Engaging Students in Group Based learning through e-learning techniques in Higher Education System

Authors
Sivakumar Venkataraman[1], Subitha Sivakumar[2]
[1]Head of Department, NIIT Programmes, Botho University, Gaborone, Botswana
Email: *Sivakumar.venkataraman@bothouniversity.ac.bw*
[2]Head of Department, Department of Software Engineering, Botho University, Gaborone, Botswana
Email: *Subitha.sivakumar@bothouniversity.ac.bw*

ABSTRACT
Learning styles are growing fast as the technology growth in the world. New techniques are forthcoming within the higher education system to get better the student's presentation, tutors philosophy and the institution enlargement. ICT the Information and Communication Technology innovates the new technologies to conversing the information and knowledge to having a different transform for teachers to teach and for students to learn. This paper is mainly focused on a study to determine the impact of student learning based on group-based learning and the importance of this methodology. The author describes to engage the student's within groups through e-learning techniques to observe how the technique helps learners in learning a module or subject. Number of surveys is conducted among the students and the staff members concerning the impact of Group-Based learning and e-Learning.
Keywords*: Learning styles, Information and Communication Technology, Group-Based learning, e-Learning.*

INTRODUCTION

In the past few years, the Information and Communication Technology and, in mainly, the e-learning captured a major role in higher education system. Mostly students are using the content from the e-learning tool or having the content for distance learning. But the students are not fully participating in reading the content or not taking effect to understand the content.

Group based learning is also becoming a very big success of learning among the students in the class room, where the students are grouped into small group and let them to discuss among themselves to understand the concept or to solve the problem statement. By doing this, the student is made to interest in learning and also motivates them in involving in group activities.

This article intends the authors to investigate the impact of group based learning in e-learning or distance learning. Survey will be conducted among the students and instructs by using the questionnaire. The data will be examined and will product the statement to recommend the group based learning in e-learning is must or not.

Objectives of the Study

- To investigate the instructors, whether the teaching is useful for learnersthrough e-learning and distance learning
- To investigate the instructors, whether the learning is useful for students in the course of e-learning and distance learning
- To carry out a comparative study at different level of Module leaders, teachers

and students involved in e-Learning or Distance Learning

- Impact of implementing the group based learning in e-learning and distance learning

Computer based – e-Learning

E-Learning means it's an online tools used for Virtual Learning Environment to release the delivery of the content for an educational institutions. (Ma, et al., 2008) says "E-Learning is an ideal learning environment using modern means of information technology, through the effective integration of information technology and the curriculum to achieve, a new learning style which can fully reflect the main role of the students to thoroughly reform the traditional teaching structure and the essence of education, to train large numbers of high quality personnel".

E-learning is a tool used to transfer the delivery, teaching or programs by means of electronic devices like computer, mobile phone, i-pads, tablets etc., In another words the institutions using e-learning courses will enlarge and enhance their combination of offering courses.

E-Learning in Higher Education

(Shopova, 2012)says "E-Learning became an important instrument in the new Higher Educational Environment in the digital age which creates student-centered learning and educational practice, offering new more flexible learning methods". Focusing on the real difficulty of ICT learning process should be the major priority of the institutions. Here e-learning plays a major role to introduce the change of learning and teaching in higher education system.

Impact of e-learning in Higher education

The impact of e-learning in higher education falls on teaching, learning and institutions. E-learning mostly having the positive impact among learners to have an independent learning, working activity,

organizing the effort. (Sarah, et al., 2006) experiences "that learners were more effective at working independently as a result of e-learning, and a similar proportion said that learners were better able to work at their own pace, and contact staff with queries".

Group-Based Learning

Group-Based Learning is student-centered approach to give confidence among learners to work together and cooperate with everyone. (Neo, 2005)says "Students work and cooperate among themselves, helping each other to achieve the group goal, and receive a group performance score. Students learn content through group activities where they interact with each other, exchange information and knowledge, and work as a team to achieve the learning goals".

