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REIMAGINING EDUCATION IN INDIA: A SYMBIOTIC APPROACH LEVERAGING SOCIAL MEDIA AND ARTIFICIAL INTELLIGENCE

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Abstract

Purpose – This paper elaborates on the prospects of digital education to revolutionize Indian education through the synergistic effect of social media and artificial intelligence (AI). India enrols over 250 million students every year, making providing high-quality, personalized, and skill-based education extremely challenging. Digital education, mainly through social media and AI, offers a promising solution in democratizing access to knowledge, creating personalized learning experiences, and developing critical 21st-century competencies. Design/methodology/approach – This study conducted quantitative research through a survey involving data collection from a sample of students and their educators based in India. The questionnaire examines the extent and nature of social media and AI usage within educational settings, covering their effectiveness, challenges, and overall impact on learning experiences. Findings – The findings demonstrate that social media and artificial intelligence dramatically enrich learning experiences by opening up a bank of resources, facilitating interactive and collaborative learning, and supporting personalized educational content. On the part of students, there is increased engagement and improved academic performance; on the part of teachers, there is diversification of teaching methods and addressing the spectrum of styles in learning. However, this study also identified challenges such as data privacy, the digital divide, and possible distractions. Practical implications – Extensive exploitation of social media and AI in education will call for robust data protection policies, improved rural infrastructure, and comprehensive teacher training programs. Such measures will ensure that these technologies' safe and effective integration into educational practice raises learning outcomes and student engagement. Social implications – This study underlines the role of bridging this digital divide to enable every student in the country to receive quality education at par with others. The synergy between social media and AI will help educational institutions have a more dynamic, inclusive, and effective environment for learners en route to being set for the digital age. Originality/value – This study provides empirical evidence on the potential of digital education in transforming the Indian education system by analyzing how, through a synergistic approach driven by social media and AI, it can offer valuable insights into ways through which an educational institution can integrate these technologies into educational practices to help solve problems that already exist and innovate learning experiences.

Keywords: *Digital Education, Social Media, Artificial Intelligence, Education System, Learning, Engagement*

INTRODUCTION

This paper deals with the transformative potential of digital education in India, focusing on the synergistic effects of social media and AI in revolutionizing the learning landscape. With over 250 million student enrolments yearly, one of India's most essential challenges is providing good-quality, personalized, and skill-based education. Digitalization, therefore, becomes an essential way of providing for these needs, employing democratizing access to knowledge, creating personalized learning experiences, and developing the critical competencies of the 21st century. The advantages of e-learning include access to vast knowledge resources unmatched in traditional learning, development of practical skills, better cognitive development through multimedia, and improved engagement of students. The permeating condition of social media and its effects on education provide interactive spaces where students can share knowledge, raise questions, work on projects together, and receive peer feedback.

It creates an atmosphere for collaborative learning with peers, critical thinking, and perspective-taking that enriches the educational experience and nurtures the development of crucial social and communication skills. Further, social media is one of the excellent channels that a university or institution can use to interact with students and provide information regarding research, events, and alumni. With the upcoming role of AI in personalizing learning pathways to better educational experiences, such AI-powered platforms will be able to:

- Tailor personalized learning material and difficulty levels to meet particular requirements and learning styles for optimal engagement and understanding.
- Suggest real-time feedback and diagnosis of their performance so that students can realize areas of mistakes or improvements and monitor their progress.

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- Integrate gamification features and other interactive features to enable the best possible motivational and engagement levels for students in the process of learning.

Although digital education has several advantages already realized, we need further discourses on how media and AI can collaborate and work together to improve this learning experience and mitigate problems unique to India's education system. This study proposed to address this knowledge gap in the research, which examines the transformative potential of digital education in India with questions on the synergistic potential of social media and AI in changing the landscape for learning. The study also accounts for the challenges of delivery of high-quality, personalized, skill-based education. This study will adopt a quantitative survey data collection method as a research design. The adopted methodology of the research is a questionnaire survey to a sample of students and educators in India.

LITERATURE REVIEW

This literature review examines the current research findings on the adoption and impact of AI and social media in education, focusing on India. The review aims to synthesize the existing research, identify knowledge gaps, and identify the best potential research directions for reimagining education in India.

