Interactive e-learning through second life with blackboard technology

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Abstract
In today's economically viable worldview scenario, everyone wants to earn sufficient money which can be spent to maintain better lifestyle. There are many factors such as people living in the remote areas without appropriate communication systems or the physically challenged people et al who are not able to attend the traditional college system hence they seek an alternative option to gain education. E-Learning is a best alternative that provides suitable opportunity to all such individuals to obtain the desired qualifications or degrees as quality education even without attending any face to face college system in the educational institutions. The most positive point in E-Learning is that students find opportunity for access to the course materials anytime and anywhere whenever they find time through the use and application of electronic gadgets. Today, every reputed educational institution especially universities worldwide run their distance learning courses under the E-Learning system. Most powerful feature of E-Learning is that it remains an extremely interactive experience. Too many applications and tools are already available abundantly in the market today to promote E-learning in multiple ways. Take for example Moodle, Blackboard, LectureCast, Classroom 2.0, ELE (E-learning Environments) and E-Learning 2.0 amongst others. In this paper, we have focussed on the Second Life by Linden Lab (USA) for educational trainings. It has special instructiveness as we compare to rest E-Learning training methodologies available before us nowadays. It gives an opportunity to the students to attend virtual classrooms and attend lectures. The good thing is that Second Life develops a sense of presence in the students who feel as if they are physically present in the university campuses and spend time with their faculty members or peers. There are several other impeccable and strong features in Second Life. We have focused on Second Life education project to connect with Blackboard which we have already started to use in our university.

Keywords: Second Life, E-Learning, 3D Virtual World, Blackboard, Moodle
1. Introduction
E-Learning is mushrooming in most universities and Institutions of Higher Learning worldwide where it is used as an alternative education system today. Mainly there are two types of e-Learning concepts namely Synchronous and Asynchronous. Synchronous environment is more interactive than Asynchronous environment because in Synchronous environment users are empowered to exchange all sorts of information during the same time frame. There is no dearth of applications when it comes to supporting e-Learning nowadays. Such applications are easily available in the market and are especially meant to make e-Learning a hassle-free experience through all possible supports required. Some popular applications, widely practiced in every nook and corner of the world, include Blackboard, Moodle, OpenSim (Linden_Labs, Second Life 2009) and Second Life (The_Open_Simulator_Project, 2009) Today, Second Life (SL) has emerged into one of the most popular 3D multiuser virtual environment applications with its practices increasing each passing of the day. Many leading universities in the world prefer using SL for teaching and learning purposes. Approximately 500 universities and colleges around the world have preferred SL (http://secondlife.com/; M., Fominykh, E., Prasolova-Førland, M., Morozov, and A., Gerasimov, (2008). The advantages of SL are variegated in nature so most users have options to build their own knowledge bases through the help of the tools present in SL. This paper describes the main features of SL like how it is useful for educational purpose and what are the challenges which one might face during its usage? An important idea which has summed up through connecting SL with Blackboard is to explore the avenues which bring more attractiveness and user friendliness environment for students and faculty members alike. This concept though also carries many disadvantages (C., Allison, A., Miller, T., Sturgeon, J., Nicoll, and I., Perera, (2010) which mainly relates to the restricted programming, backup problems & network conditions besides other issues such as server loads. Such aspects prevail due to it being centralised in nature and concept (C., Allison, A., Miller, T., Sturgeon, I., Perera, and J., McCaffrey, 2011). According to a research done recently, by the end of 2012 approximately 70% organizations have already started using virtual world tools through setting up their own Lands and experiential spaces (Hew, K.F., & Cheung, W.S., (2010) & so was the prediction for 80% Internet users to use Virtual Avatars which seemed coming true (Chang, V., Gütl, C., Kopeinik, S., & Williams, R., (2009)).In this paper, we have described our new experiment, “how to get the benefits of two e-Learning technologies with the combination of their services and facilities (Blackboard and Second Life). First tool lacks some features and the other fulfilling such things and vice versa. The methodology of this paper clearly describes how and why this decision has worth.

