

CLASSROOM SIMULATOR FOR TEACHER TRAINING USING VIRTUAL LEARNING ENVIRONMENTS AND SIMULATED STUDENTS BEHAVIOR A LITERATURE REVIEW

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ABSTRACT

In accordance with the development of technology, new educational methods have appeared, such as e-learning and virtual learning environment. Virtual learning environment is involved in grouping both of the students and teachers in a virtual place using different software, such as Avatar, 3D, and SimCity to enhance the educational process. The modernity of this environment attracted both of the teachers and students to be trained by professional programmers. Students and teachers revealed that there are many positive and negative impacts which affect the process of learning in general especially those who work with new technologies.

Keywords: *3D, Avatar, Simcity, Virtual Learning Environment (VLE)*

1. INTRODUCTION

Nowadays, the world is witnessing a very huge technological development that entered many sectors in people life, such as economical, medical, educational, and communicational fields. Beginning with economical sector, its development refers to the technological growth through telecommunication and internet that appeared in 1990s. Varian (2003) argued that the development in economical sector led to develop the investment environment.

In addition, technology developed medical different sectors in order to enhance the physicians' performance with their patients, and improve many laboratory tests such as X-ray, blood pressure tests and many other tests to determine exactly what diseases their patients have as Miranda and others (2005) argued. Technology contributed also to enhance the surgery sector because surgeons use Laparoscopic surgeries instead of traditional surgeries.

In communicational sector, the technology developed it through two main ways. According to Goldsmith (2005), the fast communicational growth depends on the fast development of

wireless technology like wireless networks and mobiles. On the other hand, the wired technology, which is used in small networks such as LAN (Local Area Networks), is considered as the second part of communication world. The combination of technology and education is essential in human development. Both education and technology affects each other in order to enhance the performance of education process. There are two main relations between education and technology; according to Petrina (2003), the Technology Education, which is considered as the first type, refers to the study of technological sectors that contribute to solve the human problems through the deep knowledge about technology fields. The other type of relations is Educational Technology that is concerned about the role of technology in educational process to enhance and develop its methods.

2. DEFINITION OF THE EDUCATION AND ITS METHOD

Education is considered as the key for all knowledge fields, and the essential factor that any society depends on to improve its human resources. Therefore, the educational process depends firstly on the tutors' role to enhance the performance of their students in schools or

universities, manage the process of education towards development, and overcome the challenges that students may face. According to Sajjad (2010), many methods contribute to develop the students' performance like Lecture method, group discussion, Individual presentation, Assignment method, Seminars method, conferences, workshop, and brainstorming. All these methods need technology to provide students with interactive environment that leads to effective education. Both of Ringstaff and Kelley (2002) argued that the technological revolution changes the style of students' learning and universities' teaching to become more developed than before.

3. USING TECHNOLOGY WITH THE EDUCATIONAL FIELD

The using of radio technology was the first step towards educational technology. Spector (2001) demonstrated that each of Australia, Canada, USA, and elsewhere started using radio technology at the beginnings of 20th century as a method for remoteness education that reach a huge amount of students rather than traditional education. Television also is considered as a way of remoteness education that contributes widely to facilitate the process of farness education. Additionally, the appearance of personal computers developed the remoteness education especially after the appearance of networks. Wilson (1991) explained that the networks give learners the ability to access the educational materials anytime and anywhere, and suitable environment for instructional process. It also gives learners the safe access for web-based materials.

Educational technology was utilized from the beginning to solve many problems that students face. Thompson and others (2005) argued that the different problems refer to literacy skills such as thinking, listening, speaking, writing, and reading. Alternatively, they could be sensory problems as blind students or visually impaired. Beginning with reading problem, individuals developed its technological tools for visual impairments, but it clearly affected the students who have reading problems. Writing is also a problem of the students. Thompson and others (2005) illustrated that the students who face difficulties in their writing skill may also face difficulties in using grammar, syntax, spelling, and punctuating. Technology contributes to decrease the writing problems by word processing applications.