Leveraging Social Media in Education

Social media platforms have become inseparable from modern communication mediums and interaction. Student engagement has been enhanced significantly by the integration of social media into education. Social media integration into education has numerous advantages, such as facilitating human interaction, flexible and accessible learning opportunities, access to a wealth of educational resources and information, and support in implementing innovative teaching methods. These advantages enhance the student's learning experience, providing a flexible pace and time for students who may have other commitments or prefer a more self-directed learning approach (Mostafa, 2021) and helping teachers in their pedagogy. For instance, social media tools like YouTube, Facebook, wikis, and blogs complement traditional classroom settings by offering vast resources on various subjects, thereby improving instruction and learning outcomes (Sanwal et al., 2023).

Social media can foster student engagement by making learning more interactive and accessible. For instance, integrating social media into construction education has increased student engagement and collaborative skills, which are often lacking in traditional educational settings (Pradhananga et al., 2020). Similarly, a systematic review of social media integration in teaching speaking skills found that these platforms helped improve students' speaking abilities and confidence and reduce speaking anxiety, making learning more effective and enjoyable (John & Yunus, 2021). Additionally, social media has been effective in English language learning, helping students improve their language skills, vocabulary, grammar, and motivation (Ariantini et al., 2021), thus facilitating the development of critical skills such as communication, collaboration, and digital literacy, which are essential for students in the 21st century.

Social media also plays a crucial role in enhancing student engagement and quality of education by fostering a sense of inclusion and enabling continuous feedback from peers and instructors (Lottering, 2020). For example, integrating social media into an online nursing program improved students' utilization of social media as a professional tool, promoting student engagement and real-time dissemination of information (Smith & Buchanan, 2019). It allows students to learn independently and participate in collaborative learning environments, which can improve their academic performance and critical thinking skills (M. Sasikala, 2021). Furthermore, social media helps bridge the gap between theory and practice by providing real-time feedback and facilitating the creation of online learning communities (Todd & Solanke, 2022). The COVID-19 pandemic highlighted the importance of social media in maintaining educational continuity, enabling increased interaction, cooperation, and content sharing among students and teachers (Alia, 2022). The importance of social-emotional learning and life skills, supported by social media platforms, is stressed as critical for students, especially those facing adversity, fostering a supportive and engaging educational ecosystem (Talreja, 2022). Industry 4.0 technologies significantly redefine education, emphasizing personalized learning, smart classrooms, and collaborative learning facilitated through digital tools, including social media (George & Navya, 2023). Collectively, these studies suggest that leveraging social media, supported by AI and Industry 4.0 technologies, can create more interactive, personalized, and engaging learning experiences for students in India.

Social media for teacher professional development

Social media offers multiple avenues for collaboration, reflection, and continuous learning, along with being flexible and fostering a resource-rich environment, thus becoming an invaluable tool for teacher professional development. Social media platforms like Twitter, Facebook, and LinkedIn allow teachers to join professional learning networks (PLNs) to share resources, ideas, and best practices, enabling global peer connections,

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reflect on pedagogical practices, especially helpful for rural teachers, and fostering a sense of community thus leading to their constant professional development (Aydoğmuş et al., 2023; Mostafa 2021). The teachers can also engage in meaningful professional development outside their immediate work environments and build their identity along with professional communities (Willis et al., 2023)

Teachers discuss pedagogical practices, receive feedback, and reflect on their teaching methods by participating in educational hashtags and Twitter chats. These interactions enrich their professional identity, maintain professional affiliation and connectedness, support learning new skills, enable ideas exchanging and collaborative problem-solving, along with engaging in reflective practice, eventually enhancing their teaching methodologies, student engagement and student learning outcomes (Willis et al., 2023; Delgado, 2022; López-Torres et al., 2022). Visual posts on social media platforms enhance teaching strategies and foster creative teaching practices (Eutsler et al., 2022). Additionally, the availability of a vast array of educational resources over social media platforms facilitates teachers to stay updated with the up-to-date trends and strategies in their domain (Aydoğmuş et al., 2023). Social media optimization training is shown to boost teacher professional development and enhance technical skills in entrepreneurship education (Arifah et al., 2023).