Students work together and hold the most important skills which are highly needed with their employment. (Tribe, 1994) articulates that "oral communication; active listening; group leadership; the ability to examine assumptions; and the ability to tolerate ambiguities. All of these skills are highly valued in employment".

Why Group-Based Learning in e-learning

Group-Based learning mainly focuses on the two main features like skills gaining and educational aims, those students' wants to achieve. (Harvard, et al., 2008)points out "selecting an appropriate delivery format becomes even more pronounced when the students are engaged online in a collaborative learning environment that requires a real-time interchange of ideas". Designing a learning environment should include to have intend for the learning activity and also the delivery layout. (Serena, 2008)observations this "approach has become an increasingly valuable methodology in higher education, particularly in online courses, where the academic and social interaction of the group can enrich a learning process that lacks a face-to-face component".

(MacIntyre, et al., 2007) demonstrates that "electronic form can be treated like a living document, to be shared between group members and sent to the tutor at various stages during the exercise with questions and reflections and for comment". (Pei-Chen, et al., 2008) concludes from his research as "The groups formed by our method with interaction monitor performed better in all measures such as satisfaction level, system usage, rate of successful interaction, and interaction content".

CONCEPTUAL FRAMEWORK FOR GROUP BASED LEARNING IN E-LEARNING

The education system has introduced many new learning tools and approaches to learn through e-learning for students, but still not achieved the learning as to the exact combination. Figure 1 shows the recommended approach by the authors, where to obtain the learning outcomes can be achieved.

The new approach basically contains three parts like students, teachers and technology. Students are convened to groups for learning the concept, teachers are going to monitor the learning process and the e-learning technologies are used to teach and learn the concept like Discussion group, Chat, e-mails, Groups, Wiki's, virtual classroom, Blog, Forms, Podcast and conference calls.
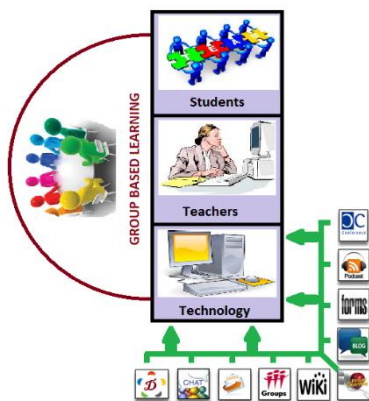

Figure:1 New Group Based Learning approach

Teacher will create groups among the students for a module or course in e-learning tool. Course content will be downloaded by the students and the student will study the materials. Students can post their queries through discussion, e-mail, forms or etc., Students will be in a group and will try to help each other through the available tools in e-learning. Teacher will also monitor the process among the students and also provides the necessary feedback to the students wherever necessary as shown in figure 2.
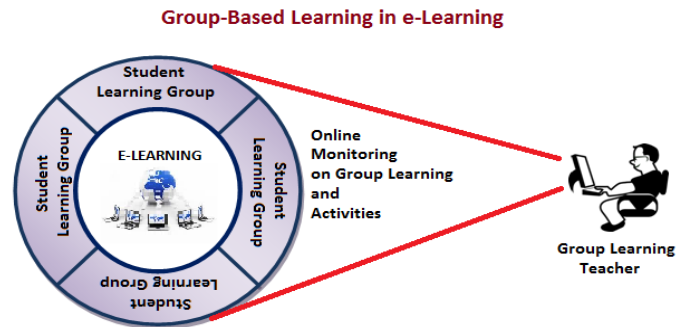

Figure 2: Group-Based Learning in e-Learning

Benefits of using Group Based learning in e-learning

Group based learning will benefit the students to work as a group, to have many types of group assignments, to gain or experience how to manage a group. For example the group can have some panel discussion, case study, action maze, role play and group projects.

