Education Smart Environments and Global e-Campus

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Definitions

Smart Learning captures the use of information computer technology by instructors and students to learn more efficiently and effectively.
Global eCampus is an online technology designed to enhance the delivery of online and blended education around the world.

Introduction

The education smart global e-campus has been facilitating online greatness by making the world a better and greater place. One of the main advantages of setting up a global e-campus is that it facilitates transformative learning by engaging learners with cutting edge educational technologies (United Nations Development Programme 2020). The online format of global e-campus can be easily accessed by anyone around the world as long as they have access to the Internet and computer technologies. With the advancement in technology, the online format of the global e-campus provides real-time experience to the learners (United Nations Development Programme 2020). It is worthwhile to note that the global e-campus provides a wealth of diverse learning perspectives to the students that traditional education delivery systems are unable to provide to the learners (United Nations Development Programme 2020). The global e-campus facilitates smart learning as it can deliver high-quality education to anyone, located anywhere around the world. Notably, the Sustainable Development Goal (SDG) 4 realizes that achieving inclusive and accessible education is one of the best ways of achieving sustainable development goals (United Nations Development Programme 2020). The global e-campus ensures that high-quality technology is used to deliver education that may be impossible to do so with the use of traditional modes of teaching and learning (United Nations Development Programme 2020).

Furthermore, e-campus global services support the provision of integration capabilities, support options, and content matter services. As far as the integration capabilities are concerned, it facilitates high-quality learning by using authorizing tools, learning management systems, and enterprise systems (GovCon 2020). Most of the support options used in the global e-campus involves the use of a content management system, courseware

deployment projects, and account management support (GovCon 2020). Higher education institutions are at the forefront of using e-campus to deliver inclusive and accessible, high-quality education. Several graduates who complete their post-secondary education by using the online learning system have confirmed that an e-campus platform provides access to the exceptional and transformative learning experience to all the students, irrespective of where they may be based around the world (Oregon State University 2020). Importantly, the smart learning environments are integrated with latest emerging technologies, such as flipped classroom, massive open online courses, gesture-based learning, educational robots, augmented reality, virtual reality, and game-based learning to create a personalized learning environment for the students. The application of these technologies to the online learning environment helps to achieve SDG 4 on the delivery of quality education to individuals who do not have access to quality education around the globe.

Against this backdrop, the main aim of this entry is to explore how learning takes place in a smart education environment and global e-campus. In light of the use of innovative information computer technology, this entry will also explore how smart education environments and global e-campuses are used by educational institutions to achieve SDG 4.

Understanding the Dynamics of Education Smart Global e-Campus

SDG 4 on the provision of inclusive and quality education is clear on the need and importance of achieving equitable and lifelong learning opportunities for everyone in society. Achieving equality in the provision of education opportunities worldwide is no longer a national issue. It has become a global issue and several innovative technologies have been deployed to deliver high-quality education worldwide (UNESCO 2020). Unlike the delivery of the traditional modes of face to face delivery of the courses, the primary, secondary, and tertiary institutions have integrated information computer technology to

deliver the courses. The course, program, and institutional learning outcomes determine the degree to which the technology can be combined to deliver the courses in different formats (UNESCO 2020). Numerous institutions around the world are using the e-campus to deliver courses to on campus students (UNESCO 2020). An e-campus is not only helping to deliver courses to students who may be located in different geographical regions, but it is also effective in delivering courses to on campus students who may prefer flexible learning styles (UNESCO 2020).

Put simply, the smart campus uses the next-generation technologies to provide well-architected infrastructure for teaching and learning purposes. Importantly, the digitally connected campus is able to enhance the campus experience by improving operational efficiency, and the system and framework are set up to provide accessible education to everyone. The education smart global eCampus offers a number of advantages for teaching and learning purposes, and these are as follows (Deloitte Education 2020):

- Encourages dynamic learning
- Improves delivery of new business models and generation of advanced revenue streams
- Encourages students to adopt a digital culture of teaching and learning
- Encourages the provision of contextual information to improve behavioral intentions and locations
- Provide insight-driven path for future education success
- The faculty members and students are provided with information to encourage positive interactions with the faculty staff and students
- Uses Augmented Reality (AR) and Virtual Reality (VR) technologies for the teaching and learning purposes
- Improves operational efficiencies via the provision of the state-of-the-art technologies
- Enhances innovations in the education smart environments
- Leverages existing infrastructure and technologies