Along with being cautious of misinformation, teachers' use of social media for professional development in many subjects has already shown positive results. E.g. in early childhood education (Gök & Ölmez, 2023), agricultural education (Ray et al., 2022), improving delivery of lessons and educational materials access in pre-services (Sebullen et al., 2023), by exploring different learning activities in social media-based professional communities (Krismanto et al., 2022), learning to foster efficient communication and sharing of knowledge (Xu & Yin, 2022), adequate preparation of content by exploring virtual learning environment (Porto et al., 2023) and enhance the professional growth and teaching efficacy through collaborative opportunities by access of knowledge and resources over social media (Ray et al., 2022).

The professional development of teachers through the use of social media has its advantages but also has inherent challenges. One of the significant challenges is maintaining professional-personal identities by learning a new skill of presentation of self on social media while balancing these lives. There is a potential for blurring personal and professional identities, leading to tension in the personal lives of the teachers (Fox & Bird, 2017). Professional development through the use of social media also requires additional time investment. Social media has a plethora of content available. Sorting quality content from this material could be overwhelming. Another major challenge for teachers is a reliable and good-quality internet connection and the digital divide between the teachers and students, especially in areas with less technological development (Motteram & Dawson, 2019). This challenge may slow the pace of teacher's professional development by limiting their access to social media and its resources.

Another challenge is that not all teachers are equally proficient and comfortable using social media, leading to less engagement and slow professional development (Zimmerle & Lambert, 2019). Sharing personal information over social media might create security and privacy concerns for teachers. Teachers should also follow their institutional regulations and policies for data protection while interacting with social media. The open nature of social media can potentially increase the cyberbullying risk and hostile interactions, which may not encourage teachers to use social media efficiently for their professional development (Koskeris & Garofalakis, 2023).

Artificial intelligence in identifying learning gaps

Artificial Intelligence (AI) is imperative in recognizing and addressing learning gaps using different innovative methods and technologies. Teachers might often find it hard to understand the exact needs of the students. This difficulty can be solved using AI, which can analyze massive amounts of data and point out or find out specific areas the students might be struggling in. It can then design a personalized learning program to address their difficulties. By utilizing semantic communication and classified rules, the adaptive multiagent systems can learn to identify students' knowledge gaps and recommend apt learning paths (Ehimwenma et al., 2015), which is helpful even for teachers to make strategies and arrange the required resources. Various innovative AI platforms eliminate the one-size-fits-all approach of traditional teaching by analyzing various styles and paces of the students and then providing personalized learning experiences suitable to the individual student (Bose & Khan, 2021).

Additionally, AI can help in a more precise and effective educational intervention by predicting and filling the gaps in identifying patterns of education data using its AI machine learning models (Ramu, 2023; Bidyuk et al., 2022; Bhutoria, 2022). Such approaches can benefit students, especially those with intellectual disabilities, by integrating education and health data. AI can tailor comprehensive support specific to individual students, even across large student populations, and enhance their academic performance by adjusting the curriculum to address their weaknesses and build on their strengths (Maghsudi et al., 2021; Kharbat et al., 2020; Majnik et al.,

2013). In developing economies, AI can help address the education and skill gaps and, hence, develop the required human capital to demonstrate its potential for nation-building (Aderibigbe et al., 2023).

AI can offer honest feedback and help monitor students' performance continuously. This monitoring is handy for the teachers with continuous monitoring and understanding of the students' process. The teacher can make timely interventions before issues become a huge challenge for the students (du Boulay et al., 2018). Such practical, data-driven, accurate, and tailored solutions by AI for students and teachers can help educational institutions close the achievement gap and ensure rightful learning opportunities for all students (Wada et al., 2020).

Artificial intelligence and personalized learning

When integrated with AI, personalized learning systems bridge the gap between theoretical knowledge and practical application and thus exhibit better effectiveness than conventional pedagogy. With the feature of human-computer collaboration through AI's personalized learning models, a teacher can effectively monitor students' progress and provide targeted interventions (Wang & Wang, 2023). Continuous monitoring and analysis of students' interactions with the learning platform, which was not possible in conventional pedagogy, enables the models to integrate intelligent and personalized learning systems along with explanatory learning environments suitable for individual students' learning patterns, ensuring the best content for the student (Arun Kumar et al., 2023; Lacárcel, 2022). With the possibility of creating a hybrid intelligent recommendation system, AI can provide real-time feedback and guidance suitable for individual students' needs and interests, eventually improving their learning engagement and academic performance (Zheng, 2022) along with fostering their critical thinking and problem-solving skills (Baskara, 2023) and boosting their motivation, engagement, and learning outcomes (Ashwini et al., 2023; Huang et al., 2023). With the AI's ability to handle large amounts of data, machine learning can periodically adapt to student performance information and keep the learning material relevant and practical (Fernandes et al., 2023; Kapoor et al., 2023; Allogmany & Josyula, 2022). AI can balance scaled-up information and provide differentiated instructions, which is often challenging in traditional educational settings (Tang et al., 2020).

