Discussion Post: Integration of Emerging Technologies in Education and Innovative Landscape

Education System

According to Lampropoulos et al. (2023), integrating emerging technologies into the education system is essential for improving education quality, meeting learners' needs, and achieving inclusive education. In addition, integrating these technologies is crucial in creating effective classroom instruction tools that can assist in meeting emerging students' needs and requirements, providing them with venues for meaningful classroom interactive experiences, and redefining student and teacher roles (Lampropoulos et al., 2023). For instance, virtual and augmented reality are emerging technologies integrated within the learning environment to assist learners in learning new skills and perceiving things from a new perspective. Virtual reality integrates cyberspace and the real world to provide a stimulated learning environment where students can interact with the digital space (Zhao et al., 2023). It also provisions an immersive, 3D experience that can be distinguished from the normal 2D and 3D realities. This technology can be incorporated to help learners learn various topics, including history and culture, engineering design, and design thinking Zhao et al., 2023). Augmented reality enhances superimposing digital information on the actual space, such as displaying photos, videos, and texts over real-world objects. This technology is crucial in improving learners' ability to understand real-world concepts and objects. In this case, it can be utilized in lessons such as history, art, and science to provide learners with additional knowledge and context (Solmaz et al., 2021).

Virtual reality and augmented reality can improve the classroom experience for students and teachers through immersive learning, which is crucial in constructing a classroom setting where learners engage with 3D representations and virtual simulation of real-world topics, making the learning experience more dynamic and engaging (Choi, 2022; Zhao et al., 2023). In addition, they can be used to develop field excursions that are impossible to visit physically. These tools can also be used to achieve collaborative learning environments where learners can collaborate in visual worlds to solve problems or complete tasks. The tools can also develop experiential learning where students can interact with simulated real-world environments, enhancing hands-on learning. Lastly, according to Chun and Yoo (2019), they can also be used to develop immersive virtual spaces for language learning, allowing learners to practice their speaking and listening abilities.

Moreover, artificial intelligence-powered tools can be integrated within the classroom environment to provide personalized learning based on each student's needs, strengths, and weaknesses (Božić, 2023). For instance, AI algorithms can assist in analyzing learners learning patterns and provide student-tailored learning activities and materials. In addition, it can be used to automate routine tasks, including grading assessments and monitoring learners' progress, saving teachers more time and enhancing them to focus on other teaching aspects such as supporting students and providing feedback (Božić, 2023).