1.1 History of second life
Second Life was launched by Linden Lab in 2003 for the public use. It though gained ample popularity during 2005-06 with drastic increase of its users. Nowadays, it has already attained 36 million registrations. Linden Lab was founded by Philip Rosedale in the year 1999. Earlier, Linden Lab’s motive was to develop hardware for the Virtual world. The product name given was The Rig but after sometime they began working on SL to support the Virtual world. Learners can now create objects and textures in SL through the help of its variety of built-in tools which are already made available in SL. Linden Lab developed a scripting language named Linden Scripting Language. Residents (Avatars) can use other’s scripts as well. Residents have good scope to communicate with each other through the Avatars (Y., Zhao and L., Wu, (2009)). Learners can import the objects, textures and animations through the support of external software available in SL which provides a Virtual market to sell and buy products.

1.2 Benefits of second life in education systems
It might look strange but the fact is undeniable that you may visit to other countries without leaving your classroom while using SL. Of course, you feel at home while use SL especially once learn about other’s cultures besides acquiring newer skills, engaging yourself in the entirely new forms of communication to interact with others and so do you increase ‘people’s skills’ further. You have an entirely new way to solve the problems that might not been possible to perform in the ‘real world’ scenario. Other advantages include connecting to other online communities, forging new links and friendships and last but not the least finding new opportunities to collaborate and go for social interactions while you are at self-paced learning route to suit all possible learning styles. You have best opportunities to create, comment and share contents with other users through SL and in the meanwhile there is an opportunity to integrate within the blended learning system to avail maximum benefits. SL therefore offers range of opportunities for researchers because of collaboration and connection between the users. You are exposed to whole range of possibilities which you might not have utilized on the previous occasions.

1.2.1 Changing the trend of existing traditional system
In SL, users have privilege of creating Objects and Avatars as per one’s wish or preferences. Users can also exchange information and so do they publish their work on SL.
1.2.2 Availability to remote area
Students can use SL who live in the remote areas. It therefore saves time and energy of those students staying at any far off distant regions from the universities or colleges they have enrolled. It provides them real scenario through the 3D presence.

1.2.3 Interactive
Students feel as if they are present in the institutions in real terms through the help of Avatars. It is equipped with voice and chatting facilities for exchange of information between the users. They can definitely share their knowledge and experience through literally living in a second life while they use SL.

1.2.4 Collaborations & connectivity with other e-learning applications
Students and instructors can create their own groups and connect with the other Educational Groups or Organizations to share knowledge without even having any physical presence. There is no need to be present physically at any Institution from which any group wants to share desired information. It ultimately reduces the cost of education which is one of the added benefits. It can be linked with 2D Web, Blackboard, & Moodle with the help of Sloodle (Sloodle, http://www.sloodle.org/moodle/) Moodle is used to create online learning sites (Moodle, http://moodle.org/). It is an open source application for e-Learning.

1.3 Business opportunities
It is unique and interesting fact that SL runs its own currency which has been named Linden dollars. Near about sixty thousands of SL users do exchange their real currencies with Linden dollars to go with the business opportunities of one kind or another. Most users do earn sufficient money through buying and selling lands, involvement in advertising activities, stores, scripting & several other roles which are professionally impeccable. It is worth noticing to see hundreds of thousands of companies already existing in SL who often involve the users to work on the roles like 2D and 3D animation etc., for their active involvements. Good number of World Tour Agencies operate through SL. If it is in the field of Education then users have opportunity to set up their own institution for specific training options to explore (http://secondlife.com/destinations/business; http://secondlife.wikia.com/wiki/Business.). Those willing to attend such classes are charged certain fees to attend the classes. In some cases such classes are also offered free of cost depending upon the educational world and the nature of trainings given. One of the recent examples can be witnessed in Egypt where SL became a medium of training for the annual “HAJ.”

1.4 Issues and challenges in second life

1.4.1 It takes a lot of time
It requires a lot of time to obtain skills to create objects and Avatars in SL such as in a case students and faculty members plan to create some project in SL, they require sufficient time to create the projects. You have to first learn how to create the objects like wall, chair etc., and Avatars which students or faculty members or both want to use.

1.4.2 Internet availability
SL requires high speed internet connection and computer devices. It should be noted that operation might become difficult in the developing & poor countries where lack of infrastructure and high speed broadband services are not easily available so bunch of problems welcome users. Furthermore, the next issue is factors related to the economic conditions of such countries. All learners willing to utilise SL must spend sufficient money for computer devices & high speed broadband services to avail such benefits.

