MOODLE'S EFFECTIVENESS IN A DEVELOPING COUNTRY

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Abstract: This study examines the important of MOODLE platform and its effect in teaching at Defence University in Sri Lanka. Even after 3 years of usage of MOODLE there are some practical issues on usage of it. Therefore this study examines students' and teachers impact on MOODLE for learning and teaching process. In a developing country the importance of underlying information technology principles that are critical for an in-depth learning by MOODLE platform. A structured multiple choice questionnaire was distributed among students' and lectures that were enrolled and employed at the General Sir John Kotelawela Defence University, Sri Lanka. A total of 100 students and 30 lectures participated in this study and completed written and online questionnaire related to MOODLE. The outcome of this study shows that there is a strong positive response on MOODLE learning among students and they believe lack of support from the technical support to improve the current situation. Lecturer's perspective was entirely different they believe mixture of traditional method or blend will improve the quality of learning than MOODLE. Therefore there were somewhat 50% or more lectures avoid using the new technology due to this reason. Both parties believe that MOODLE can be improved. Although the outcome is preliminary in nature, the results provide cause for concern over the status of e-board education in Sri Lanka which is not satisfactory.

Keywords: MOODLE, effectiveness, blend method

I.   INTRODUCTION

Education has always been the most significant aspect of human life. Although the sources of education kept on evolving through the ages, it still remains to be an inseparable part of 'living'. With the advent of the industrial age, occurred the rapid development of technology, helping a great deal in educating the masses all round the world. Technology is proved to be of profound help for teachers in teaching as well as for students in learning. The attractive and easily comprehensible nature of digital technology make the process of education more entertaining, interesting and therefore efficient. This could also be the major reason for the adoption of technology in teaching methodologies by education policy makers. With the advances in digital technology, information sharing methods worldwide are gradually evolving. Yet, the low quality and high maintenance costs of information delivery sources such as projectors are ineffective for modern day classrooms and meeting rooms.Teachers nowadays are incorporating new modes of communication in order to bridge the gap between them and their audience/students and the recent developments in display technology have made it a possibility. Reliable sources proclaim that more and more countries have brought internet and interactive display boards into the classroom and other buildings, creating new avenues of information sharing and presentations for education and business applications. Producing scientifically and technologically literate citizens has been a concern of educators and many policy makers around the world for more than three decades. UNESCO (1994) suggests that scientific and technological literacy are necessary to deal with the requirements of modern life(UNESCO 1994). Accordingly, an emphasis on intensifying e-learning is obvious in many curricula all over the world(Kaminski 2005). Over the past few years, digital media have enriched the teaching and learning experiences and have become

commonplace with university students and lecturers(Liaw *et al.* 2007).Universities in Sri Lanka tried to introduce e-learning, i.e., the application of digital media for teaching and learning in last couple of years. With financial support by the government, universities have been encouraged to develop e-learning strategies. These initiatives resulted in a variety of best-practice examples for e-learning and course development(Narciss *et al.* 2007).

Besides the fact that the internet and cloud technology is a vast source of information, there are some specific web-based applications that are conceived to be used as a teaching resource(Shee&Wang 2008). These applications (often called e-learning platforms) allow teachers to provide the students with material of different sorts, as well as to interact with them in real-time(Martín-Blas&Serrano-Fernández 2009). They also allow teachers to follow the evolution of the learning process and to know the performance of each student in specific tasks(Beatty&Ulasewicz 2006). E-learning platforms (also known as a virtual learning environment (VLE)) are especially useful when teaching anything in general(Pintrich&Schunk 1996). They allow implementing objects of many kinds such as: videos, mp3s, text documents, scanned images, links to other web sites or animations which can be used to show dynamically many physical situations and concepts that are often difficult to apprehend by the students(Weller 2007). A VLE is a software system designed to support teaching and learning. A VLE typically provides tools such as those for assessment, communication, uploading of content, return of students' work, administration of student groups, questionnaires, tracking tools, wikis, blogs, chats, forums, etc. over internet(Weller 2007).