Bhattacharyya (2009) explained the third

problem that is visually impaired or blind students. Blind people can utilize Braille Note-takers and computers to communicate with others by internet. They can also build strong relationships by establishing groups and chat. Although the starting of technological utilization in education was for special needs students, but it exaggerated to reach all students in all levels to establish multimedia learning projects. Multimedia learning projects can be defined according to Frey and Sutton (2010) as integrate media objects like texts, videos, graphics, sounds, and animation that are effective tools in classroom to achieve the education process objectives. Electronic learning or e-learning is the second important achievement. Naidu (2006) defined e-learning as the utilization of networked information and communication technology in teaching and learning. E-learning has many terms within as web-based learning, virtual learning, online learning, and distributed learning. All of these terms refer to the process of education that depends on information and communication technology.

A new term appeared in educational technology that is called distance learning. According to Driscoll (2003), distance education can be defined as a literature in which both of student and instructor are separated geographically. However, the instructor sometimes puts a specific period in order to increase the students' level of focus on the same topic and same time. Distance learning can offer a comfortable environment for students to get knowledge easily.

4. VIRTUAL LEARNING ENVIRONMENT

BRI and others (2009) consider e-learning as a kind of education that consists of both information and communication technologies (ICT). This type of learning facilitates the distribution of contents and exchange information based on ICT among students themselves and their teachers. Students depend on many tools that contribute to facilitate the process of exchange information such as e-mail and chat. Hodhod and others (2010) argue that e-learning and virtual learning have many results in common; both of these methods depend on using software in learning and teaching that facilitate the online interaction between students and their teachers, so, it is considered as a type of web-based learning that improve the connection between students and internet.

Virtual Learning Environment can be defined as software that contributes to facilitate the process of getting on-line courses. It also can be called as

CMS (Course Management System) and LMS (Learning Management System). The importance of virtual learning environment stems from its using by teachers either in schools or in universities that allow them to access to any resource within short time and without any effort. In addition, virtual learning environment can make upload information easy and fast. Ellway and others (2004) argues that virtual learning environment includes tutors, learners, students, and support staff. However, these members have different roles, for instance, students teach themselves, teachers become learners, and support staff can work anytime and under any conditions. This kind of learning is considered as social cultural environment because it is grouping virtual learning environment members' entire in common on-line environment. According to Brace and others (2006), virtual learning environment is witnessing a huge development that leads to improve students' performance as their teachers confirm.

The success of virtual learning environment depends firstly on the enhanced developed for teachers and students. Starting with teachers, Llinares (2004) demonstrates that teachers must train on working on virtual learning environment software. In other words, teachers' training should be directed towards the using of communicational and technological tools that help teachers to enhance the learning process in virtual environment as well as social interaction with their students. On other hand, students' training depends totally on well-trained teachers; teachers are the main engine in the process of education because they receive training, train their students, and solve any technical problem that students may face within their learning process. The implementation of virtual learning environment depends on getting access to the internet to do their assignments and then taking feedback from their teachers and colleagues. The virtual learning environment can be divided into two main categories; the first one is the students' experience in online learning like online peer assessment, and social networks. The process of online learning like figuring factors is the second category of virtual learning environment and it facilitates the critical thinking of students.

Despite of the well-managed software of virtual learning environment, Dipietro and others (2008) argued that there is some students worry about using this software. For instance, their learning institutions establish private chat rooms to use them in learning process; students demonstrated that these chat rooms are complex and undesired.

On the other hand, some students argued that this type of learning improved their listening and communication skills. The level of students' acceptance for the environment of virtual learning can improve its software. Virtual learning environment can be a domestic environment, Bailenson and others (2008) demonstrated that students could access this environment anytime and anywhere without leaving their families in the condition of internet access in their houses. In addition, this virtual environment can also be an external environment for the high quality external laps where students can go and access internet easily. Virtual learning environment requires many tools like chat, discussion, and assessment in order to achieve the expected results.

Cosgrave and others (2011) demonstrated that the students' use of virtual learning environment refers to their huge storage of notes, online discussion, and online tests. Some students argued that they keep their attendance to the classes even they access the same courses online; they also consider the environment of virtual learning as storage of information. Therefore, teachers should enhance the online materials to fit the students' consequent needs. For that, teachers improved two main kinds of online resources that are reading and assignments.

Wessa (2009) confirmed that many people pay attention to the virtual learning environment to enhance their educational skills and manage their learning process. This environment includes within it many educational courses that lead to greater development in the students' learning process. In addition, virtual learning environment empowers the social relationships, which are created through the cooperation between students in order to solve the common online assignments.