METHODOLOGIES AND TOOLS

As discussed overhead, this research paper investigates the impact of engaging learners in different groups through e-learning and recommends the involvements of students and tutors.

The primary research falls in two categories

1. Students in various disciplines involved in learning through e-learning or distance learning in higher education system which includes 25% of both women and men students.
2. Teachers from various disciplines are involved through e-learning in higher education structure includes with different level of modules.

Method or analysis tool

Method or Excel tool is a tool which is used to analysis the statistical data collected through survey. The survey questionnaire contains two division focused on 'e-learning important among student's with 28 questions and 'Group based learning through e-learning with 11 questions'.

Findings from first Questionnaire survey

First part of Survey is focused on 5 areas like E-Learning Tool, E-Learning Content, Assessments, Important of E-learning in Institutions, e-learning VS traditional learning and shown in Figure 3.

Question Numbers	Excellent	Good	Satisfactory	Average	Poor	Questionnaire Areas
1	9	9	2			
2	2	13	5			
3	2	5	10	3		
4	1	3	9	7		Questions Based on E-Learning Tool
5	1	11	7	1		
6	4	10	5	1		
7		7	8	5		
8	3	11	6			
9	5	11	4			
10	5	11	3	1		Questions Based on Learning Content in e-learning
11	2	7	11			
12	2	5	13			
13	1	8	10	1		
14	3	8	9			
15	1	8	11			
16	2	8	7	3		Questions Based on Assessments in e-learning
17	2	6	10	2		
18	2	7	10	1		
19	1	10	9			
20	3	4	9	4		
21		8	9	3		E-Learning VS Traditional Classroom
22	2	6	11	1		
23	1	10	9			
24	5	6	9			
25	4	8	6	2		Importance of E-Learning in Institutions
26	4	6	9	1		
27	3	9	8			
28	4	8	6	2		

Figure 3: First Questionnaire Survey Data

**Findings from second questionnaire survey**

Second part of survey focused on how and why the group based learning in e-learning is important and survey result shown in Figure 4.

Question Numbers	Excellent	Good	Satisfactory	Average	Poor	Questionnaire Areas
1	4	12	4			
2	3	12	4	1		
3	2	11	7			
4	5	10	5			
5	2	12	5	1		
6	2	6	10	2		Questionnaire for Group-based Learning in e-learning
7	2	11	7			
8	3	6	11			
9	3	14	3			
10	1	8	11			
11	2	12	3	3		

Figure 4: Second Questionnaire Survey Data

Measuring Success

Figure 5 graph shows the analysis of the data from the information and the first graph shows good values and Satisfactory values are ranging high, which shows most of teachers are recommending e-learning. From the second graph, good values are ranging high, which shows the students are interested in group-based learning.
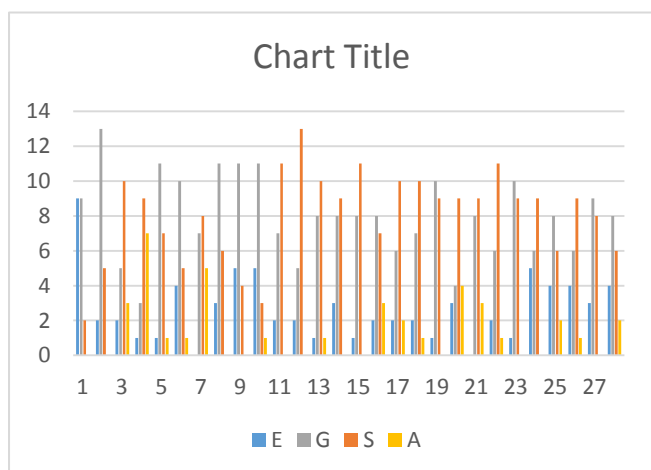
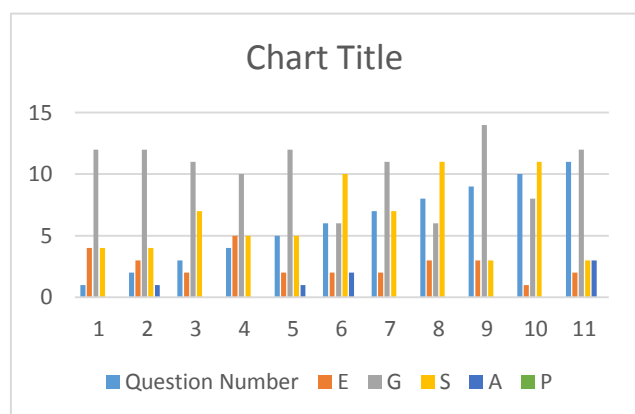**Graph Based on First Survey**