MOODLE is a user friendly and a powerful web site hosting solution which is widely used around the world. It is a promising high technology product used in education, Enterprise training, conference, military commanding, remote telecommunication and etc. The massive effectiveness of MOODLE lies on the fact that it holds the attention of an audience to the extent that it increases participation, enhancing the overall learning and information sharing experience to a great deal. Participants are given the space to share files and other material while the teachers or the presenters are given the authority to control audience devices during the classes. This method helps in improving learning skills outside of the classroom while also making the students focus more during class.Even though the application of e-learning at universities has increased rapidly and our university use MOODLE platform little is known about students' expectations and experiences. Until recently, research focused on students' experiences with specific aspects of e-learning courses, e.g., the interaction with an instructor, learning with a specific learning management system, or certain characteristics of a course (Alexander&Golja 2007; Coates *et al.* 2005; Engelbrecht 2005).

MOODLE is not designed particularly for language teaching, it provides a number of useful learning tools that can be used in teacher training projects. In the academic field, the choice of a Learning Management System (LMS) is of great relevance for any e-learning activity/project intended to deliver didactic modules for higher education(Bruinsma 2004). To our knowledge, there are only a few e-learning platform evaluations available in the current literature regarding Sri Lankan concept. Their main focus is on commercial products.

In 2011 General Sir John Kotelawala Defence University in Sri Lanka introduced their MOODLEsystem to the every department, though it was common in the west still it is indeed a luxurious thing for us. So it helped both lecturers and students maximize the

teaching and learning out puts. Though, it was introduced still there are some problems of usage. So in this study we address the issues ofapplication of the system how far successful the mission and if there are gaps how to bridge it. The aim of this study is to identify issues pertaining to the usage of MOODLE in the university system and to explore the possible means and methods to enhance the effectiveness of using it.   This paper presents an evaluation of open source e-learning platforms with the aim of finding the platform most suitable for extending to an adaptive one. The extended platform will be utilized in an operational teaching environment. Therefore, the overall functionality of the platform is as important as the adaptation capabilities, and the evaluation treats both issues.

II. METHODOLOGY

In this study we have examined teachers, students' capabilities of learning with MOODLE, especially concepts and knowledge on the learning platform in university system. This topic was judged to be extremely important to have a conceptual understanding of what is MOODLE and to find out in detail knowledge on current trends in using MOODLE. The study design in this study is presented in the Figure 1. Approval for the study was obtained from the Staff Development Center. Target population of this study represents all faculties from the university, including staff and students. All lectures and students were given a questionnaire related to MOODLE. One hundred students and thirty lectures, which participated in the consecutive e-learning and gave their consent, were included in the study. The purpose of the study was explained to the lecturers and students at the beginning of the lecture regarding MOODLE. The students who consented to participate in the study were individually tagged and given them a tag. They were allocated to a group the MOODLE based practical spot test group (n=130).
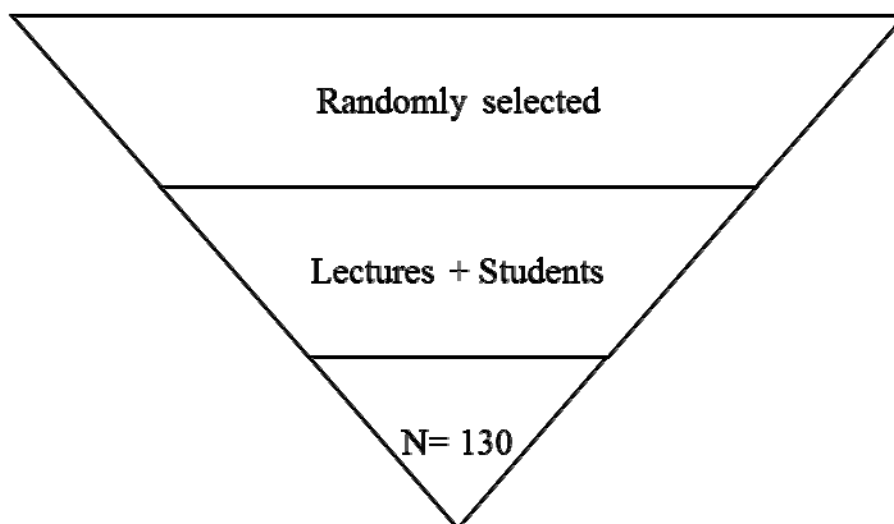

Figure 1 – study design

Questionnaire Used

A questionnaire, onself generated e-learning was introduced ''Learning with MOODLE''. The data were collected by means of the questionnaire consisted of 13 items including questions which generated in the printed platform (Appendix 1 and 2). The use of

the questionnaire was justified because it had been prepared by an experienced research group working in e-learning education and it had already been tested and validated before the distribution. In addition, the questionnaire was designed to assess conceptual understanding of e-learning in the Sri Lankan university. The question which was used is attached as the Annexure.