The use of AI for various educational settings has already demonstrated positive results. For example, in group learning environments, with the help of learning path optimization and knowledge tracing, AI recommends personalized learning paths by predicting student performance (Kim & Agarwal, 2023; K. C. Li & Wong, 2023). Learning experiences are customized based on cultural background, personal status, and effectiveness using AIClass, an intelligent real-time feedback system for online classrooms (Yuan et al., 2023). By integrating various educational technologies, AI provides an interactive and engaging learning environment by facilitating multimodal teaching methods (Yang et al., 2022). With tools like chatbots and speech recognition systems, AI has improved pronunciation, fluency, and learner autonomy in language learning (Kuddus, 2022).

Integrating AI in education with social networking sites, chatbots, and intelligent tutors creates adaptive learning environments that adapt to each student's unique learning preferences and speeds (Tapalova & Zhiyenbayeva, 2022). Lee et al. (2022) have demonstrated that with the help of personalized instructions, the cognitive domains and mathematical self-efficacy of students with below-basic academic abilities have significantly improved. Research by Abedi et al. (2021) shows that personalized learning positively impacts meaningful learning outcomes and significantly improves content mastery, cognitive engagement, and self-regulated learning. Using personalized content through the AI system significantly improves the student's academic performance compared to learning through non-adaptive materials (Sancenon et al., 2022). With the use of technologies like reinforcement learning, natural language processing, and computer vision, AI can effectively meet each student's unique learning style by providing a learning experience at a vast scale (Saarinen et al., 2018). AI has the potential for problem-solving skills and can enhance critical thinking, emphasizing ethical considerations like privacy and biases, showing its inclination to Ignatian pedagogy (Baskara, 2023). Thus, leveraging social media, supported by AI and Industry 4.0 technologies, can create more interactive, personalized, and engaging learning experiences for students in India.

Challenges associated with implementing AI in education

Many educational institutions in India, especially in rural areas, do not have the adequate infrastructure and expertise to implement and maintain AI systems effectively. Integrating AI in education will require educators with significant technological skills, which is a challenge to find immediately (Sharples, 2023). Training these educators to integrate AI into their curriculum and pedagogy would require significant investment and planning (Flechtner & Stankowski, 2023). Even after significant training in AI and finding skilled educators, there is a risk of over-reliance on AI, potentially leading to the deskilling of educators and reduced human interaction with students, impacting the learning outcomes (Nyberg & Morris, 2023). Decisions and recommendations by AI, i.e. when replacing human judgement by AI, especially in educational settings, may lack the nuanced understanding required for complex decisions (Suchikova, 2023). The ethical implications of

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using AI-generated recommendations and assessments and their impacts on student learning outcomes are still under scrutiny (L. Li et al., 2023).

AI, by nature, relies on massive data. AI's problem-solving potential also risks being biased if someone feeds a wrong data set to the machine learning algorithm. This wrong feeding of data can cause the AI system to train students and teachers with biased data that may lead to unfair or discriminatory outcomes in educational settings. Tools like ChatGPT can potentially disrupt academic integrity by facilitating plagiarism and academic dishonesty (Cotton et al., 2024). It would be crucial for educational institutions to ensure the AI algorithm's equity and fairness, potentially affecting student assessment and learning (Baskara, 2023; Matias & Zipitria, 2023; Rizvi, 2023; Yu & Yu, 2023). Wrong or biased AI decisions can remove trust from these systems. This removal of trust necessitates the development of transparent, accountable and reliable AI systems for teachers, students and parents (Al Husseiny, 2023; Z. R. Khan, 2020).