5. CLASSROOM SIMULATION

The simulating of classroom is an important feature of virtual learning environment. This simulation depends mainly on the settings of traditional classrooms such as solving problems, hypothesis tastings, and models development. The environment of real classrooms also affects the environment of virtual learning through three basics domains, namely, coaching, scaffolding, and feedback. Furthermore, classroom simulation can refer to the process of internal form of traditional classroom to make the virtual learning environment closer to reality, which contributes to create practical experiences for students by testing hypothesis and finding their results by themselves.

Gardner and others (2005) illustrated that the virtual learning environment passed through many stages to reach its current status. This development in virtual learning environment started with supplying the teachers with the required resources to follow in their teaching process. Subsequently, some educational institutions provided required information for the resources that are used in learning process. Lastly, teachers and students were connected together in order to understand these information for achieving the professional level and improving their communication skills especially when they are interacting with students in other nations..

6. ADVANTAGES OF USING VIRTUAL LEARNING ENVIRONMENT

The benefits of virtual learning refer to many reasons. Secker (2005) argued that the tutors do not need to use the HTML because tutors are the instructors for the environment of virtual learning and interaction with their students. Furthermore, Tutors can develop their teaching strategies because they are dealing with an online environment that is developed frequently. The basic component of virtual learning environment is teachers. Teachers access the internet to create online resources supported with examples and tests in many formats like Power Point, and then students can access internet to get these resources and solve online tests.

Virtual learning environment also has many impacts on students. Students feel comfortable with the attendance of online discussion and stereotype examples. When students complete their lessons, they show more efficiency than traditional classes because they want to prove their ability to use the skills of computer easily.

7. DISADVANTAGES OF USING VIRTUAL LEARNING ENVIRONMENT

Despite of many advantages of virtual learning environment, educational institutions, teachers, and students faced many challenges in virtual learning environment. The funds obstacle refers to the big cost of establishing software and hardware networking. In addition, there were little labs conducted hardware and software configuration. The security of networks was another obstacle, because it keeps the services of others at the same time. Additionally, both of the teachers and the students have a little experience to deal with

online resources. Kalay (2004) argued that students will lose some of their social relationships, that refers to the use of online applications as Java 3D instead of traditional environment of classrooms that allows them to meet each other face to face and exchange information.

8. THE SECOND LIFE

A. Using 3D in virtual learning environment

Both of Bignell and Parson (2010) illustrated that students use many software to reach online courses. One of these software is 3D virtual learning "Second Life". The importance of the Second Life refers to its faculty to facilitate the process of online learning. 3D virtual learning contributes to stimulate learners' imagination and learning strategies. Then it motivates the learners to solve any problems when they are meeting together. The most distinctive feature of virtual learning in 3D graphic is it helps the students to teach themselves under the management of their teachers. Students are cooperating to find the problem, collecting the required data, and suggesting solutions. This process contributes to create a generation that is able to solve problems in the future. Both of Graven and Mackinnon (2006) demonstrated that Second Life contributes to create self-motivation and critical thinking skills that are built with enjoyable experiences. The domain of virtual learning with 3D graphic includes many sectors, such as marketing, commerce, games, and learning. These sectors give the students the chance to develop their academic performance in many courses either they are online or in traditional classrooms.

B. Using the avatar in virtual learning environment

Avatar according to Fallon (2010) refers to the students' online behavior within their learning process in virtual environment. Avatar contributes to develop the interaction skills, it also motivate students to improve their learning through a visible individual that simulates the students' behaviors in real life. The importance of Avatar refers to the adding more experiences for the students through their cooperative interaction with other students. These experiences lead to improve students' achievements. Kennedy and others (2010) demonstrated that the improved students' achievements refer to engaging them in many online activities, such as understanding, evaluating, developing, and solving the problems in their online tasks. Avatar also develops the

social communication through joining students. Avatar can be considered as an electronic device to evaluate the performance of the students as well as the efficient of implementation of avatar software that is exclusive for some applications, like games.

Moreover, avatar improves the social skills for some students particularly who have some social problems when they are dealing with others face to face. Both of Vasileiou and Paraskeva (2010) illustrated that the virtual learning environment with avatar motivates the students towards doing some online assignments that are hard to do in real classrooms. It also provides them unintentionally with some difficult experiences, such as designing and simulating. In addition, avatar reinforces the cognitive thinking through discussion, evaluation, and solving problems that improve the students' attitudes and thus shift the role of teachers to be controllers.

