

USE OF ARTIFICIAL INTELLIGENCE IN EDUCATION

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Artificial intelligence (AI) promises to transform education

Makes material more engaging through Interactive and immersive experiences

Captures vast quantities of material from multiple sources

Delivers material to individual pupil/student according to their ability

Personal AI Tutor throughout education

Accessibility tools for disabilities

Teacher workload reduction



ENHANCED PUPIL LEARNING

Primary & Secondary Schools

Mixture Of Teacher and Screen Time

Benefits of direct face to face teaching +
AI assisted screen learning

AI Assisted Screen Learning

AI creates interactive and engaging lessons
Adapts to student progress & learning environment
Customise screen content in real time
Interactive conversation between machine and pupil
Provides feedback as required

Virtual Reality

AI can create immersive virtual reality experiences
Transporting pupils to historical events or distant locations.
These experiences make learning more vivid, memorable, and exciting



ENHANCED STUDENT LEARNING

Colleges & Universities

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Medical Simulation

The trainee surgeon can perform a procedure on a virtual patient
AI analyses their technique in real-time offering feedback on precision, efficiency & potential risks

AI can introduce complications/unexpected situations to test the trainee's adaptability and decision-making skills in a safe, virtual environment

Language Learning

An AI-powered language tutor can create virtual personalized conversations

The AI tailors the difficulty to the learner's level

Offers feedback on pronunciation, grammar, and fluency.

Learner practices conversations in different settings, like ordering food at a restaurant or giving a presentation

Engineering

Engineering students meet in a virtual room

Work together to build a plane engine

'Hands on' experience prior to live work



PERSONAL AI TUTOR

Personal teacher on your computer

Adaptive Learning

AI Tutor provides personalised teaching

Analyse a student's performance to identify their strengths and weaknesses.

Adjust the difficulty and pace of lessons to suit individual needs

Tutor AI, Monster Quest, Khanmigo...

Personalised Feedback

Tutor provides real-time feedback on assignments, quizzes, and essays

Helps students understand mistakes and improve their work.

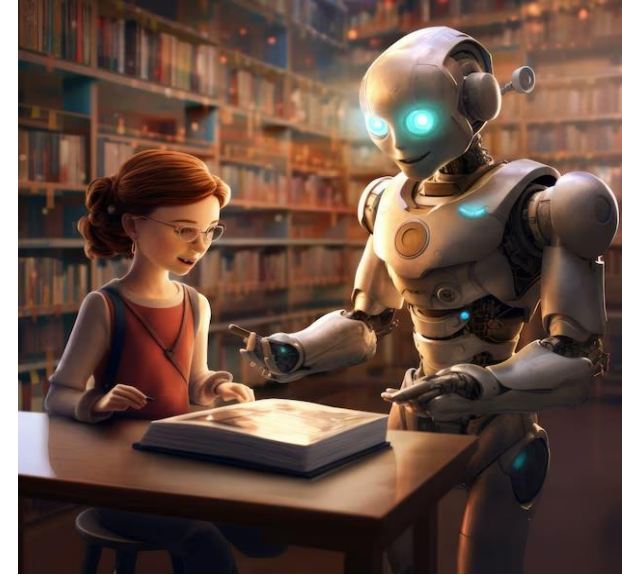
Interactive Learning

AI create personalized learning paths based on a student's interests.

Language Learning

AI language tutors can help learners practice speaking, listening, reading, and writing in a variety of languages.

Provide cultural insights and context



TEACHER WORKLOAD REDUCTION

Automating routine tasks



Real-time Student Assessment

AI can monitor student progress in real-time

Allowing teachers to identify struggling students & provide timely support

Automated Grading

AI can quickly grade student work

AI can analyse written responses, context, grammar, and overall coherence

Identify relevant points, arguments, and evidence within essays or reports

Recognize recurring errors or misconceptions in student work

Identify plagiarism for example using Large Language Models to write essays

Administrative Tasks

AI can automate tasks like scheduling, attendance tracking, and report generation.