Potential risks of integrating social media into education

Integrating social media into education offers numerous opportunities and significant risks that require careful consideration and management. These risks include the vulnerability of students to cybercrimes, bullying, exposure to harmful content and destruction, many times leading to tragic outcomes (Khosravi et al., 2023; Kayumova et al., 2022). Another risk is the potential for developing inappropriate relationships between students and teachers (K. C. Li & Wong, 2021). Social media, being addictive, can distract students from academic work. The spreading of misinformation through social media makes maintaining an accurate and reliable educational environment challenging (Dogarı & Apuke, 2019), requiring efficient filtering and verification systems that ensure accuracy (Pu et al., 2020). Moreover, stringent data protection measures have become mandatory with the rise in the risk of data breaches and the unauthorized use of personal information (Anderson, 2019). Comprehensive risk management policies and professional development of educators can ensure safe navigation through the existing digital landscape (Poore, 2017).

Implementing comprehensive strategies in educational institutions that address privacy concerns, cyberbullying, and data security and developing digital and literacy skills will significantly assist social media risk management. These strategies will require a multifaceted approach, creating robust policies, facilitating educators' professional development, and nurturing students' safe and responsible social media use culture. A strategy like the execution of safety interventions that stress individual reflection rather than collaborative learning consistently impacts changing attitudes and behaviours akin to social media risks (Vanderhoven et al., 2016).

Harnessing social media's benefits and mitigating associated risks requires implementing applicable social media policies in educational settings. These policies should cover acceptable use, privacy protection, ethical behaviour, professional conduct, the management of digital footprints and guidelines for online behaviour to mitigate risks such as cyberbullying and identity theft (G. F. Khan, 2017). Educational institutions can ensure social media's safe and productive use for educational purposes through clear guidelines and appropriate training. Along with these measures, the integration of digital literacy into the course curriculum, nurturing open communication between students, parents, and educators, frequent awareness programs, and encouraging leisure activities that reduce social media usage habits can enable safe and responsible navigation of social media platforms (Elsayed, 2020; Poore, 2017).

Accessible and comprehensive policies, which are compliant with the fluctuating social media landscape while keeping in mind academic freedom and interoperability with unit-level guidelines, have been highly beneficial in the appropriate posting of content, unit representation, and conversation moderation (Pomerantz et al., 2015). Although many educational institutions tend to ban or block social media on their campuses, a few have recognized the potential of using social media to improve student engagement when used suitably. Hence, the policies should properly balance safety and student empowerment for constructive use of social media, foster communication skills, expand global perspectives, and enhance networking capacity (Mawhinney, 2013). There is also a need for coherent policies clearly outlining the educational institution's role in managing social media use and addressing associated problems, along with guiding students and staff to navigate social media safely and effectively (Muls et al., 2020) and professional development of teachers while adhering to ethical standards (Foulger et al., 2013).

METHODOLOGY

This study on the transformative potential of social media and artificial intelligence (AI) in reimagining education in India adopts a quantitative data collection approach. It involved administering a structured survey questionnaire to a sample of students and teachers in Gujarat, India. It aimed at gathering broad-based data on

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social media and AI use in educational settings, focusing on their effectiveness, challenges, and overall impact. *Table 4* Provides the characteristics of the survey respondents

Table 4: The survey respondent characteristics

Demographic Characteristics	Categories	Number of Respondents	Percentage
Gender	Male, Female	46, 56	45%, 55%
Age (years)	18, 19, 21, 22, 23, 25-43	18, 16, 16, 13, 10, 2	17.6%, 15.7%, 15.7%, 12.7%, 9.8%, 1-2%
Educational Discipline	Commerce, Arts, Science, Engineering	50, 35, 17, NA	49%, 34 %, 17%, NA
Educational Level	Undergraduate (UG), Postgraduate (PG), PhD	63, 30, 9	61.8%, 29.4%, 8.8%
Profession	Students, Teachers	93, 9	91.2%, 8.8%
Year of Study	First year, Second year, Third year, Fourth year	36, 45, 16, 4	35.5%, 44.1%, 16.1%, 4.3%

The survey consisted of multiple sections designed to capture detailed information on various aspects of social media and AI usage in education. We kept some of the questions open-ended to understand the nuances of the respondents. Key areas of focus included:

- Demographic Information: Age, gender, educational level, and discipline.
- Usage Patterns: Frequency and purposes of social media and AI for educational activities.
- Perceived Benefits: Impact on learning experiences, engagement, and academic performance.
- Challenges: Issues related to privacy, distraction, and access to technology.
- Overall Satisfaction: Participants' satisfaction with integrating these technologies in their educational environment.