- Maintains a digital campus for the future whereby the digital campus provides teaching and learning technology for the future
- Provides the model for improving the socio-ecological aspects of teaching and learning

Smart Learning Environments

The smart learning environments facilitate high-quality learning as these environments are equipped with the modern state-of-the-art technology that provides digital working space for learners and instructors (eCampus News 2020). Several stakeholders are involved in creating a smart learning environment for teaching and learning. Some of these stakeholders are businesses, student representatives, faculty members, and the national governments. These stakeholders realize that education is one of the fundamental human rights for the delivery of indispensable and high-quality education. Businesses are particularly interested in improving the education infrastructure as graduates will bring in innovative work culture in the workforce if they are trained in a smart learning environment (SDG Compass 2020).

Furthermore, the education smart rooms are equipped with the modern state-of-the-art technology that provides digital working space for learners and instructors (eCampus News 2020). Specifically, the activities involved in a smart classroom include construction, manipulation, and discussions around the learning canvas. Usually, the smart learning environment is immersive as learning takes place on tables, walls, and desks (eCampus News 2020). The interactive interfaces that are provided on the immersive learning environments provide clarity and meaning for collective understanding from learners and instructors. These education smart rooms are designed to allow personal computer devices to be used in the complementary capacity to the devices that are available in the rooms. The primary focus of work should be students exchanging, talking, and collaborating in a synchronously learning environment (eCampus News 2020). A good and well-designed education smart environment encourages the delivery of good pedagogy by using powerful teaching and learning tools. The design behind the classrooms and pedagogy strategies allow the faculty members to collaborate with researchers and practitioners (eCampus News 2020).

Evolution of the Smart Learning Environment

It is a widely accepted knowledge that smart learning environments influence learning behavior. One of the main objectives of creating a smart learning environment is to transform the educational landscape of teaching and learning completely. In the modern decade, the learning environment is equipped with the modern state-of-the-art technology that can make use of effective teaching methodologies and learning strategies to improve student learning outcomes (Chen et al. 2016). Retrospectively, traditional learning primarily focuses on face to face course delivery in a traditional classroom. However, the modern delivery of education involves the use of ICT to deliver high-quality education to the students (Chen et al. 2016). Smart learning environments are those learning environments that actively nurture learning. In contrast, a dumb learning environment offloads intelligence and creates a stressful and negative environment for learning (Dron 2018).

Furthermore, the new emerging modes of learning will raise several pedagogical issues and would require the use of new teaching methodologies to address these pedagogical issues. The smart learning environments have emerged by using the latest state-of-the-art technology to deliver education to the students (Chen et al. 2016). Computer science and education are the two important fields of studies that have argued on developing smart learning environments. Studies on smart learning environments can be traced to the early 1980s, whereby intelligent tutoring systems were incorporated in the educational applications (Hwang 2014). Specifically, the technology literacy of the users and the instructors determine the type of technology that will be used