C. Using the SimCity in virtual learning environment

Arrasvuori (2006) argued that the SimCity refers to a game that students play easily in virtual learning environment. One of the most significant characteristics of the SimCity is that there are no any true aims to achieve through it. However, it gives the students the chance to create their own goals to access particular courses. From all previously mentioned, the SimCity refers to the tool that allows the students to create their particular objectives and make their effort to achieve these objectives. It is worth to mention that the SimCity utilizes the software of music making in order to permit the student achieve their goals rapidly and easily. The environment of the SimCity is kind of the simulation of real life that helps students generate their own assumptions.

According to Dholakiya (2008), the SimCity can be defined as a computer-based game that students use within their learning process to give them the opportunity to identify their objectives and achieve them. The SimCity depends totally on the simulation of real life. Therefore, students can determine their needs and the ways to achieve their goals to be successful members and planers in their societies. Additionally, the SimCity can develop the social skills through the collaborative communication between students to discuss their assignments, suggest solutions, and find out the results. Both of the parents and the teachers observe that their children or students skills (e.g. reading, listening, writing, computer skills) are

improved through the using of the SimCity. Also, the SimCity develop the building and planning skills because they are build their own city in the virtual learning. Dalgarno and Lee (2010) demonstrated that the SimCity is considered as one of simulation tools which have been used for more than three decades. Computer based Learning process depends on many applications for simulation such as 3D environment in order create a semi real and present environment. That leads to motivate students to perform better than they do in their real classrooms and courses. In addition, the SimCity contributes to generate cognitive thinking on students because they experience new objects and methods by using the students' physical behaviors.

9. TRAINING TEACHERS

Varga and Zoltán (2005) demonstrated that teachers play a significant role either in real educational environment or in the virtual one. Teachers are the instructors, evaluators, and the builders of virtual learning environment. In addition, the distinctive role of the teachers refers to their ability to deal with any obstacle that they face within learning process, and recognize the students' differences in intelligence levels and attitudes. In the environment of virtual learning, teachers' roles appear through three main domains, namely, intellectual, organizational, and social domains. Starting with intellectual domain, teachers must understand their students' attitudes towards learning process, create new educational methods, and develop these methods in line with their students' educational needs. When talking about the organizational role, teachers adjust the time of online lesson, determine the objectives of the course, and decide the strategies they will follow during their course. Within social role, teachers start their courses by sending welcome messages for their attended students, encourage their students to participate in online assignments and lessons, send feedback for their students friendly.

Despite of the widespread of virtual learning environment, Badge and others (2005) argued that many teachers do not have enough experiences to deal with the software of virtual learning. So, they must get some training to make them able to enhance the educational techniques and courses, improve the virtual learning environment, and solve any problem they may face. Badge and others (2005) claimed that teachers may suffer some stress during their training process; this stress refers to their

frightening of dealing with new educational method, and their lack of time. Teachers are helped to get rid of their frightening through training them by professional and expert trainers. This training contributes to improve the teachers computer skills, develop their ability to deal with any obstacle during their online learning process, and enhance their skills to improve the software of virtual learning environment.

Training teachers has many ways, such as conferences and online training. Conferences refer to grouping teachers once a year at least to let them up to date with any software's development. But online training happens through online handbooks and courses that help teachers to improve themselves, this method gives teachers the opportunity to experience the feeling of the students. To accomplish the expected results of the virtual learning environment, teachers must get their training supported by educational institutions for their previous knowledge of educational needs and how to improve the learning process. Training teachers depends basically on the computer and internet skills in order to make them familiar with the difficulties that students may face through their learning process.

10. EVALUATING THE STUDENTS' PERFORMANCE

Lovatt and others (2007) noticed that the students of virtual learning environment perform better than those of traditional learning environment. This performance of students can be measured through solving the online assignments of their courses, and feedback that they get after solving assignments. The virtual learning environment motivates the students to enhance their performance through online resources of their materials, getting help from experts in order to understand their materials, and taking some online notes to decrease their feedback. Virtual learning environment can help the student of sciences, such as physics and chemistry. That refers to the difficult materials and the strategies of teaching which depend mainly on the scientific component rather than the motivation side of the courses.