1.4.3 Privacy issues
(i) All Avatars present in a particular area can see other’s names and an Avatar can’t change his SL name.
(ii) Residents can interfere in the conversation between other residents through the help of scripts.

2. Literature survey
Case studies and surveys done ever and those evaluated by previous researches shows that Virtual 3D e-Learning environment boost distance education sector. It is highly beneficial for students which can increase students' engagements and experiences (Brown, J.S., and Adler, R.P., 2008; Carr, D., 2008). Martino (Martino, J., (2007) & Van den Brekel (Van den Brekel, A.J.P., (2007) found that Virtual environments are best substitutes for those students unable to attend traditional face to face teaching systems. According to A., Jamaluddin, Virtual experiments give great environment for Teaching & Learning (A., Jamaludin et al., (2009). According to Kemp, J., and Livingston, D., SL can be used to create 3D experiential based the projects for e-Learning (Second Life, Last accessed 7th April 2008 From:http://www.secondlife.com; Kemp, J., and Livingstone, D., 2006), SL was not designed especially for the education sector but it is widely used in the education field nowadays. There are many
other virtual worlds available in the market today from Open Sim, ThereWorlds and et al. But SL is best among such Virtual world tools. SL provides communication, group discussions and collaboration of groups and communication between group members (M., Hobb et al., (2006)). Several researchers agree that SL has great impact due to its effectiveness on both either hybrid or fully online courses (Jarmon, Keating, & Toprac, 2008; Jarmon & Sanchez, 2008; Nicosia, 2008). According to an estimation more than two hundred educational institutions and universities use SL presently to deliver their online lectures. An Educators listserv (SLED) helps and promotes best practices in education. It provides important materials for the instructors willing to use it in the classroom. Another Listserv, Second Life Research listserv (SLRL) deals with the current applications in SL, new methodologies, measurement, assessment & virtual conferences. More than eighty per cent universities in the UK are associated with SL. Over one hundred and fifty universities in the United States of America (USA) own their islands in SL. It gives classroom feeling with fun learning experiences. SL needs technical experts in the fields of multimedia and programming to create their educational projects. It also needs full training to use SL for instructors.

If we compare SL from rest traditional e-Learning techniques such as LMS (Learning Management System) for example Moodle, Blackboard etc., it is clearly an indicative that it is tough to use SL (Virtual Learning Techniques).

3. Methodology

Northern Border University (NBU) in Saudi Arabia has already started using Blackboard to promote e-Learning in its various colleges. Although Blackboard is an excellent e-Learning tool but the concept of virtual reality facility is still not available in it. Blackboard definitely gives facility to integrate with Second Life. Keeping in view the use of SL in our university we conducted a survey for that purpose. It started with providing platform to university’s coordinators and faculty members for thorough discussion with all those parties involved in the e-Learning concept as a team representing different departments of NBU. The initial steps were through showing demos and short trainings on Second Life from its application to use amongst others.

We selected the variables for a survey which are listed below, and their description is mentioned in the table. We compared these two applications according to the facilities they offer and according to our needs in NBU at present. These are key factors which we have taken for comparative study. The table below shows comprehensive comparison between SL and Blackboard.

The Key factors (variables) on which we have taken the decision is:

(i) Application
(ii) Environment
(iii) Tools
(iv) User Friendliness

Table 1: Comparison between Second Life & Blackboard

<table>
<thead>
<tr>
<th>Parameters Used</th>
<th>Second Life</th>
<th>Blackboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>It can be used for educational business, and religious or anything which any user wants to create.</td>
<td>It is only for Educational purpose.</td>
</tr>
<tr>
<td>Environment</td>
<td>3D Virtual Environment helps the Participants to Represent it through the help of Avatars.</td>
<td>Interactive Websites, No concept of Avatars.</td>
</tr>
<tr>
<td>Tools</td>
<td>Fully User Created Ideas are Implemented via Videos, Audios and Chats etc.</td>
<td>Predefined learning tools are available like courses, tasks and questionnaires.</td>
</tr>
<tr>
<td>User Friendliness</td>
<td>Required Highly Skilled People to Use and Create Contents.</td>
<td>Not required high skilled People as it is easy to use.</td>
</tr>
</tbody>
</table>