AI-Generated Lesson Plans

AI tools can generate lesson plans based on curriculum standards and student needs

Plan field trips

AI POWERED EDUCATION

Focus on skills, not just content

AI accesses vast amounts of data

Enables students make more informed decisions

Lifelong learning

Continuous learning throughout life made easier through AI

Employment Opportunities

AI education equips individuals with technical skills like machine learning, data science, and AI programming, which are highly sought after in the job market

Global citizenship

In an interconnected world, understanding different cultures and perspectives is important

Who pays for the transition?

New equipment required

Staff Development

Ensure equal opportunities across society

Role Of Government

Transition to AI learning requires a clear government plan & associated finance



WIDELY USED AI LEARNING PLATFORMS

Future learn *20 million users*

Includes an AI-powered chatbot 'Future Bot'

Gives personalized recommendations for courses and career paths.

Duolingo *500 million users*

Personalised Language Learning in over 40 languages,

Uses a fun and interactive approach incorporating games and leader boards

Coursera *142 million users*

American online learning platform

Works with universities to offer online courses, certifications, and degrees

Kahn Academy *120 million users*

Provides a free, world-class education to anyone with an internet connection via

Khan Academy website

Blended approach combining short video lessons with interactive practice problems and articles

Personalizes learning by identifying knowledge gaps and tailoring instruction

Scottish School AI Learning Trial 2022

'Curipod', 'Quizzis', 'Night Cafe' Making Learning Fun

'Magic School', No Red Ink, Almanack Reducing Teacher Workload

Teacher has overall control!



ACCESSIBILITY TOOLS

Making learning more accessible for people with disabilities

Natural Language Processing

AI improves the nature and fluency of synthesized speech

AI Powered Screen Readers

AI-powered screen readers interpret complex layouts & content

Present a view which makes it easier for visually impaired users

Helps disabled users navigate websites and documents

Video Transcription

Generate text from videos in any language making them more accessible to hard-of-hearing users

Gesture and Voice Control

AI-powered gesture and voice recognition technology can enable users with motor impairments to control devices and interact with content.

Assistive Technology

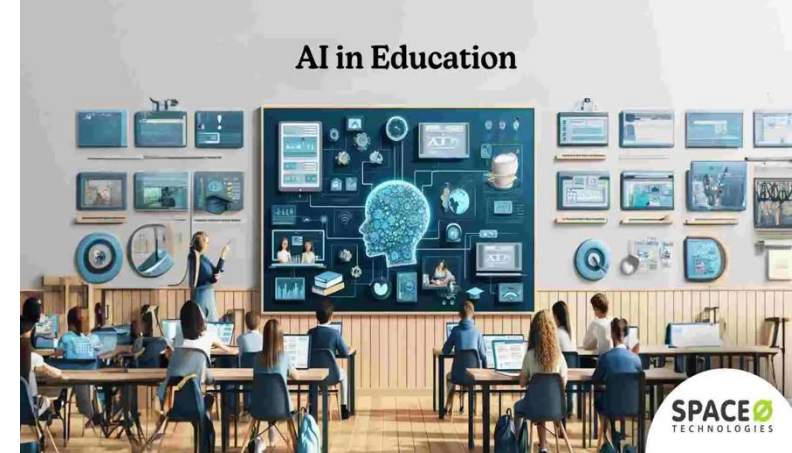
AI can improve the functionality of assistive technologies like wheelchairs and prosthetic limbs

Making them more responsive and intuitive to use



TOP 10 BENEFITS OF AI IN EDUCATION

1. Tailoring Education with Personalized Learning
2. Boosting Engagement with Interactive Learning
3. Administrative Tools
4. Ensuring Accessibility and Inclusivity
5. Providing 24/7 Learning Support
6. Informing Decisions through Data-Driven Insights
7. Delivering Cost Effective Education
8. Facilitating Global Collaboration
9. Creating Customised Content
10. Customised Assessments



AI TAKE UP IN SCHOOLS

Mixed

Pupils are growing up in an AI world
But education changes slowly

AI assisted teaching is in catchup!

Teachers need to be educated in AI learning & assessment methods
Some institutions are resistant to change

Educationists need to measure improvements
Difficult because of other variables

Schools will find AI features to measure
Fall in absent or disruptive students?

Huge potential for individualised learning for brighter and less able students

Neurodivergent Autism, ADHD, Dyslexia, Tourette's Syndrome
Who the current system often fails