in the smart education environment. It is critical for the providers of education to realize that learning is not constrained to formal education settings. It also takes place outside the classroom settings. For example, instructors may set up outside the classroom group work activities whereby students have to work together to complete an assessment.
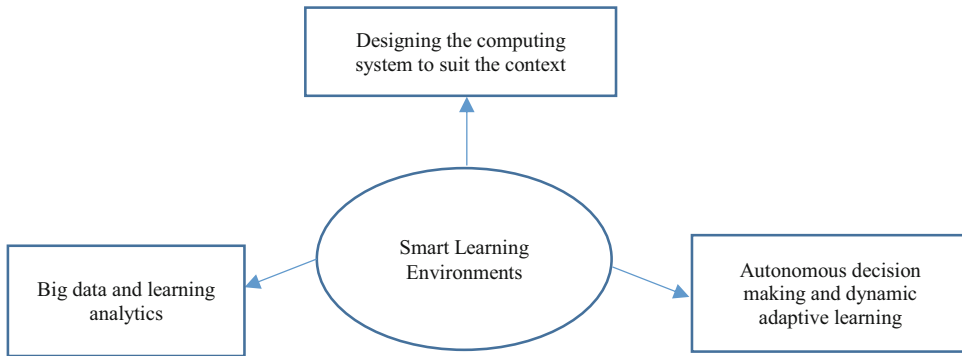
Smart learning environments are created to integrate formal and informal learning in ubiquitous settings. There are several advantages to creating smart learning environments in ubiquitous settings (Hwang 2014). First, the smart learning environment enables the learners to access digital resources at any point in time. These digital resources are part of the technology that is integrated into the smart learning environments, and users who are using smart classrooms can easily access the technology for teaching and learning purposes. Second, the education smart classrooms help the users to effectively use the technology as the learning guides are provided wherever these guides are needed. Put simply; the learning guides are provided at the right place and at the right time. Third, smart learning environments are also important to the providers of higher education as it helps them an opportunity to collect real-time data and combine the data sets for teaching and learning purposes. In this modern era of competitive higher education delivery, data needs to be collected on how effectively students are reacting to the state-of-the-art technology. It is critical for the users of the technology to realize that the usefulness of the technology is determined by how well the users can use it for teaching and learning purposes. Smart learning environments has improved the teaching and learning activities as it facilitates just-in-time learning in ubiquitous learning environments. According to Chen et al. (2016), there are three major features of the smart learning environments that help the users to differentiate it from other advances in the learning technologies (see Fig. 1). These are full context awareness, big data and learning analytics, autonomous decision making, and dynamic adaptive learning.

Designing the Computing System to Suit the Context

Before designing an education smart learning environment, it is important to determine the information that will be needed by the users of the learning environment. According to Chen et al. (2016), understanding the task environment is critical in context-aware computing as context awareness behaviors help the providers of the information to better present the results to the users of the information. The learning environment will evolve as the user's needs and mindsets related to the use of technology evolve (Kim et al. 2012). Importantly, the idea of context-based learning can be easily drawn from the ideas of Lave (1988), who argued that learning is a reoccurring processing, whereby an individual learns by interacting with the social context.

Furthermore, the three context-aware behaviors are the presentation of information, automatic execution, and tagging of information to the context (Abowd et al. 1999). Comparing the traditional learning environments to that of the modern learning environment, the traditional learning environments that are based on the face to face model of delivering the education are not based on fully context-aware systems (Al-Hadithy 2015; Jaggars 2014). For example, when instructors deliver the class in a traditional learning environment, they are not aware of how the students are responding to the different teaching pedagogies. Smart learning environments help the instructors and the providers of higher education to collect data on how the students are responding to the different teaching methods used to deliver education to the students (Al-Hadithy 2015; Jaggars 2014; Mikulecký 2012).

Moreover, a smart learning environment helps the providers of higher education to integrate physical classroom technologies with virtual learning environments. Once the smart learning environment is integrated with the global e-campus virtual environment, students are able to experience better real-time learning experiences (Hwang and Fu 2020). For example, smart learning classrooms use ubiquitous sensing devices, such as emotion recognition,

Education Smart Environments and Global e-Campus, Fig. 1 Major features of the smart learning environments. (Source: Chen et al. 2016)

smartwatches, and brainwave detection to deliver the course contents to the students.

Once the instructors have full awareness of the context in which the course contents delivery takes place, they can provide the learners with a seamless learning experience that would help to maximize course learning outcomes (Hwang and Fu 2020). Some of the technologies used in virtual learning environments to facilitate teaching and learning are learning management systems, artificial intelligence, and intelligent learning or tutoring systems. The use of the smart learning environment provides real-time adaptive assistance to the learners (Hwang and Fu 2020).

Education Smart Learning Analytics

The education smart learning analytics has always continued to enhance the delivery of primary, secondary, and tertiary education. Education smart learning analytics is defined as measuring, collecting, analyzing, and reporting data related to the learners and how they are responding toward the learning stimulus. According to Clow (2013) and Siemens (2012), education smart learning analytics helps to determine a learner's experience by helping the smart environment designers to collect real-time data. SDG 4 emphasizes that quality education should be accessible to all women and men in technical, vocational, and tertiary education. Course designers may find it helpful to design gender assessments based on the analysis of the data collected from students on how they are responding toward different teaching pedagogies.

