune the inevitable technological developments.

TABLE II RESEARCH GAPS & PROPOSED RESEARCH DIRECTIONS

Research Gaps & Proposed Research Directions in AI's Impact on Socialization and Education	
Research Gap	Cultural Dynamics in Non-Western Settings
	Long-Term Social and Emotional Development
	Interdisciplinary Research
	Ethical Concerns
Research Directions	Cross-Cultural Studies
	Longitudinal Studies
	Interdisciplinary Research
	Ethical Frameworks

V. ANALYSIS AND DISCUSSION

A. Analysis of AI's Influence on Young Students' Social Interactions

Vygotsky's social learning theory suggests that AI can help people learn and is seen as a "more knowledgeable other" mediating between social interactions and learning. Tools such as smart tutors and virtual classrooms make learning more structured and collaborative, yet it is well known that empathy, emotions, and nonverbal communications, which AI lacks, may hinder socialization (Vygotsky, 1978). Bandura's social learning theory highlights that AI-powered platforms can shape behavior and reinforce social norms. For example, AI-powered games and social media demonstrate that children can learn through observation. AI-mediated environments may reduce active collaborations among the learners and endorse passive learning (Bandura, 1977). The theory of technological determinism amplifies that AI is transforming the way people interact and reshaping socialization by limiting face-to-face conversation, thus resulting in new norms of communication. Whereas, the social construction of technology theory stresses that it is not AI technology affecting society; it is us, how we allow it to impact us. The onus is on society for how we develop it and implement it. For example, collaborative AI tools can teach essential social skills, whereas the tools that are curated to focus on independent learning may limit students' interactions.

B. Implications of AI on Cultural Dynamics

On one hand, AI-powered platforms have the potential to endorse cultural exchanges, while on the other hand, they can

cause cultural degradation. Exploring the positive sides of AI tools such as language translation software and virtual collaborations enables students to experience diverse cultures and enhances global awareness and inclusivity (Luckin *et al.*, 2016). The negative sides, such as Western cultural dominance, could marginalize local traditions, which could lead to cultural homogeneity (Broussard, 2018). This duality highlights that there is a need for developing AI considering cultural sensitivity and cultural diversity. The AI implementation must ensure that it enhances cultural dynamics rather than undermining them.

C. Balancing AI's Benefits and Drawbacks in Socialization

AI does offer noticeable advantages, such as personalized, tailored learning, global connectivity, and improved collaboration. However, there are significant drawbacks such as a reduction in face-to-face interactions, increased social isolation, and algorithmic biases, which must not be overlooked (Turkle, 2015; Sharkey & Sharkey, 2012). The key here is balance in its implementation; for instance, the developers should design the tool that would encourage collaborative learning while upholding the opportunities for in-person socialization.

D. Proposed Conceptual Models for Understanding AI's Role in Socialization

To enhance a better understanding of AI's role in socialization, the following conceptual models are proposed:

1. AI-Mediated Socialization Model: This model combines Vygotsky's sociocultural theory and Bandura's social learning theory to demonstrate and analyze how AI mediates social interaction and affects behavior. The model emphasizes the dual role of AI as the facilitator of learning while potentially limiting emotional development.

Young students interact with AI-mediated platforms such as chatbots and virtual classrooms designed to facilitate learning experiences, provide information, and support learning activities by mimicking human interaction in a learning context.

In this process, AI performs as a mediator by embodying two psychological concepts: Vygotsky's "More Knowledgeable Other," acting as a knowledgeable entity offering tailored guidance, explanations, error highlighting, and suggestions; and Bandura's behavior model, portraying AI as a model for social behaviors and skills so that young students can learn by observing and imitating AI-driven demonstrations.

The use of AI in education results in dual outcomes. On the positive side, by personalizing educational experiences, AI can enhance learning and collaboration, offering uninterrupted global access to resources, breaking geographical boundaries, connecting learners virtually, and facilitating knowledge sharing and social interactions. On

the negative side, excessive dependence on AI for social interaction can impede emotional development: although AI simulates interactions, it cannot replicate authentic human emotions or empathy, and overindulgent use of AI in social engagements may limit opportunities for deep peer connections, potentially impairing emotional growth and social maturity. While emphasizing the need for culturally sensitive AI systems that uphold diversity and inclusivity, this framework delves into the interplay between AI and cultural dynamics. AI systems are deployed in diverse cultural contexts that may differ widely in traditions, languages, value systems, and norms.