Results:

We selected few Questions (Multiple choice) which are based on the variables selected that we have selected according to our needs. For example-
Q. On which e-Learning application you can represent yourself virtually (Imagine your cybernetic (means your Virtual Image) will be there during class time (It is called 3D Virtual Learning) and can talk with the students & vice versa.
Options were:
- a. Face to Face (Traditional) Learning
- b. Online Learning
- c. 3D Virtual Learning
- d. Blended Learning

Figure 1: First Data is collected for Second Life

Figure 2: Second Data is Collected for Blackboard

Figure 3: Compare Graph between Second Life & Blackboard Data
Table 2: The Compare Table Percentage is:

<table>
<thead>
<tr>
<th>Compare Percentage</th>
<th>Second Life</th>
<th>Blackboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>95%</td>
<td>5%</td>
</tr>
<tr>
<td>Environment</td>
<td>98%</td>
<td>2%</td>
</tr>
<tr>
<td>Tools</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>User Friendliness</td>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

After the completion of our survey, we found that 95% people like application part of SL while 98% liked environments of SL but it is not easy to use and prepare materials on SL with the percentage going down to 75% and 25% respectively. If we look at Blackboard part then people voted for the tools are 25% while for the user friendliness it was 40%.

People who voted in this survey represented technical background. It is noticeable that with such backgrounds their suggestions were approximately 25% for tools use and for the user-friendliness it was 40% then it remains a tedious idea that persons from rest departments would have maximum usability.

We concluded that the need is to combine Second Life & Blackboard in the current scenario in NBU for effective promotion of e-Learning tools. Combined benefits like Blackboard offering best of prepaid materials and Second Life providing easy networking tools with its features of virtual reality will pave the way for a newer perspective. Blackboard gives facility to integrate it with SL. One of the most important factors to use both is that we still don’t have technically sound members in all departments in our university but they are gearing up to adopt the new technologies. From combination of these two applications we will definitely have unlimited benefits and advantages.

4. Conclusion

Virtual world will be the most effective arm for universities in the near future to support all sorts of distance learning systems. It is a latest technology 3D (MUVE) which supports education system in an attractive manner. Right now, SL fulfills most of the facilities and function which educational institutions require to make best use of their e-Learning applications on the basis of several comparative studies. Various types of 3D (MUEVs) are present in the market these days but SL dominates in almost all leading universities worldwide due to its unique features and functions. Ultimately, if we connect to Second Life alongside Blackboard it would be a great combination of services towards e-Learning because there are many prepaid formats to assist both faculty and students in Blackboard from Syllabus to Content to Texts and Videos et al. Blackboard gives a very easy method to make such
things and beside this SL offers a virtual platform to create the virtual classes for an experience of real classes to attract the students. For our university we have started work on SL project after the decision of survey, and in near future we will deliver our trainings through virtual world. We are planning to implement this for conferences and want to create research and development in Science, Engineering and Medical fields. We will connect our teams with other research groups that are now present in Virtual world. It will save time and cut the travelling expenses.

5. Future work
Although there are many drawbacks in SL but its benefits make it at par and attractive. In the current scenario, SL can’t replace traditional online e-Learning systems completely. Linden Lab has to focus on the privacy issues mainly to maintain thorough discipline in the teaching environments. There should be a strong system to resolve the matters related to offences or violence without any delay. Linden Lab has to create some easy tools which must be user-friendly and least complex in the processing. Make the processes easier as much as possible so that it doesn’t require any special training to use SL unlike in the current scenario when it requires certain amount of desired skills for complete operation.

6. Acknowledgements
The researchers would like to thank all participants whom we had involved in this survey for our research outcomes; and so do we extend our thanks to the Ministry of Higher Education in the Kingdom of Saudi Arabia, for funding this Research Project conducted under the supervision of Deanship of e-Learning & Distance Learning at Northern Border University. The motivation we had from the Ministry of Higher Education and University Leadership is highly admirable for boosting our morale to conduct such timely and valuable researches.

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