Research Context and Participants

One hundred and thirty took part in this study. Six faculties including Law, Medical, Allied Health Sciences, Engineering, Management and Defence equally represent from General Sir John Kotelawela Defence University, which was located in Ratmalana, Sri Lanka. All studentswere employed at the university as lectures or enrolled as students. The students learned about basic of e- learning by self learning and all the materials were provided at the learning phase. The Faculty is a socially and economically diverse community in Western Province of the country and this is the one and only Defence University in this country. The students had the backgrounds knowledge of knowledge on computing and e-learning with respect to MOODLE.

Administration of Questionnaire among the Students

The questionnaire was administered among each of the respective students at theuniversity; with respect to e-learning within a period of a week they have to answer the entire question online or printed form.Care was taken to avoid exchanging the students' information or ideas.

Data Analysis

To analyze the questions, we compared informal reasoning displayed by individuals representing high and low level of understanding of MOODLE with the computer aided interactive board system. The validity of the translation was independently assessed by two observers competent in English language. We analyzed our data as a balanced figure in a percentage of application. For statistical analysis, we transformed all our data using the basic statistical analysis package

III. RESULTS AND DISCUSSION

In this study we used a questionnaire in order to get data for our syndicate. We forwarded questionnaires to both students and lecturers. It helped more to found most important area on usage of MOODLE. One hundred cadets representing all streams from intake 31 and 32 used as a sample for our research. Gathering data from lecturersunique because it was represented all the faculties.
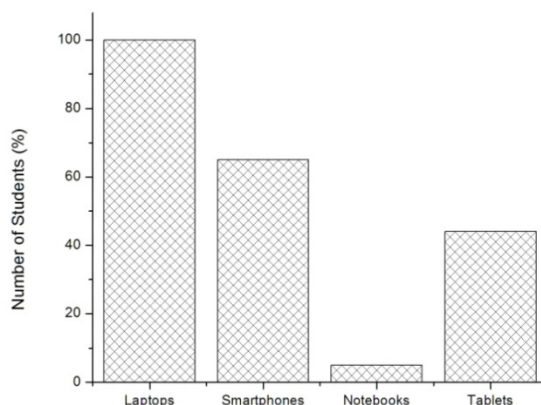
Figure 2: Usage of E-Devices by students

As per Figure2,to learn through the MOODLE every student should have e-devices to connect it. In KDU all the students have laptops as well as they have free Wi-Fi. As a defence university there are some restricted to use some e-devices. So it is an effect for the usage of MOODLE. Because of the new technology students deviating from the laptops they use smart phones, tablets, notebooks etc. but the there are some problem to use that devices in the class rooms specially this mostly effect to the cadets. So this is one fact on distance learning. It shows 100% students owns a laptop computers and less people 5% only have Notebooks beyond the computers. Basically data reflects 60% of them are having smartphones and 40% use tablets which is an extra device beyond their computers. It reflects MOODLE can be easily implement at KDU easily.
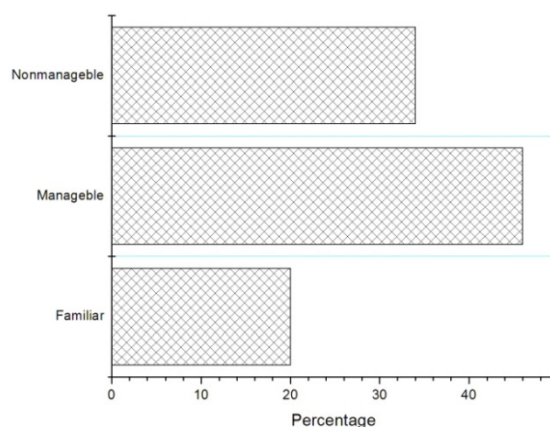

