

AI-driven Adaptive EdTech and Interactive Storytelling

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Abstract

The rapid advancement of educational technology has significantly reshaped teaching and learning practices across classroom-based, remote, and hybrid educational environments. In response to increasing learner diversity, digitalization, and the demand for flexible instructional models, innovative EdTech applications have emerged that leverage artificial intelligence (AI), adaptive learning systems, and interactive digital pedagogies. This paper examines how AI-driven tools can enhance learner engagement, personalization, and educational outcomes through data-informed and learner-centred instructional design through the application of AI and Interactive story-telling. Particular attention is given to AI-enabled technologies such as adaptive learning platforms, intelligent feedback systems, narrative-driven learning environments, and generative AI tools that support content creation and instructional scaffolding. These tools enable real-time adaptation of learning materials, personalized feedback, and dynamic adjustment of instructional pacing based on individual learner needs and interaction patterns. Such capabilities are increasingly critical in both classroom and remote learning contexts, where educators must support varied learning pathways while sustaining motivation and engagement at scale. Using my proposed “Inter-Institutional Development Scheme (IIDS) seminar series- *Exploring Future Communication: The Application of AI and Interactive Storytelling in Education*” as a representative example, this paper illustrates how AI-enhanced interactive storytelling can be integrated into higher education curricula to support active and immersive learning experiences. The seminar series demonstrates how narrative-driven AI systems can transform traditional lecture-based instruction into participatory learning environments. Through role-play, scenario-based decision-making, and adaptive story progression, students become active contributors to the learning process rather than passive recipients of information. These interactive narratives respond dynamically to learner inputs, enabling personalized learning paths that align with individual understanding, interests, and progress. By embedding disciplinary content within interactive story structures, complex concepts can be contextualized and made more accessible, supporting deeper comprehension and retention. The paper highlights how such approaches foster higher-order skills including critical thinking, problem-solving, creativity, and reflective learning—competencies that are particularly valued in contemporary education and evolving workforce contexts. Furthermore, the seminar model illustrates how AI-driven storytelling approaches can be applied across disciplines and delivery modes, making them adaptable for classroom-based teaching, fully online courses, and blended learning environments. The paper also explores the scalability and sustainability of AI-driven EdTech applications in remote and hybrid learning settings, where adaptive learning systems play a central role in sustaining learner engagement, monitoring progress, and providing timely support. In parallel, ethical considerations surrounding AI adoption in education—including data privacy, algorithmic bias, transparency, and the authenticity of AI-generated educational content—are examined to emphasize responsible and inclusive implementation. Overall, this paper argues that innovative EdTech applications, when thoughtfully designed and ethically deployed, offer substantial potential to

transform contemporary education. By combining AI-driven adaptive learning systems with interactive digital pedagogies such as storytelling, educators can create flexible, inclusive, and impactful learning experiences that address the challenges of modern classroom and remote learning while better preparing students for participation in an increasingly technology-driven world.

Keywords

AI in Education, Edtech, Adaptive Learning, Interactive Storytelling, Immersive Learning, Personalized Learning, Hybrid Learning