Graph Based on Second Survey

Figure 5: Graph based on data collection

Based on the data analysis from the two graphs shows

➤ Teaching through e-learning for learners is good and also materials are easy to navigate in e-learning, but the students are not showing the interest in participating or using the e-learning tool

➤ Contents in the e-learning tools is good, but it should be outfitted for different types of learners in groups and also facilitates should update efficiently.

➤ Online and offline activities are integrated during the instruction period of the course is only satisfactory.

➤ Students assessments in e-learning shows only satisfactory, because of the pre and post assessments levels of learning

➤ Learner's understandability through e-learning is satisfactory, but not good or excellent.

➤ Students are also not showing interest in using e-learning rather than traditional teaching, because of not having different learning style content to motivate the students, assessment are not properly designed for students based on their levels, to test the understand

CHALLENGES

To implement this system has some challenges like

• Tutor has to spend time on monitoring the process among the students

• Students have to be assigned in proper group, to have a smooth coordination.

• Students should participate actively inside the groups to achieve the goal

• Difficult to access the individual performance

CONCLUSION

This approach of group based learning through e-learning has straighten a good feedback from the students and teachers. This group based learning will overcome the student's bashfulness and motivates them to socialize with others.

This approach creates a triangle link between the students, teachers and technology to achieve the viable and productive learning platform.

Authors concludes and recommends that the group based learning in e-learning is the best way and useful for delivering the content through e-learning for the learning to achieve their learning outcome.

REFERENCES

1. Harvard, B., Du, J. & Xu, J., 2008. Online collaborative learning and communication media. Journal of Interactive Learning Research, Volume 1, pp. 37-50.

2. Ma, X., Wang, R. & Liang, J., 2008. Towards E-Learning in Higher Education in Libya. In Proceedings of the Seventh International Conference on Web-based Learning, Issue College of Computer and Information Engineering, Tianjin Normal University, China., p. 54.

3. Neo, M., 2005. Engaging Students in Group-based Co-operative Learning- A Malaysian. Educational Technology & Society, pp. 220-232.

4. P.-C. S., H. K. C., T.-C. L. & F.-S. W., 2008. A design to promote group learning in e-learning: Experiences from the field. ELSEVIER, Issue Computers and Education, pp. 661-667.

5. Sarah, G., Tami, M., Matthew, W. & Peter, R., 2006. Impact of e-learning in Further Education: Survey of Scale and Breadth, Nottingham: DfES Publications.

6. Serena, 2008. Assessing Online Team-Based Learning, s.l.: EDUCAUSE .

7. Shopova, T., 2012. E-Learning in Higher Educational Environment. Italy, International Conference The Future of Education.

8. T. M. S., MacIntyre, W. R., Galea, V. J. & Steel, C. H., 2007. Enhancing Problem-Based Learning Designs with a Single E-Learning Scaffolding Tool: Two case studies using Challenge FRAP. Interactive Learning Environments, 15(Routledge Taylor & Francis Group), pp. 77-91.

9. Tribe, M. R., 1994. An Overview from Higher Education. In: Group-based Learning in Higher Education. London: Kogan Page, pp. 25-31.