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EDUCATIONAL REFORMS IN THE ERA OF ARTIFICIAL INTELLIGENCE
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12	**TEACHERS' ATTITUDES TOWARDS IMMERSIVE LEARNING TECHNOLOGY: ANALYZING INFLUENCING FACTORS AND IMPLEMENTATIONS FOR CLASSROOM INTEGRATION** *Dr. S. Selvakumar Prof. P. Sivakumar*	**69**
13	**CHALLENGES IN THE ADOPTION OF AI FOR EQUITY AND ACCESSIBILITY FOR CHILDREN WITH INTELLECTUAL DISABILITIES** *Dr. M. Karuppasamy*	**76**
14	**THE ROLE OF ARTIFICIAL INTELLIGENCE IN TEACHING AND LEARNING** *Varinderjit Kaur*	**84**
15	**LEVERAGING ARTIFICIAL INTELLIGENCE FOR INSTITUTIONAL MANAGEMENT: PREDICTIVE INSIGHTS AND TRENDS** *Dr. C. Kaleeswari, Dr. A. Senthilrajan*	**87**
16	**STIMULATED PRACTICES IN VOCATIONAL TRAINING: USE OF VIRTUAL AND PHYSICAL STIMULATIONS TO TEACH MACRAME CRAFTS** *Simran Singhal, Mr. Saurab Kumar Mishra*	**92**
17	**AI POWERED LEARNING PLATFORMS** *Dr. Mandira Gupta, Ms. Anuradha Daheriya*	**101**
18	**BRIDGING THE GAP: IMPLEMENTING AI-DRIVEN ASSESSMENT AND FEEDBACK IN TEACHER EDUCATION CURRICULA** *Dr. A. RAJESWARI*	**105**
19	**A STUDY ON THE PREPAREDNESS OF TEACHERS AT THE SCHOOL LEVEL FOR USING AI IN CLASSROOMS** *Dr Abhilasha Gautam*	**109**
20	**AI AND ETHICS: OVERCOMING DATA PRIVACY AND SECURITY CHALLENGES IN ADOPTION** *G. Amalarakkini, Dr. Shirley Moral. C*	**118**
21	**TEACHING EMPOWERMENT AND PROFESSIONAL DEVELOPMENT: ENHANCING EFFICIENCY WITH AI** *Dr. D. Arnold Robinson, Dr. K. Chinthanaiyalan*	**121**
22	**AI IN EDUCATIONAL RESEARCH: ETHICAL DILEMMAS AND TRANSFORMATIVE POTENTIAL** *Bhavna Rajpoot, (Dr.) Vinod Kumar Kanvaria*	**125**
23	**ENHANCING ENGLISH LANGUAGE EDUCATION: THE IMPACT OF AI INTEGRATION IN THE CLASSROOM** *Dr. D. Baskaran*	**132**
24	**INTEGRATING AI-POWERED PEDAGOGICAL APPROACHES IN MUSIC ASSISTED TEACHING AND LEARNING** *B. Gokula Krishnan, Dr. P. Janardhana Kumar Reddy*	**135**

PRINCIPAL

AI POWERED LEARNING PLATFORMS

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ABSTRACT
Artificial Intelligence (AI) is redefining the future of education globally by providing opportunities for learners to learn equitably using adaptive learning technologies. Educational institutions can utilize important AI powered learning platforms such as Duolingo, EdApp, Paradiso LMS, iSpring Learn, Talent LMS, LearnUpon, Olive LMS, Mintbook, e-khool and many more for enhanced accessibility of the learners and educators. This paper focuses on the fact that AI is the need of today's world, focusing on this education system requires more platforms that cater to the needs of the individual learners, and provide the solutions. This paper also discusses in detail the various AI based learning Platforms being utilised in education for effective teaching learning processes, their advantages and limitations for teachers and learners. India's Union Budget 2025-26 includes a major announcement of establishment of a Centre of Excellence (CoE) in Artificial Intelligence (AI) dedicated to education, with an allocation of Rs. 500 Crore for this purpose. The Centre of Excellence in AI aligns with National Education Policy 2020 of India. It will focus on developing cutting edge AI based solutions for education. This indicates the importance of AI based education in schools and higher educational institutions in India.
Keywords: Artificial Intelligence (AI), Digital Education, Digital Learning, Digital Platforms, Open Educational Resources (OERs), Adaptive Learning, AI Learning Solutions.