Furthermore, before developing the smart learning environment, the educational institutions need to understand individual learners learning profiles. The advanced data manipulation techniques provide the analysts with the capability to understand the changes in the users learning patterns and how the instructors can change the physical and online activities to provide real-time learning experiences to the users. These changes in the physical and online activities of the learners can be easily captured by the technologies that are available in the education smart rooms. The virtual smart classrooms are equipped with technology-enabled learning to provide each learner with the just in time adaptive learning support. According to Boulanger et al. (2015), educational technologists are facing numerous challenges in designing the just in time adaptive learning support systems. Some of these constraints are issues related to customization, scalability of ubiquity, and integrating the learning data with the educational technology to deliver the courses to the students. It is essential to develop a smart learning environment to monitor, refine, and improve the learning technology continuously (Boulanger et al. 2015). There are several advantages of using advanced data techniques in the education smart classrooms. Continuous improvement in student performance can only be achieved if there are regular evaluations in improving student performance. By using big

data and developing smart learning environments, it is easy to derive effective learning models to extract valuable learning patterns and recommend improvements to learners over long time periods (Boulanger et al. 2015).

Dynamic Adaptive Learning

Dynamic adaptive learning is educational learning, whereby the computer-based technologies are used to deliver resources and learning activities to the learners. The in-built technology that is part of the smart learning environments helps the individuals to collect information on the learners learning profiles (Kumar and Vivekanandan 2018). Importantly, the data on the learning profiles of the individuals should be collected over a period of time. The collection of such data helps the learners to configure the tasks that are best aligned with the learner's metacognitive abilities of the individuals (Kumar and Vivekanandan 2018). It is challenging for education technologists to collect data from learners from both physical and online components. Smart learning environments can facilitate autonomous decision making by using effective learning analytics features. According to Spector (2014), smart learning environments create innovative learning environments for teaching and learning purposes. Collecting information on the learners learning styles is critical to achieving SDG 4 as each learner's learning styles differ from each other. Different learners respond to teaching pedagogies differently; therefore, instruction should be designed to suit the needs of the different learners.

Integration of Technology in the Smart Learning Environments

The creation of the smart learning classroom is dependent on the use of smart learning technology in the classroom setting. With the growth in the use of emerging technologies, it has become much easier to record, analyze, and learn by using smart education technologies. Users are using both customizable and personalized approaches for learning purposes. As technologies mature, it provides users with greater capacity to adapt to the learning
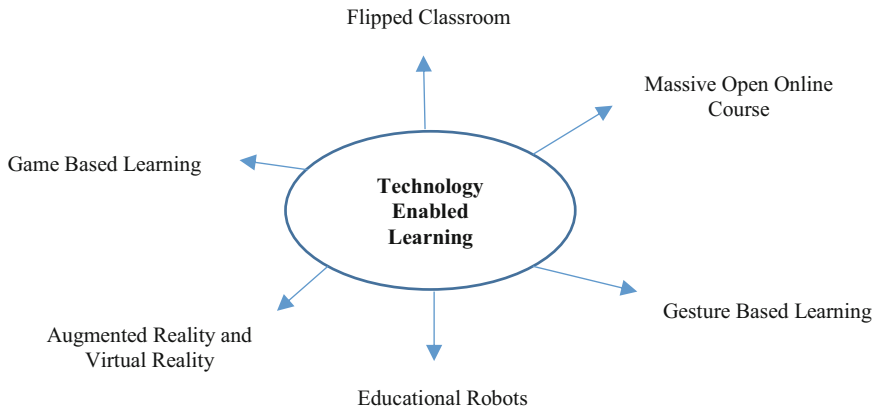
needs of the learners in higher education institutions. The technologies that are developed here should provide information and feedback to the learners and materials to suit the learning needs of the users. There are thousands of technologies that have been implemented to encourage technology-enabled learning (see Fig. 2).