TABLE III AI-MEDIATED SOCIALIZATION MODEL

INPUT
Young Students (Interacts with AI tools e.g. chat-bots, virtual classrooms)
MEDIATOR
AI as Mediator (Vygotsky & Bandura) Facilitates Learning, Influences Behaviour)
OUTPUT
Enhanced Collaboration (Positive) Reduced Emotional Depth (Negative)

2. Cultural Dynamics Framework : The way AI interacts with cultural dynamics can result in two contrasting outcomes: cultural exchange and cultural homogenization. Cultural exchange involves AI endorsing cultural exchange as a positive aspect by facilitating cross-cultural understanding and social interactions. Tools such as real-time language translation accelerate communication, allowing ideas to be shared seamlessly and creating mutual appreciation and cultural learning. Cultural homogenization, however, occurs in ways that unintentionally endorse dominant cultures and dilute homegrown traditions, practiced languages, and customs, thereby threatening the diversity of cultural dynamics. This framework aims to highlight the significance of valuing local customs and languages, finely representing marginalized cultures, and negating popular cultural narratives. It emphasizes the necessity of culturally adaptive AI that strikes a balance between AI's effects on cultural dynamics.

TABLE IV CULTURAL DYNAMICS FRAMEWORK

INPUT
AI Systems
PROCESS
Cultural Dynamics Cultural Exchange (Positive), Cultural Homogenization (Negative)
OUTPUT
Promotes Diversity (Positive), Risks Marginalization (Negative)

3. Ethical AI Integration Model: This model places its significance on ethical concerns, such as algorithmic biases and privacy. It proposes that when AI is deployed into an educational setup, these concerns must be handled with extra care.

This model places its significance on ethical concerns, such as algorithmic biases and privacy. It proposes that when AI is deployed into an educational setup, these concerns must be handled with extra care. This deployment includes AI-based tutors, administrative tools, and adaptive learning platforms that are being introduced in the educational setup, where the target of these tools is to enhance learning and provide support to stakeholders.

Here, the specific guidelines and frameworks get involved and address the ethical concerns that may arise when adapting a certain AI platform into an educational setup: Specifically, algorithmic bias, referring to the possibility that AI algorithms may promote more dominant cultures, groups, or demographics, leading to limited access and unfair outcomes; data privacy, as AI platforms rely on data, specifically personal information of students in educational settings; therefore, it is important to safeguard the data from any unauthorized uses; and inclusivity, meaning AI platforms to be developed in a way that is accessible to all and caters to the needs of students without differentiating their abilities or backgrounds, nullifying the impartiality.

TABLE V ETHICAL AI INTEGRATION MODEL

INPUT
AI in Education
PROCESS
Ethical Considerations <i>Algorithmic Bias, Data Privacy, Inclusivity</i>
OUTPUT
<i>Fair & inclusive AI Systems, Responsible use of AI in Education</i>

Thus, taking into account algorithmic bias, data privacy, and inclusivity, the model intends to develop and endorse the AI platform, which is fair: free from all biases that could impact the marginal groups; inclusive: equal access to all learners despite their abilities, background, and cultural dynamics; and thoughtfully integrated: keeping up ethical standards and prioritizing protecting learners' rights and fostering trust in AI technology.

V. CONCLUSION

A. Summary of Key Insights

This study delves into the ways in which AI affects the interaction and cultural dynamics of young learners. Following are the key findings: AI serves as a facilitator of socialization, and AI enhances personalized learning and global collaborations while also triggering the risk of reduction in face-to-face interactions leading to social isolation. Moreover, while AI has significant potential to facilitate cross-cultural interactions, there is also a risk that it will contribute to cultural homogenization if cultural inclusivity is overlooked. Finally, in this study, two key theoretical frameworks that shed light on AI's function in socialization are Bandura's social learning theory and Vygotsky's sociocultural theory.

B. Theoretical Contributions

This study has combined socialization and technological perspectives to analyze AI's influence on young students and has intended to add the knowledge to the body of literature. The study stressed the importance of cultural and ethical factors that need to be considered in AI design and also highlighted AI's dual function, first as a facilitator and second as a disruptor of socialization.

C. Recommendations

For Educators the educators need to prioritize adopting the AI tools that endorse teamwork and collaborative learning. They must ensure that face-to-face interactions are part of their learning. While they adopt the platform, which they should, they must ensure to guide the students to navigate AI-driven environments responsibly. Moving to For Policymakers, policymakers must seek educators' support and work hand in hand in framing policies that ensure fair access to AI technologies and address the ethical concerns, such as data security and algorithmic bias. Lastly, For AI Developers, AI developers must focus on curating the AI systems in a way that promotes cultural diversity and inclusivity. The system must be culturally adaptive, and moral principles must be embedded so that the AI-driven technology would benefit society as a whole.

D. Future Research Directions

First, a cross-cultural study can be conducted to understand how AI reshapes cultural dynamics in the Indian context. Additionally, a longitudinal study would be beneficial to analyze the long-term impact on students' social and emotional well-being. Furthermore, a collaborative study can be conducted to develop an interdisciplinary framework to highlight AI's role in socialization across sociology, education, and technology disciplines. Moreover, a collaborative study can be carried out to examine ethical frameworks to ensure data privacy, address algorithmic bias, and ensure inclusivity. Finally, a focused case study can be conducted on the AI role in cultural hybridization.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Use of Artificial Intelligence (AI)-Assisted Technology for Manuscript Preparation

The authors confirm that no AI-assisted technologies were used in the preparation or writing of the manuscript, and no images were altered using AI.

