International Journal of Science Technology and Management
Vol. No.6, Issue No. 09, September 2017
www.ijstm.com
ISSN (O) 2394 - 1537
ISSN (P) 2394 - 1529

lSMART LEARNING ENVIRONMENTS AN INNOVATIVE NEXT GENERATION EDUCATION TREND A CASE STUDY OF MACRO LEARNING

Abdulghader.A.Ahmed[1], Esmaeil.M.Albakoosh[2], Hadya.S.Hawedi[3]

[1]*Department of Computer, Faculty of Education, University Bani Waleed ,Baniwalid-Libya.*

[2]*Department of Computer, Faculty of Education, University Bani Waleed ,Baniwalid-Libya.*

[3]*Department of Computer, Faculty of Information Technology, Al Asmarya University. Zliten - Libya*

ABSTRACT

The growth of Information and Communication technologies(ICT) have introduced a rapid growth in learners as well as trainers perspective. Macro learning focuses on flexibility of the students and the teacher and freedom of learning determines and increases the interest among the whole Smart learning environments. This study on macro learning is defined as conveyed, sustenance and heightened through the use of digital technologies and media. Macro learning has been promoted as being more effective, suitable and expanding opportunities for life-long learning .The best advantage of macro learning over traditional learning is "anytime and anywhere learning system". Low cost, higher output, wider reach ability, holistic and shared knowledge resource transforms macro learning to the next level. The paper analyses the pros and cons of macro learning along with this challenges and limitations

Keywords: E-learning, user, adapted learning, macrlearning,

I. INTRODUCTION

The integration of Information and communication technologies (ICT) as well as the Internet have contributed immensely to educational changes with flexible, open and more electronically distributed learner-controlled forms of learning (Bossu, Smyth & Stein, 2007). Its widespread and rapid growing significance could transform the educational sectors and influences academic performance. E-learning created new learning/teaching environments system with pedagogical, technological and organizational components focusing on ideal three components to successfully implementation and create balance (Jochems, Merriënboer&Koper, 2004; Garrison and Anderson, 2003). Unique

Strategies to integrate student populations differs online learning across institutions (Hiltz 1993 &Aliva et al. 1997) , and national boundaries (Jarvenpaa&Leidner, 1999 and Yoo et al., 2002).

Motivation among student to activate their respective career goal is the main component of the learning environment. Motivation can be as intrinsic and extrinsic however, both form of motivation in learning is very important in students' engagement in the learning experiences. Intrinsic motivation is refers to individual supportive interest, self-requirement, self-determination, self-regulation as well as the autonomy of learning

ISSN (O) 2394 - 1537
ISSN (P) 2394 - 1529

while extrinsic motivation is the external factors that stimulate learners such as behaviours of teachers, learning topics, learning-teaching strategies, teaching-learning process, interaction among students and teachers. Report on motivational perspectives to understand

behaviour predict the acceptance of technology. Intrinsic and extrinsic motivation have been found to be key drivers of behavioural intention (Vallerand 1997 &Venkatesh 1999). Woldkowski defined intrinsic motivation as an evocation, an energy called forth by circumstances that connect with what is culturally significant to the person. Intrinsic motivation is built in learning theories and is used as a constructive measure for user perceptions of technologies (Woldkowski 1993 &Venkatesh 2003). Extrinsic motivation encourages students to commit themselves to instructional goals and however; increases student's achievement earning them reasonable grade or degree. Motivation is a variable that affects student's learning. Students in the virtual learning environment need external motivation in order to stimulate and to support their participation in virtual learning environment. Deci and Ryan (1985) defined extrinsic motivation as the performing of behaviour to achieve a specific reward. From student's perspective, extrinsic motivation on learning may include and not limited to higher grade in exams, awards as well as in prizes winning. Extrinsic motivation could be seen as a factor that influences learning and partly determinant factor to student grade. Rovai's (2001) reported the need for learning communities and describe four essential elements of classroom community such as spirit, trust, interaction and learning. He stressed that spirit implies the creation of group identity couple with the feeling of belonging to a specific group. Trust he added, is established when group members give honest feedback to others and expect to receive similar feedback. Abundance of research suggests the importance of participant interaction in online learning (Arbaugh 2004; Brower 2003; Shea et at. 2004 & Swan 2003). Mutual interaction exists when students benefit from each members of the group. Students learn when their respective group shares valuable ideas among themselves. However, spirit and trust could pose some definitional and operational challenges such that interaction and learning becomes relatively direct. Participating strategies increases as learning community recognizes the value of interaction and learning online (William Wresch J.B. Arbaugh, & Michael Rebstock 2005). The nature of participant interaction influences and partly determines the level of success in online environments. In contrary, little attention has been paid to examine the nature of interaction across large sample of participants from different online environments. However, this could possibly be as a result of newness of the online learning and the previous online settings.