Introduction: Artificial Intelligence has started to play an important role in education. AI is likely to address some of the challenges in education, innovate teaching and learning practices, and progress towards Sustainable Development Goal 4 (SDG 4) - a commitment to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." AI-powered learning platforms may redefine the way students pursue the educational content, teachers enable learning, and institutions conduct academic programs. AI platforms work on machine learning, natural language processing, and data analytics to offer personalized learning, automation of administrative tasks, and help in assessment process to enhance overall educational outcomes.
This paper discusses various aspects of AI-powered learning platforms, including advantages, challenges, and future potential in the education field. It also discusses how AI is integrated into learning management systems, intelligent tutoring systems and automation of assessment.

AI Powered Learning Platforms: Major AI based Learning Platforms are-

- **Duolingo-** Duolingo is a free app which helps learn languages in a fun and effective way. It is available for more than 40 languages, including English, French, German, Greek, Hindi, Spanish, Chinese, Italian, Japanese, Korean, Polish, Portuguese, Punjabi, Romanian, Russian etc. It also offers less commonly studied languages such as Welsh, Irish, and Navajo.
- **EdApp -** EdApp is a mobile-first learning platform that introduces a better way to train teams anytime, anywhere, on any device. As a partner of the UN, EdApp gives learners on and offline access to a free course library.

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- **Paradiso LMS -** Paradiso LMS is an AI-powered learning management system creating online learning experiences. It is used for employee, customer, sales, and partner training programmes.
- **Mintbook-** Mintbook is a customizable LMS system for new generation teaching learning process. It comes with a digital library with a motto Learn, Read, Grow. It has digital contents in all formats like e-Books, videos, courses, journals, simulations. It is designed for an enjoyable learning experiences and easy to implement.
- **e-KHOOL-** One of the most important characteristics of e-KHOOL is AI augmented exam proctoring through advanced AI methods by auto credibility score computed based auto evaluation tools with taking care of safety and cybersecurity. It can be accessed on multiple devices like laptops, Smartphones, palmtops and so on. e-KHOOL has various LMS Softwares such as LMS Softwares for Universities, LMS Softwares for schools, LMS Softwares for Professors.

India's Union Budget 2025-26 includes a major announcement of establishment of a Centre of Excellence (CoE) in Artificial Intelligence (AI) dedicated to education, with an allocation of Rs. 500 Crore for this purpose. The Centre of Excellence in AI aligns with National Education Policy 2020 of India. It will focus on developing cutting edge AI based solutions for education. This indicates the importance of AI based education in schools and higher educational institutions in India.The power of AI in education is incontestable, and it is important for stakeholders, the understanding of advantages and challenges while using AI based learning platforms for informed decision making and effective learning.

Advantages of AI powered learning platforms in Education:

Artificial Intelligence is revolutionizing every sector of importance like health care, finance, manufacturing, education, robotics, cybersecurity, agriculture and so on. AI powered learning platforms play a significant role in teaching learning processes in schools and higher education, some of the major advantages are discussed below-