ORCID

Jharendra Bishwakarma  <https://orcid.org/0009-0002-3005-8900>

Vishal Jhadav  <https://orcid.org/0000-0001-8170-1295>

REFERENCES

- Bandura, A. (1977). *Social learning theory*. Prentice Hall.
- Broussard, M. (2018). *Artificial unintelligence: How computers misunderstand the world*. MIT Press.
- Frey, T. (2023, April 27). *The difference between human creativity and generative AI creativity*. Artificial Intelligence. <https://futuristspeaker.com/artificial-intelligence/the-difference-between-human-creativity-and-generative-ai-creativity/>.
- Giddens, A., & Sutton, P. W. (2017). *Sociology* (8th ed.). Polity Press.
- Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
- Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Shum, S. B., Santos, O. C., Rodrigo, M. T., Cukurova, M., Bittencourt, I. I., & Koedinger, K. R. (2021). Ethics of AI in education: Towards a community-wide framework. *International Journal of Artificial Intelligence in Education*, 32(1), 504–526. <https://doi.org/10.1007/s40593-021-00239-1>.
- HP Online Store. (2025, January 31). *AI vs human creativity: A comprehensive analysis | HP® Tech Takes - India*. <https://www.hp.com/in-en/shop/tech-takes/post/ai-vs-human-creativity-comparison>.
- Hu, S. (2024). The effect of artificial intelligence-assisted personalized learning on student learning outcomes: A meta-analysis based on 31 empirical research papers. *Science Insights Education Frontiers*, 24(1), 3873–3894. <https://doi.org/10.15354/sief.24.re395>.
- Hwang, G. J., & Tu, Y. F. (2021). Roles and research trends of artificial intelligence in mathematics education: A bibliometric mapping analysis and systematic review. *Mathematics*, 9(6), 584. <https://doi.org/10.3390/math9060584>.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., & Stadler, M. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, Article 102274. <https://doi.org/10.1016/j.lindif.2023.102274>.
- Lemay, D. J., Baek, C., & Doleck, T. (2021). Comparison of learning analytics and educational data mining: A topic modeling approach. *Computers and Education: Artificial Intelligence*, 2, 100016. <https://doi.org/10.1016/j.caeai.2021.100016>.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson Education.
- Lukin, G. (2020). *Prescriptive methods for adaptive learning* (Master's thesis). Massachusetts Institute of Technology.
- Miller, B., & Morris, R. G. (2016). Virtual peer effects in social learning theory. *Crime & Delinquency*, 62(12), 1543–1569. <https://doi.org/10.1177/0011128714526499>.
- Newblom, M. (2024, November 25). *AI vs. human: Creativity, abilities, and skills in 2025 (Which is better?)*. Fiverr. <https://www.fiverr.com/resources/guides/business/ai-vs-human>.
- Nickerson, C. (2024, February 13). *Understanding socialization in sociology*. SimplyPsychology. <https://www.simplypsychology.org/socialization.html>.
- Ouyang, F., Xu, W., & Cukurova, M. (2023). An artificial intelligence-driven learning analytics method to examine the collaborative problem-solving process from the complex adaptive systems perspective. *International Journal of Computer-Supported Collaborative Learning*, 18(1), 39–66. <https://doi.org/10.1007/s11412-023-09387-z>.
- Schwanke, A. (2024, July 19). *Generative AI and the illusion of originality: Can machines ever truly create?* Medium. <https://medium.com/@axel.schwanke/generative-ai-never-truly-creative-68a0189d98e8>.
- Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Polity Press.
- Sharkey, A., & Sharkey, N. (2012). Granny and the robots: Ethical issues in robot care for the elderly. *Ethics and Information Technology*, 14(1), 27–40. <https://doi.org/10.1007/s10676-010-9234-6>.
- Turkle, S. (2015). *Reclaiming conversation: The power of talk in a digital age*. Penguin Press.
- UNESCO. (2023). *AI and education: Guidance for policy-makers*. <https://doi.org/10.54675/PCSP7350>.
- Varsik, S., & Vosberg, L. (2024). *The potential impact of artificial intelligence on equity and inclusion in education* (OECD Artificial Intelligence Papers, No. 23). OECD Publishing. <https://doi.org/10.1787/15df715b-en>.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wentzel, K. R. (2017). Peer relationships, motivation, and academic performance at school. In A. J. Elliot, C. S. Dweck, & D. S. Yeager (Eds.), *Handbook of competence and motivation: Theory and application* (2nd ed., pp. 586–603). Guilford Press.
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education: Where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 1–27. <https://doi.org/10.1186/s41239-019-0171-0>.