Flipped Classroom Approaches

The flipped classroom is one of the most popular methods used for teaching and learning in modern classrooms. To encourage students to engage in flipped learning, the instructors must incorporate the following four pillars in their education delivery practice (Flipped Learning Network 2020). First, flipped learning involves incorporating a variety of learning modes for the delivery of lessons. Educators who strongly practice flipping learning believe in their expectations for setting up flexible expectations for student assessment and learning (Flipped Learning Network 2020). Second, setting up a flipped classroom involves shifting the teacher-centered learning model to a student-centered learning model. Student-centered learning models provide enriching learning opportunities for learners. Students are actively able to generate knowledge as they participate and evaluate their learning to make it personally meaningful to them (Flipped Learning Network 2020). Third, one of the main objectives of setting up flipped learning models is to help students to enhance conceptual understanding and procedural fluency. Depending on the grade and student-centered active learning strategies, educators can use intentional content to maximize student learning outcomes (Flipped Learning Network 2020). Fourth, the role of professional educators is significant and demanding in a flipped classroom setting. Professional educators are reflective in their practice of improving criticism and managing controlled chaos in the classroom (Flipped Learning Network 2020).

Furthermore, one of the main advantages of implementing the flipped classroom model is that it improves teaching and learning in ubiquitous settings. The flipped classroom encourages wider collaboration and discussion in a traditional in-class lecture room (Stöhr et al. 2020).

Flipped Classroom

Massive Open Online
Course

Game Based Learning

**Technology
Enabled
Learning**

Gesture Based Learning

Augmented Reality and
Virtual Reality

Educational Robots

Education Smart Environments and Global e-Campus, Fig. 2 Technologies used for technology enabled learning

Importantly, the idea of the flipped classroom is particularly important to the k-12 teaching and learning. Teachers are easily able to use multiple teaching and learning activities as they progress through the course (Bond 2020). The primary aim of flipping a classroom is to allow the students to deliver the courses in blended learning environments. Several studies have confirmed that by using the flipped classroom, the interaction among the students can be significantly increased as the flipped classroom encourages greater teaching and learning (Bond 2020). In a flipped classroom, both formal and informal teaching approaches are used to deliver the classroom learning activities. This is done to increase student engagement and enhance the student learning process (Bond 2020).

Massive Open Online Courses (MOOCs)

Education is a public good, and everyone should have the right to access high-quality education. The concept of open education is based entirely on this belief of ensuring that education is offered as a public good to whoever wishes to access high-quality education (Belawati 2014). Open education is an international concept that emphasizes ensuring flexibility and minimizing the hindrances in the provision of education irrespective of an individual's age, geography, place, and time. Distance education has been at the forefront of accommodating flexibility in the delivery of education to anyone located anywhere in the world

(Belawati 2014). The concept of open education has significantly increased the use of information computer technology to deliver higher education. It has also triggered global movements to create interdependent support for distance education. Open content, MOOCs, open educational resources, and open-source software have contributed significantly to the development of open education resources (Belawati 2014).

The MOOCs are freely available online courses that are available for anyone. Anyone can access the MOOCs from anywhere around the world and benefit from the low cost and flexible ways of educational experiences provided by the free online courses. Importantly, there are millions of people worldwide who are using MOOCs to learn new skills to enhance their educational learning experiences (EdX 2020). The MOOCs are one of the recent and most popular methods of delivering courses as it enables the users to attend the courses from anywhere around the world. One of the main advantages of using MOOCs is that it provides free access to education, and it can enroll as many participants as possible by using Internet computer technology (EdX 2020). There is no limitation on the number of student intake and the enrollment period for each MOOC courses. The participants in the MOOC courses can complete the courses at their own pace, and these courses are designed to suit the schedule of the students (EdX 2020). Learners can use their learning strategies to suit the courses

to meet their own learning needs and goals. There are several activities designed for MOOC learners to suit their learning needs. These courses are equipped with video lectures and synchronous learning methods to increase student and instructor interactions while teaching and learning (EdX 2020).

Gamification and Game-Based Learning

Gamification and game-based learning promote engagement and motivation in higher education teaching and learning. Gamification is defined as the integration of the gaming elements in traditional learning activities to enhance student learning outcomes (University of Waterloo 2020). Apparently, game-based learning involves designing learning activities based on gamification principles. Both of these strategies promote engagement and enhanced motivation in learning; however, it does not increase learning outcomes. There are numerous game-based technologies designed to provide learners a game-based environment for teaching and learning purposes (Foster and Shah 2020). The main objective of using game-based technologies is to ensure that learners enjoy learning and understand the curriculum at the same time. In this modern decade, learners spend much of their personal time playing computer games. Game-based learning ensures that learners are making productive use of their spare time for learning purposes (Emerson et al. 2020). According to Deng et al. (2020) and Lu and Lien (2020) the game-based learning is designed to enhance multitasking skills and cognitive skills of the learners. Additionally, game-based learning improves the learner's self-efficacy and knowledge retention.