Trandafir and others (2003) confirmed that many deaf people can use virtual learning environment because this environment depends basically in games that simulate the real life. So, the movements of virtual characters in these games can attract the attention of the deaf. Also, signing can impact deaf people and teach them mathematics easily. Evaluating the students' performance depends on their reaction towards the

games they are playing. It should be taken into consideration the emotional and physical needs of the students; collecting information of the students' preferred features in the game, lastly, finding the feedback from the memory of the students. Adamo-Villani (2006) argued that the de saturated colors impact on the students negatively for its huge alpha waves. In contrast, bright color attract the attention of students especially children (5-6.1\2 years old) because it motivates their responses and then enhance their focuses skills.

The importance of virtual learning environment is derived from its ability to motivate students to share their knowledge. That means students are joining together, thinking about a common problem, exchanging their solutions, and lastly finding the correct answer together. It is not necessary for the teachers to gather students in groups and ask them to interact to solve their assignments, so, students must have the motivation and self-effectiveness to share their own knowledge. Students can meet through their virtual learning process other students who have wider experiences, they get feedback to enhance their performance and share their knowledge comfortably.

A. Students' behavior

The differences between traditional learning environment and virtual one refer to the students' abilities to share their own knowledge in the virtual environment. Even students are separated by long distances but they can exchange their information easily through the discussions that they are making with either their teachers or their co-students. Both of Izso and Toth (2008) stated that teachers provide digital courses and materials to their students to allow them discuss these materials with both of the peer students and teachers. Within these discussions the emotional status of the students through the process of simulation, students can be happy, sad, tired, or comfortable. The virtual character of the student simulates exactly his real feelings towards the environment of virtual learning.

Teachers contribute to enhance their students' behavior through the virtual learning process, they provide the server with their digital courses, manage the discussion, and control chat rooms and software of virtual environment. Teachers evaluate the students' behavior through providing students with comments and attachments, making a discussion with peer students and teachers, assessing the students' participation in virtual environment, and finally asking the

students to prepare for next discussion. The materials of the following discussion are uploaded by teachers to be distributed to the students. The students' participation in digital courses reflects the real behavior of the students and that why it is called the simulation as Izso and Toth (2008) argued

11. REACTIONS OF TEACHERS TOWARDS USING A VIRTUAL LEARNING ENVIRONMENT

The United Nations Educational, Scientific, and Cultural Organization (UNESCO_ 1998) argued that the teachers recognize the importance of virtual learning environment towards development and enhancement. Therefore, teachers state that the communication with their students has been developed. In addition, teachers use many technologies and networks in their educational process, so teachers are required to improve these technologies and networks in order to accomplish the desired enhancements, facilitate the students' using of technologies and networks, and deal with any obstacles that they or their students face. The role of teachers is not limited to the students of schools, but also to the universities students because the universities students enhance their academic students through the digital materials that are provided by teachers. According to Barzegar and others (2010), teachers also focus on students' computer and internet skills, that is due to teachers believes that students will graduate and become employees and workforce, so students will need to develop their internet and networks skills to use them in future.

Bailenson and others (2008) stated that the process of interaction between students and teachers increased for the students' needs of development their internet and computer skills, and their educational achievements, as well as teachers need to improve both of their online courses and the virtual learning software and applications. Some teachers stated that the virtual learning environment has positive impacts on the learning process, for instance, teachers said that they give their attention to all students equally, that helps the teachers to correct the students' mistakes by sending them feedback, it also helps students to concentrate more in their courses. Moreover, teachers can explain their online courses smoothly without students' problems that happen in traditional learning environment, like eating or sleeping. This also gives the students the opportunity to behave freely during their online

lessons.

In contrast, Gradner and others (2005) demonstrated that some teachers reveal that the virtual learning environment has many negative impacts. Many teachers complained that virtual learning environment deprive them of their traditional role as going to school, and teaching students that are in front of teachers. Furthermore, teachers argued that they will be no longer the only resource of the information, because students can access internet any time to get digital resources and courses. Other students reveal that the virtual learning environment will decrease the students self confidence because they do not interact with real people. Finally, other teachers have negative aspects towards virtual learning environment because of its limited time in the virtual learning environment compared with traditional environment time.