II. MACRO-LEARNING

While building trust, relationships are constrained by the distances that prevent face-to-face meetings and complicated by cultural differences. Kim and Bonk's (2002) studied participation variables among students in Finland, South Korea, and the US and concluded that the range of responses can be seen in students with respect to particular participation practices and culture. The study concludes that Finnish students were more likely to compose group email responses, and more likely to post summaries of comments. It has been reported that American students participated in email discussions more than their Finnish peers, a result explained by the authors as Finns tend to keep silent and not to speak too much, whereas silence is not habitual with most Americans (Livonen, Parma, Sonnewald& Poole-Kober 1998). Other study asserted that the interactive learning style typical of current classroom conferencing software such as blackboard is most welcomed by peer-oriented

ISSN (O) 2394 - 1537
ISSN (P) 2394 - 1529

learners such as those in the U.S. it was found Asian students relies heavily on direction from their teachers, even in an online environment Liang & McQueen 1993). However, participation rates for Asian students were influenced by faculty involvement, while American students sought regular involvement with respect to their peers. These studies confirm that participation behaviours vary with culture and peers.

Study by Arbaugh et al. (2004) reveals that participation and interaction in distance education formats measures student perceptions of interaction as well as participation. Students can however, underestimate their actual level of participation. Such estimation need not to be the only source of data for participation studies. Online courses could provide archival records of student and instructor participation during course period together with track participation by individuals and groups over the course. Study on the trends by Andrusyszyn et al. (2000) shows those changes in participation rates exist as students grow more accustomed to the technology and task assignments.

III. MACRO-LEARNING COMMUNITY CULTURE

Four essential elements of classroom community were described by Rovai (2000) such as spirit, trust, interaction, and learning. His observations were supported by the importance of trust relationships described by Jarvenpaa et al. (1998), Maznevski et al. (2000) and Leidner (1999).It has been suggested that online relationships may not be as effective as face-to-face meetings although there are some evidence that personal relationships may develop over time (Chidambaram1996; Desanctis et al.1999 &Jarvenpaa 1999).

The development of those relationships is constrained further with deadline like end of a course. However, need for efficient communication may take precedence over more relational-based communication. Fundamental aspect of virtual team effectiveness, the presence of personal relationships among the entire team members seems to be more difficult to establish in courses with members that are online. E-learning provides configurable infrastructure that integrates learning material, tools, and services into a single solution that creates and delivers training or educational content effectively, quickly, and economically (Zhang, Zhou, Briggs, & Nun maker 2006). In many studies, comparisons have been made between the effectiveness of online learning and face-to-face learning. Russell (1999) made an inventory of many of these media comparison studies and concluded that there is no significant difference between the average performances of learners in the case of face-to-face learning compared to learners exposed to distance learning methods. In addition, Ross and Bell (2007) added that this could be dependent on the level of learning found no significant difference in performance at lower levels of abstraction among students in the traditional setting when compared to online students, students in the traditional setting outperformed online students with respect to higher order learning through analysis and synthesizing information. Internet-based learning provides opportunities for learners to chosen time and location besides; it allows participants to interact with each other with wide range of online resources (Xu& Wang 2006). Based on the nature of materials and interaction with others, online virtual spaces designed for education as well as for training can be either for knowledge construction and group collaboration.

Knowledge construction encompasses objectivist and constructivist strategy while collaboration is grouped as individual or group (Benbunan-Fich&Arbaugh 2006). Collaborative activities allow learners greater opportunities for increased social presence and a greater sense of online community with positive online course outcomes (Gunawardena&Zittle 1997). The combination of knowledge construction with the presence of group

ISSN (O) 2394 - 1537
ISSN (P) 2394 - 1529

collaboration describes four possible web-based learning environments transfer individual, group and constructs individual and group. Besides, anxiety and uncertainty could be reduced as learners communicate with their colleagues (Hiltz et al. 2002). It can be surmised that the participant interaction variables as well as performance depends on the nature of the online environment.