A stratified random sampling method was employed to ensure a representative sample. We distributed to 200 participants, comprising 180 students and 20 teachers from various educational institutions across India. We got the response from 102 participants, 93 students and nine teachers. The participants were of diverse age groups, educational levels, and disciplines to capture a broad spectrum of experiences and perspectives.

Data Analysis: We analyzed the survey response data at two levels: (i) the distribution of the responses to the direct questions and (ii) using thematic analysis to identify common themes and patterns across participants' responses to the open-ended questions. The analysis focused on understanding the nuanced experiences of students and teachers, particularly concerning the benefits, challenges, and overall effectiveness of social media and AI in education. We have discussed the findings of this survey in the next section.

ANALYSIS AND FINDINGS

Based on the detailed analysis of the surveys conducted on students and teachers, some themes addressed the role of social media and artificial intelligence (AI) in the Indian education landscape. They are potentially quite transformative for enhancing learning experiences and handling educational challenges. We discuss the themes that emerged below. These findings are given separately from the perspectives of students and teachers for a better understanding.

1. Social Media and AI Mainstreaming

a) Student Perspective: The survey results indicate that many students engage with social media for educational purposes. Most mentioned learning through social media, primarily through websites like Facebook, YouTube, and LinkedIn, to discuss, get educational content, share knowledge, pose questions, and work together on different projects. Artificial intelligence over these platforms has made it more personal for every student by providing tailored content and immediate feedback throughout the learning process, which helps maintain student motivation and interest.

- Motives of Use: The students answered that social media enables communication with fellow students and instructors, thus offering flexibility and interactivity in the learning environment. About 70% of the students use social media to communicate with friends and family. Some 56% use it for entertainment, while 43% for educational purposes.
- Impact on Learning: Over 60% of the students stated that social media improves learning by using different resources and learning opportunities through teamwork. Individual learning needs have been catered for effectively, leading to improved academic performance through AI-powered tools within these platforms.

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b) Teachers' Perspective: Teachers are learning to embrace the new potentials of social media and AI in their teaching practices as a means of revolutionizing education. These technologies facilitate more dynamic and interactive teaching methods, catering to diverse learning styles. They believed in the two technologies for the potential to personalize learning experiences and improve student engagement. However, they also brought in challenges, such as the digital divide, data privacy concerns, and the need for proper training to integrate effectively into the curriculum.

- Improvement in teaching methodology: Around 75% of teachers responded that they use social media as an aid to complement teaching. They said that sites such as LinkedIn and YouTube were very helpful in sharing educational content with the students, conducting virtual classes, and even keeping in touch with them after school hours.
- Challenges: Despite all the benefits associated, the teachers pointed out several challenges. These include a lack of infrastructure in rural areas and the possibility of distraction, besides extremely tight data protection measures to protect students' privacy.

2. Application in Education

a) Curriculum integration: Integrating social media and AI into the curriculum was positive. Students and teachers have greatly emphasized the contribution of these technologies in making learning more interactive. About 50% of the students revealed that the institutions have begun using social media and AI tools in their teaching methodologies.

b) Collaborative Learning: Social media has enabled collaborative learning among learners by engaging them in group projects, sharing resources, and reviewing each other's work. AI tools have taken collaboration a notch higher by making the learning experience more personalized and responsive to individual learners.

c) Real-time Feedback: AI-powered platforms provide feedback in real-time, pointing out what needs improvement and giving one a record of progress. Fast and timely, this feedback mechanism has been instrumental in improving student outcomes and raising their level of engagement.

The study's findings seem to have implications at the policy level and for future research directions.

(a) Implications for Practice and Policy: We can deduce from the findings of our study several policy recommendations to maximize the benefits of social media and AI in education.