Augmented Reality (AR) and Virtual Reality (VR)

The SDG 4 focuses on the provision of high-quality education to conflict and emergency prone areas. Education providers can effectively deploy AR and VR techniques to change the conventional way of the learning process (Kovach 2020). AR refers to the simulated real-world environment that enables the users to believe that the environment created for teaching
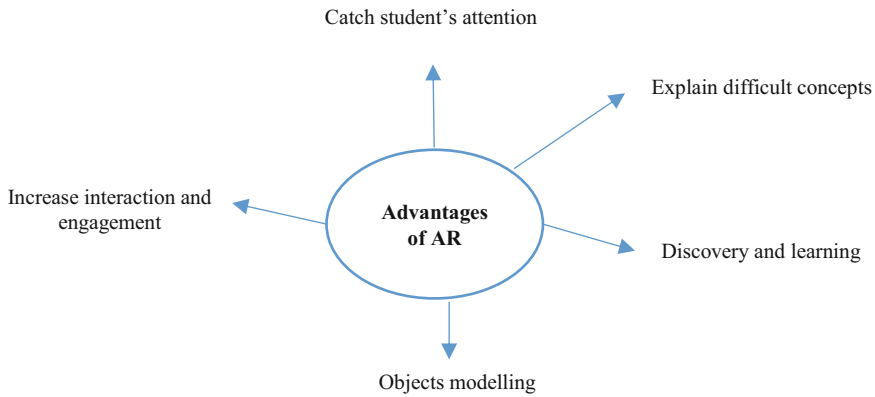
purposes is real (Chen et al. 2016). Before the outbreak of the COVID-19 pandemic, there has been significant progress made on the provision of universal primary, secondary, and tertiary education. The use of innovative technology can change the timing of the study and introduce new methods of teaching and learning (Kovach 2020). Generally, integrating the AR capabilities in teaching and learning ensures that the classes are interesting, engaging, and it generates a high level of interaction by ensuring that the overall learning process is creative. Indeed, there is a vast potential of combining the AR with the smartphones and digital learning process. The ability of the instructors to improve digital content opens numerous opportunities for the teachers and students (Kovach 2020). Figure 3 captures the advantages of using AR in the classrooms.

Figure 3 shows the advantages of using AR in the classrooms. These advantages are (1) catches student's attention, (2) explain difficult concepts, (3) discovery and learning, (4) increase interaction and engagement, and (5) objects modeling (Kovach 2020). As far as the context of VR is concerned, the advantages of using the VR are to provide an understanding of the visual subject matter to the learners. VR technologies can be used for 3D immersive learning environments for physical and digital worlds (Kovach 2020).

Gesture-Based Learning

Individuals use gestures while speaking and expressing information that they may find it difficult to express in real words. The instructor uses gestures to understand the learner's thoughts, and learners use gestures to identify information or materials that may be unclear to them. The gesture-based learning is aligned to achieving the SDG 4 on the provision of quality and equitable education to primary, secondary, and higher education institutions. Gesture-based computing has been receiving tremendous interest in the existing literature. It involves the use of education technology to deliver high-quality learning outputs to the students. Existing studies have integrated body motions and movements in gesture-based learning to enhance the learning process and allow the learners to engage with the virtual

Catch student's attention

Explain difficult concepts

Increase interaction and engagement

Advantages of AR

Discovery and learning

Objects modelling

Education Smart Environments and Global e-Campus, Fig. 3 Advantages of using the AR in the classrooms. (Source: Kovach 2020)

environment learning process (Chen and Fang 2014). Voice recognition, positioning, gravity sensor, enabling gesture recognition, gravity sensor, and structured light 3D sensors provide the learners with opportunities to engage in various hands-on learning activities. One of the main advantages of gesture-based learning is that it enhances the learner's body-related experiences, which increase cognitive processing through the motor-sensory experience (Chen and Fang 2014).