IV. SECURITY IN MACRO-LEARNING

E-learning delivers examinations via a web browser. However, it is important to secure the browser as to prevent student access to the internet, the local file system as well as email. It is important that students entering the E-learning system download and run small windows. This will disable system keys (e.g., ctrl-alt-del, alt-tab, etc.), installs a keyboard hook to trap browser hot-keys which could be used to open new browser windows, launches Internet Explorer in kiosk mode with no address bar, toolbars, or buttons visible or available at the E-learning login page. After these strategies have been implemented, candidates can navigate and exit the browser by using the interface provided by E-learning. Similar strategy is available using commercial secure browsers such as Respondus Lock down Browser (Respondus 2007). However; once logged, they will be unable to re-login without being provided with additional invigilator password. Therefore, they cannot leave the invigilated environment and re-access the examination.

V. BENEFITS ASSOCIATE WITH ONLINE LEARNING

An effective online learning environment promotes interactivity and collaboration in the learning process. Assessing students' progress in an online environment improves quality and success in Web courses (Hazari et al. 1999). To achieve pedagogical improvements through online learning for teaching and promoting learning, instructors should empower themselves through the use of assessment tools that monitor student's progress (Hazari et al. 1999). The learner-cantered strategy helps students develop critical thinking skills and allows instructors to assess students' progress (Odin 1997).

Video serves as a sophisticated medium in e-learning because; it is capable of presenting information in an attractive manner. Studies by Wieling (2010) revealed the effectiveness of instructional video on learning outcomes However, the instructional video used in early studies was primarily either broadcasted through TV programs and on CD-ROM. Recent advances in multimedia and communication technologies have resulted in improved learning systems through the use of video components for instruction. Carnegie Mellon University just-in-time lecture project observed that video based education and training systems support the same level of teaching and learning effectiveness as face-to-face instruction (Zhang et al., 2006). Online video recordings of lectures allow students to view lectures they have missed or to re-view difficult lectures to improve understanding. Chiu, Lee, and Yang (2006) investigated the viewing behavior of students in a Chinese grammar course when online post class lecture videos were made available. They divided students in two groups based on their viewing activity (top 50% and bottom 50%) and found no difference in course grades between the two groups corrected for their GPA. Additionally, they found that students had a preference for recordings of their own lectures as compared to lectures of a parallel group. Ross and Bell (2007) on the other compared the performance of students in a quality management course with access to face-to-face lectures as well as the online lecture video recordings to students who only had access to the online lecture recordings. Using a

ISSN (O) 2394 - 1537
ISSN (P) 2394 - 1529

regression analysis they found that the course score of students in the first group with access to the face-to-face lectures was predicted.

positively by their GPA, negatively by their age, positively by their homework performance and negatively by the number of lectures they viewed online. For students who did not have access to the face-to-face lectures, the course score was positively predicted by their GPA, negatively by their age, positively by their homework performance and positively by the number of lectures they viewed online. Perceived learning outcome is the observed results in connection with the use of learning tools. Perceived learning outcome was measured with performance improvement, grades benefit; and meeting learning needs. Previous studies shows that perceived learning outcomes and satisfaction are related to changes in the traditional instructor's role in an online learning environment. The recent advances in computer networking technologies and the World Wide Web (Web) break the physical and temporal barriers of access to education. The online learning environment frees students from the constraints of time and place, and it can be made universally available. As online courses improves in educational institutions, assessing students' learning in an online environment is one of the challenges faced by educators. The Exam Online is currently being improved on the basis of the two live pilots, for future work however, Inclusion of differentiated mark schemes for individual questions, integrated into the marking interface and Offline marking supports personal computers and laptops with later synchronization however; the main system are helpful. Other useful modifications include the integration with back end system for outputting results. Integration with a free-text computerized marking system provides automatic marking of short answer questions as in Intelligent Assessment Technologies (2007). Support for drawing diagrams when answering questions, potentially on-screen (Thomas 2004) with options for hand written and paper based submission of calculation steps. In addition, simple question and answer measures into the marking process enhances accessibility for sight impaired students areas requiring modification.

VI. LIMITATIONS

The flexibility of asynchronous distance education is valued since students and lecturers need not be online at the same moment however, flexibility is advantageous in an international context where time zones necessarily distribute student's responses. Research examining time intervals for discussion responses could be helpful in this context. Studies by Liang et al. (1999) described cultural differences in participation patterns. To account for the differing cultural differences, the learning experience should develop model of online learning effectiveness based on course software, learning theories, course content, and participant characteristics as well as cultural or institutional characteristics Hiltz &Arbaugh 2003).