- Data Protection: Robust data protection policies at all levels need to be in place to ensure the privacy of students and teachers. Educational institutions should set a clear agenda on the use of data, ensuring compliance with the concerned regulations.
- Bridging Digital Divide: The government should improve access to and infrastructure for the internet in rural areas. We expect the Government and educational institutions to get together to provide the resources and support needed to bridge the digital divide and ensure equal access to technology.
- Training and Professional Development: There is an essential place for comprehensive training of teachers on the effective use of social media and AI tools. Professional development programs should focus on enhancing teachers' digital literacy and providing them with skills to use such technologies effectively in their teaching practices.

(b) Implications for Future Research: The findings from this study also raise several points for further research. Elaborate research is needed to check the long-term effects of social media and AI yielded by social media use while at school and devise strategies for coping with the challenges.

- Long-term Impact: Future research should aim to provide details about the impact that integrating AI with social media will have on students' engagement, academic achievement, and learning experiences in general over time. Longitudinal research has the potential to give insights into how these technologies are influencing education.
- Ethical Issues: The guidelines for AI in education would require in-depth research about its ethical perspective concerning data privacy and algorithmic biases. Future researchers should do research regarding the formulation of frameworks of principles and guidelines for responsibly using AI in educational settings should be done.
- Innovative Teaching Practices: Researching innovative teaching practices related to the fruitful integration of the social network and AI can shed practical light on the frontiers. Case studies and experimental research might help bifurcate best practices and scalable models for amalgamation into the curriculum within this context.

CONCLUSION

The research on the transformative potential of social media and artificial intelligence (AI) in reimagining education in India brought out some significant insights concerning the potential of social media and artificial intelligence in transforming educational imagination in India. This study has put forth ways through which

these technologies can help enhance the learning experience, student engagement, and teachers' professional development for solving some of the unique challenges marring the Indian education system.

The greatest strengths of integrating social media and AI into education are providing personalized learning, enhancing collaboration, and improving engagement. These technologies open up education to students, allowing more time- and pace-preferred flexibility in learning for the interested.

- Personalized learning: with considerable success, AI has adapted learning content to different learning styles and needs. Results have shown improved student performance and better satisfaction.
- High-Engagement Content: Social media platforms have invented interactive and multimedia-rich content. This kind of content has increased students' engagement in learning. It makes learning more enjoyable and effective, especially for those visual and auditory learners.

Despite the benefits, we observed several limitations from the findings. These limitations are the chance of distraction, concerns regarding privacy, and mainly the digital divide that limits these technologies from being accessed fully in rural areas. Both students and teachers requested proper policies and training to address the challenges.

- Distraction: About 24% of the students stated that social media is very distracting when misused. Social media can be highly addictive, distracting a person from academic work. Providing effective strategies and guidelines would be unavoidable for the competition of these risks so that learners cushion the tendency to use social media positively for academic purposes.
- Privacy Concerns: Students and teachers are also concerned about the possible sharing of personal data and their misuse. Authorities will take care of such fears using stringent data protection measures, effective policies, and comprehensive training programs among the users.
- Digital Divide: The infrastructure plagues rural areas with no internet access, which presents the most significant challenge to fully implementing these technologies. The authoritative bodies must eliminate this digital divide to ensure quality access to education for all students.

Despite these limitations, social media and AI are practice-proven tools for enhancing learning experiences. Students reported that these technologies facilitate access to a vast bank of learning materials, provide personalized and interactive learning opportunities, enable engagement, and offer opportunities for collaborative learning. The AI-enabled platforms offer personalized learning experiences by tailoring the content based on a person's needs and providing real-time feedback. All this personalization has resulted in improved academic achievement and enhanced student engagement. These challenges ought to be worked on through effectual policies, training, and continuous research to reap the accruing benefits fully. In such a way, educational institutions will be better placed to tap into the synergistic effects of social media and AI in creating a more dynamic, inclusive, and effective educational environment that readies students for thriving in the digital age.

LIMITATIONS

As with all the research studies, this study is also not free from limitations. Our significant limitations of the study are (a) the use of only a quantitative survey method for data collection, (b) surveying only one city, which can limit the generalizability of the study, and (c) the non-inclusion of engineering students in the survey. Using mixed methods (survey with in-depth interviews) would help gain more rigorous insights about the user experience, benefits and challenges of social media and AI in education. This study would also benefit from a longitudinal study of the same respondents, giving us insights into how social media and AI are helpful to them in their goals.

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