Figure 3: Awareness of students on MOODLE

Though they have laptops or any other electronic devices doesn't reflect the usage of MOODLE. According to the findings the knowledge of the students on MOODLE is very low. Out of 100 students 45% only can manage the MOODLE, difficult to use percentage is

also high as 38%. Still most of the KDU students are not familiar with the e-learning system. 34% students still don't aware on MOODLE. So this is a large amount we should conduct the awareness programmes on e-learning (Figure 3). Use of MOODLEis so difficult because 76% students didn't use MOODLE beforejoining KDU. MOODLE also like any other devices still they not use maximum in effective manner. The main reasons for that most of the students don't have their personal MOODLE account. So they don't have chance to use MOODLE, the data reflects that use of MOODLE is only 50%
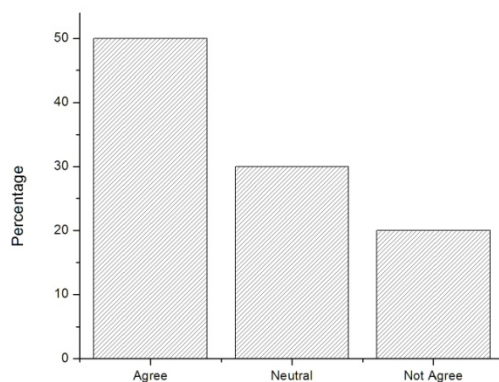

Figure 4: MOODLE enhancement for learning

As per our questionnaire 50% of students agreed that MOODLE has enhanced their learning capabilities because they can explore more from the internet. From the students' side they have good view on e-learning (Figure 4).
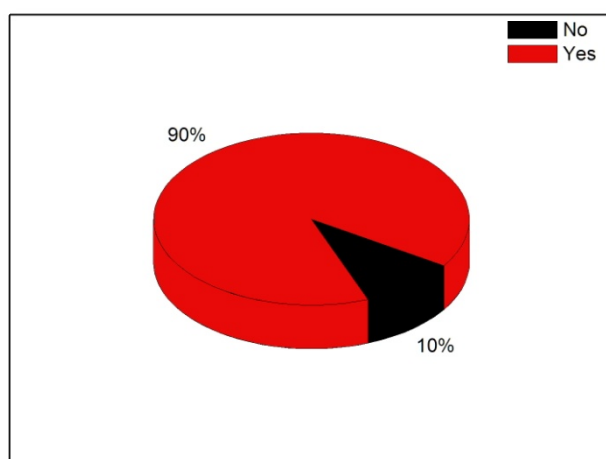

Figure 5: MOODLE contribution for successful academic life

According to the Figure 5; 90% lectures said MOODLE is help to them and students. MOODLE use as open source software for the learning purpose in KDU. Because of MOODLE students can learn more. They can share their knowledge among them. As well as

MOODLE helps to lecturers also. They can distribute notes assignments etc. through the MOODLE. So MOODLE help for the successful academic life.
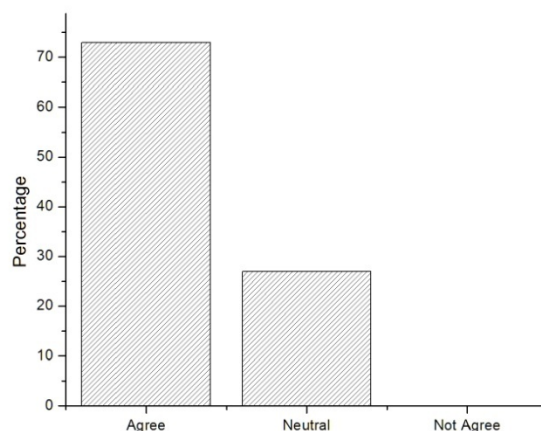

Figure 6: Help of students' extra knowledge to conduct lectures

Today most of the students refer the internet for their additional knowledge. But most of them are doing that after the lectures. They take basic knowledge from lecturer and refer the internet. As per our research we found that. If students have refer about the lecture before begin it's a very big support for the lecturer. Then lecture can explain basic things in few minutes. So lecturers can allocate more time for the hard areasand percentage of agree is 70%(Figure 6).
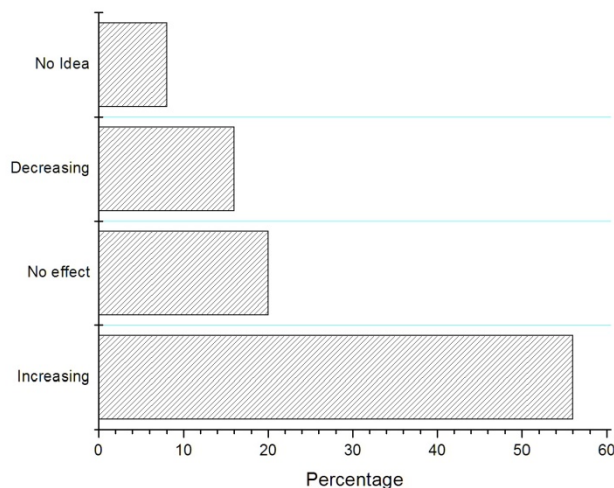