Educational Robots

Robots are an interesting area of study that can benefit anyone in the schooling system right from elementary education to the graduate courses. Educational robots usually have up-to-date computing power and can be easily controlled by using apps, gestures, and voice inputs. Programming a robot is a sophisticated task that requires engineering and technology-related skills (Chen et al. 2020; Keane et al. 2020). One of the main advantages of using robots is that it can easily help students to adapt to computational thinking principles. Generally, the robots can increase learner's classroom experience and knowledge while at the same time ensuring that learning remains interesting to everyone. For example, Root is a robot that has been developed by Harvard University to help the children learn how to code. This robot uses a strictly graphical environment that can be used by children who are not able to read to create programs (Dimick 2020). There are numerous

advantages of using robots, and these are explained below (Chen et al. 2020; Keane et al. 2020):

- Provides various opportunities for repetitive follow ups.
- Instructors are able to focus more on class time activities.
- Assist learners to repeat the same activity.
- Learners are more likely to participate when robots are taking the class.
- Robots have the capacity to increase the learner's engagement in the overall learning process.
- Learners are able to personalize the learning to suit the individual learner's needs and requirements.

Education Smart Environments, Global eCampus, and SDG 4

The SDG 4 on quality education emphasizes the provision of equitable quality education to provide lifelong learning opportunities for everyone. Educational institutions are using smart education environments to create a learning environment that facilitates the delivery of quality education. According to Kanowski et al. (2019), quality education can be easily delivered by understanding the environment facilitating education, and changing the education environment to suit the

needs of the learners. For example, holistic pedagogical practices integrated with the information computer technology can easily enhance teaching and learning activities within the classroom setting. There are numerous advantages of using immersive environments for delivering quality education (Sustainable Development Goals 2020). First, the computer-enabled learning environment encourages learners to become technology-savvy individuals who would go out of their way to solve problems by using innovative technologies. Second, it instills a culture of innovation in children and young youths (Sustainable Development Goals 2020). Third, it encourages human capacity development by providing high-quality education that is a sustainable solution to long-term poverty alleviation concerns in developing countries. Fourth, smart learning environments provide technology-enabled learning opportunities to the most vulnerable and marginalized groups in society. These cohorts of underprivileged youths and children, who do not have opportunities to access information computer technology at home can easily access these technologies in smart learning environments (Sustainable Development Goals 2020).

Moreover, setting up a global e-campus does not only benefit the host country where the education provider is based, but it benefits anyone who may be teaching from anywhere around the world. Learners from the developing countries, who do not have access to quality education can study from anywhere around the world. The education provided by global e-campus is superior to delivering education in a traditional classroom (Sustainable Development Goals 2020).

Challenges Related to Human Interactions on Virtual Settings

Undoubtedly, there are numerous benefits of using the human interactions on virtual settings for teaching and learning purposes. However, there are challenges of using the virtual learning e-Campus for teaching and learning purposes. First, delivering courses by using virtual learning e-Campus is a costly affair for universities around the world. Universities around the world need to invest millions of dollars to set up the virtual learning e-Campus for teaching and learning practices. Training has to be provided to students and instructors on the most effective ways of integrating the global e-Campus applications for teaching and learning purposes. Second, the users of the global virtual e-Campus need access to the information computer technology and Internet to access online resources. Importantly, those users who do not have access to the Internet and computers will not be able to use the online resources.

Conclusion

The main aim of this entry is to explore how learning takes place in a smart education environment and global e-campus. Education smart environments and global e-campus create an immersive education environment that helps to deliver equitable and high-quality education to anyone located anywhere in this world. The quest for international and national agencies has always been creating an educated society whereby individuals can create jobs and end the vicious cycle of poverty. Undeniably, the provision of high-quality education is a solution to the numerous problems constraining the growth of society. The providers of education are developing pro-learning immersive environments, whereby information computer technology is replacing the traditional methods of delivering education to students. Smart learning environments and global e-campus technologies are used by top tier education institutions to provide an equitable education to learners who are based anywhere around the world.

Cross-References

▶ Active Learning
▶ Knowledge Society
▶ Technology Enhanced Learning

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