- **Personalized Learning-**
  A key advantage of AI powered learning platforms is their ability to personalize education. Traditional teaching methods often follow a uniform approach that may not effectively cater to individual student needs. AI-driven systems analyze student learning patterns, strengths, and weaknesses to customize content. This tailored approach improves student engagement, comprehension, and retention.
- **Enhanced Student Engagement-**
  AI algorithms analyze student behavior, preferences, and learning patterns to generate valuable insights. These insights help educators customize teaching strategies, and interventions to address each student's unique needs effectively. Furthermore, AI-powered analytics enhance student learning by offering personalized experiences and real-time feedback, promoting increased motivation and engagement.
  For example, Canva Magic Write is an online AI text generator; it can create high quality personalized texts in a few seconds.
- **Intelligent Tutoring Systems (ITS)-** AI is redesigning how learners interact with course materials and learn the concepts. ITS use AI to deliver personalized instructions. ITS systems leverage artificial intelligence to assess a student's existing knowledge, learning speed, and preferred learning methods. By continuously monitoring student performance, ITS can modify task difficulty, provide targeted feedback, and recommend customized resources. This adaptive approach enhances comprehension and knowledge retention.
  An ITS is typically structured around four essential components:

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- **Domain model** - The Domain model defines the knowledge and skills to be taught, forming the system's instructional content.
- **Student model –** The Student model tracks learner progress and identifies strengths and areas requiring improvement.
- **Tutoring model** – The Tutoring model determines optimal teaching strategies using insights from the domain and student models.
- **User interface model –** The User interface model facilitates interaction by delivering content and receiving input in an engaging and user-friendly manner.

By integrating these components, ITS creates a seamless, responsive, and effective learning environment.

- **Real-Time Feedback and Assessment:** AI provides instantaneous feedback on the work of students and identify their weaknesses and strengths in skill development.
- **Accessibility and Inclusivity-** AI powered LMS focuses on designing adaptable and inclusive learning experiences. By integrating diverse methods of representation, engagement, and expression, LMS platforms accommodate different learning styles, ensuring all students have access to effective education. Many LMSs include discussion forums, chat rooms, and peer interaction tools, helping to build a strong sense of community among learners. AI-driven tools play a crucial role in breaking down barriers and enabling individuals with disabilities to interact more effectively with online content, applications, and services.
- **Automation of Administrative Tasks-** School management administrative processes include the essential non-teaching tasks and operations required to ensure the smooth operation of educational institutions. These processes involve planning, organizing, directing, and managing human and material resources to achieve academic objectives. When utilized effectively, AI and machine learning have the potential to significantly enhance the efficiency and productivity of school administration by automating repetitive tasks, generating data-driven insights, and providing intelligent solutions.
- **Scalability-** An AI-powered LMS can handle a growing number of learners while maintaining the quality of content delivery or user experience.

AI into Scientific Research: Recently, Google's AI tool CO-Scientist stunned scientist by solving a decade old mystery about antibiotic resistant superbugs in just 48 hours. It shows the power of AI in Scientific Research.

Challenges and Limitations using AI in Education:

AI in education has some of the challenges of concern which are-

- **Data privacy and security-** Data privacy concern of AI in education is due to vast personal information of learners and teachers such as students' academic records, behavioral and biometric data which are vulnerable and it is important to know how they can be protected from cybercrimes.
- **Implementation Costs-** Cost of AI based platforms may vary according to the need of the schools and higher education institutions. Larger adaptive learning systems can be more expensive.
- **Technology Dependent-** Learners and teachers may become more dependent on AI based solutions. This can lead to reduce critical thinking and creativity skills.
- **Unpredictability and Inaccurate information-** If the data entered is wrong or from inaccurate sources, then it will create inaccurate information.
- **Lack of training of Educators-** Educators who are not trained in operating and utilizing the full potential of AI based platforms, it will create fear in them in using these technologies.

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Conclusion

AI powered learning platforms such as Duolingo, EdApp, Paradiso LMS, iSpring Learn, Talent LMS, LearnUpon, Olive LMS, Mintbook, e-khool and many more are for enhanced accessibility of the learners and educators. Personalised learning can improve the enrollments in schools. These AI based platforms provide immense opportunities for enhancing education. The Centre of Excellence in AI aligns with National Education Policy 2020 of India. It will focus on developing cutting edge AI based solutions for education. This indicates the importance of AI based education in schools and higher educational institutions in India.

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