12. REACTIONS OF STUDENTS TOWARDS USING VIRTUAL LEARNING ENVIRONMENT

Since technologies have reached many sectors in general and educational sector in particular, teachers depend on the virtual learning environment more than traditional learning environment. Virtual learning environment relies on grouping both of the teachers and the students to discuss online resources, gathering information of these materials, and achieving the required goals of this virtual environment. Despite of the modernity of the virtual learning environment, students reveal that they receive a positive learning and get new information that refer to their motivation towards learning skills, such as reading because of the features (e.g. videos, audios, and graphics) of the virtual learning applications as Alobiedat and Saraierh (2010) stated.

Furthermore, Hodhod (2010) demonstrated that students argued that they make their effort to do their homework in order to show their internet and computer skills. Students added that they have a free and flexible space of time and place to get knowledge from virtual learning environment that permits students to access their online resources easily. Also, students can interact with their peer students anytime and anywhere, reach their courses freely, and enjoy their learning process. The most important feature of the virtual learning environment is that it is controlled by professional programmers. Additionally, students have the ability to use the software freely for use and download to help them access the components

of virtual environment, like books, notes and quizzes easily.

The environment of virtual learning environment can attract the attention of the students to make them more active, create the cognitive thinking, and develop students' communication skills. Bronack and others (2008) argued that It also gives students the feel of comfort because they can access their courses at their homes, and develops their social skills because they are joining together to discuss about their common courses, thinking about their assignments, sharing their information, and solving the problems they may face.

On the other hand, some students revealed that the virtual learning environment has negative effects on them. Jebakumarand Govindaraju (2006) mentioned that those students illustrated their negative feelings towards virtual learning environment for many reasons; firstly, students showed that they have some confusion to interact face to face with other students, deal with new term in technology, and face some technical problems. Some students said that they are meeting virtual friends who students cannot deal with them in reality. So, they are feeling isolation. Furthermore, some teachers argued that the environment of virtual learning does not suit children because of its complicated applications. Moreover, some students do not have enough computer and internet skills because not all students have personal computers. Therefore, these students face problems to interact within the virtual learning environment and solve any technical problems.

13. CONCLUSION

Technology has developed different fields to make human's life flexible, easy and fast. Educational field is one of these fields that technology has improved. Therefore, many educational methods like e-learning and distance learning have been improved to make the learning process more effective. E-learning is considered as a method that both of the teachers and the students depend on in order to facilitate the educational process. The appearance of e-learning leads to find another educational method that is the distance learning. Distance learning can be defined as an environment in which both of the students and their teachers are not joined the same place; they interact through internet, exchange their knowledge, and access information anytime and anywhere.

The huge educational technology gives every

students and learners the opportunity to increase their knowledge by access internet and get information in any field that they need. Therefore, virtual learning environment has appeared to facilitate the educational technologies process. The environment of virtual learning contributes to develop both of the students and teachers. It helps the teachers to improve their materials with the help of experts in programming, and enables them to provide the students with online materials, assignments on students' materials, and comments or feedback to be reviewed by students. Also, teachers are considered as the controller of the process of virtual learning, this creates the motivation for teachers to develop their computer and internet skills in order to face any obstacle they face through their teaching process.

Virtual learning environment also improves the students; it develops their internet and computer skills, and facilitates the process of learning because they can access the internet anytime and anywhere without any effort. In addition, virtual learning environment develops the social skills of the students. That refers to the interaction with new students to discuss common material, think about their assignments, and find out the solutions. Furthermore, this virtual environment can enhance students' cognitive thinking; they think about others problems and try to provide some suggestions to solve these problems. Virtual learning process also improves the learning skills of students, like identifying, thinking about their tasks, and solving their tasks easily. The environment of virtual learning enhances the students' concentration through their games, graphics, and lights that leads to enhance their performance.

Regardless to the huge advantages of virtual learning environment, there are different advantages that make some students and teachers reveal their negative attitudes towards virtual learning environment. Environment of virtual learning deprives the teachers of the conditions of traditional learning, such as the particular time of going and leaving the schools, the traditional style of lectures which is based on a group of students sit in front of the teacher to receive information. In addition, virtual learning environment does not give learners the chance to create real relationships, because they interact with anonymous people just to exchange knowledge. Additionally, the applications of virtual learning environment do not fit children for either its consisting of lights which harm their eyes, or for its complexity, so, children do not have enough experience to deal with technological obstacles.

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