Figure 7: Relationship between lecturers and students because of distance learning

Today there is a big argument on the relationship between lectures and students because of e-learning systems. Some are argue that it increasing and others argue its decreasing. But it depends on the attitude of the students. Most of the lectures agreed that because of e-learning

the relationship is increasing because in the modern world students like to work with the new technology so from the e-learning they keep a good relationship between lecturers (Figure 7).

IV. CONCLUSION

In our study, two aspects contribute strongly to learning achievements and course satisfaction: students' achievement goals and the instructor. Students who considered gains in competencies as especially important, experienced higher achievements. Furthermore, the results of our study emphasize the instructor's expertise and role as a counselor and facilitator in learning. The instructor does not become less important in e-learning. On the contrary, students experience the instructor's support and expertise as especially important for the acquisition of knowledge, skills, and competences and for course satisfaction. Other than these variables, only a few others contribute to learning achievements or satisfaction: students' motivation, opportunities for self-regulated and collaborative learning, and the clarity of the course structure. Instructors need a high degree of didactic expertise in the implementation of an online course. Yet, not all instructors are sufficiently skilled in the implementation of e-learning as indicated by students' assessments. Until recently, however, only a few universities in Austria offer continuing education and training for e-learning instructors (Narciss, Proske et al. 2007). The results of our study stress the importance of such further training.In addition to that (Reis 1998) describes a project where courses are collaboratively developed by faculty staff, industry experts and students. This type of effort in a developing country like Sri Lanka would increase the industrial applicability of learning material as well as helping the academics currency up to date. The industry will also gain from the state of the art research carried out by academics (Bermejo 2005) studies student centered learning paradigm in learning high order skills. Here the importance of co-operative learning was discouraged. In the research explained by this paper quality was measured at a minimum level. This can be further developed using a method similar to which is explained in (Dinevski *et al.* 2010).

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APPENDICES

QUESTIONNAIRE FOR STUDENTS ON MOODLE

Please put ✓ mark in front of your stream.

☐ MBBS   ☐ ENG   ☐ LLB   ☐ MTS   ☐ SS   ☐ LG

01. Are you familiar of learning with MOODLE?

☐ Fully familiar   ☐ Manageable   ☐ Not familiar

02. Have you used MOODLE before join to the KDU?

☐ Yes   ☐ No

03. Do you use MOODLE at KDU?

☐ Yes   ☐ No

04. Is it effective open source software for learning?

☐ Yes   ☐ No   ☐ No idea

05. Are you agree that use of MOODLE effective for learning?

☐ Strongly agree   ☐ Agree   ☐ Not agree   ☐ Strongly not agree

06. How many times do you use the MOODLE per lecture?

☐ Always   ☐ Sometimes   ☐ Never

07. Are you satisfied with the information on MOODLE?
☐ Yes   ☐ No

08. Do you agree that learning with MOODLE enhanced your learning capability?

☐ Strongly agree   ☐ Agree   ☐ Neutral   ☐ Not agree   ☐ Strongly not agree

09. Anything you need to suggest to improve the MOODLE in KDU?

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QUESTIONNAIRE FOR LECTURERS ON MOODLE

Dear sir/madam,

Please be kind enough to fill this questionnaire in order to derive important findings for our research.

Please put ✓ in front of your answer.

01. Do you think MOODLE help to undergraduate for successful learning?

    ☐ Yes   ☐ No

02. "It is easy to conduct a lecture if students have learnt something on subject matter from the internet" do you agree?

    ☐ Yes   ☐ Neutral   ☐ No

03. Because of e-learning the relationship between lecturer and students is

    ☐ Increasing   ☐ Not an effect   ☐ Decreasing

04. Do you have any suggestion to enhance the productivity of MOODLE in KDU?

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