Difficulties with establishing trust relationships online as well as variables cultural components of participation behaviours constrain the initiation of international online courses. Online programs provide additional international learning opportunities to their students. Macfayden& Hawkes (2002) tracked six online international education projects and found general satisfaction with the efforts. Troutman (1991) reported that students who feel secure in their own personal use of computers also feel positive toward the use of computers in the schools. Furst et al. (2004) highlighted that challenges such as personal relationship, adding new members restart the team development process which could disrupt the effort expended by the original team members to develop a team identity and resolve conflicts early in their development. A number of studies of online learning

ISSN (O) 2394 - 1537
ISSN (P) 2394 - 1529

reported that participation patterns in online courses decline as the course progresses (Hiltz& Wellman 1997; Berger 1999; and Arbaugh 2000). Active participation through

The program period requires extensive effort. In addition, it was pointed out that increase in the class

size makes it more difficult to develop a sense of online community While most studies conducted at American institutions show strong relationship between learner and instructor, learners interaction and online learning outcomes (Arbaugh 2005), the perceptions and expectations of the German students suggest that the role of participant interaction may not be as strong in German institutions suggesting that a particular need for multi-national studies of the Relationship between participant interaction and learning outcomes in online courses (Arbaugh&Hiltz 2003).

Instructors are often challenged with designing online discussion and assignments that encourage students to evaluate information, assimilate information as well as making comparisons and connections (Odin 1997). An assessment tool that monitors student's progress enhances the learning process however; assessment should be a continuous in an online learning environment. I have been asserted that an assessment tool must draw the instructor and students into assessment procedures (Prime 1998). Miller et al. (1998) added that for assessment to be useful as part of a learning process, it must be visible and related to the learning goals with assigned grades or marks for the data collected To measure progress . Educational material and online learning has challenged the effectiveness of the traditional educational approach in universities and other education institutions. Consequentially, these institutions struggle to restructure their strategies in providing education and delivering knowledge. There are great expectations surrounding the development and use of online courses owing to its versatility, flexibility and personalization potential. A strong supportive program office responsible for student advising, faculty support, administrative and financial support, technical support, and orientation of new students however, comprehensive guide is essential for online learning environment Online students should have access to the learning resources available to on campus students and must also be able to obtain course materials from either their university's online bookstore or from Internet booksellers.

VII. CONCLUSIONS

E-learning electronically support learning and teaching process through computer network that enables transfer of skills and knowledge. E-learning system improves learner's knowledge by providing on-line access to integrated information, advice, and learning experiences. E-learning system has been developed to deliver lectures and summative essay style examinations through appropriate setting. The system supports existing examination processes by providing better and more comprehensive examination experience for an increasingly digital cohort and supports efficient blind marking process. Initial pilots confirmed that the system provides effective and efficient means of deploying traditional essay style examinations on-screen and that it as well improves in many ways upon the existing paper-based process. The system is expected to undergo further development and roll-out as it complexity varies with tradition and cultural.

ISSN (O) 2394 - 1537
ISSN (P) 2394 - 1529

VIII. ACKNOWLEDGEMENTS

The research was funded by Ministry of Higher & Scientific Research, Ministry of Education ،College of Education, Bani Waleed University, Libya and Faculty of Information Technology, Al Asmarya University. Zliten - Libya.

REFERENCES

[1.] Andrusyszyn et al., 2000 M. Andrusyszyn A. Moen, C. Iwasiw, T. Ostbye, L.Davie and T. Stovring et al., Evaluation of electronic collaborative international graduate nursing education: The Canada Norway experience, Journal of Distance Education 115:. 1–15.

[2.] Arbaugh, 2004 J.B. Arbaugh, Learning to learn online: A study of perceptual changes Between multiple online course experiences, The Internet and Higher Education 7 (3), pp. 169-181.

[3.] Arbaugh, in press (2005) J.B. Arbaugh, Is there an optimal design for online MBA courses, Academy of Management Learning and Education 4 (2).

[4.] Deci and Ryan, 1985 E.L. Deci and R.M.Ryan, Intrinsic motivation and self determination in Furst et al., 2004 S.A. Furst, M. Reeves, B. Rosen and R.S. Blackburn, Managing the life cycle of

[5.] Hazari, S. and Schnorr, D., 1999. THE Journal 26, p. 11 (June);

[6.] http://www.thejournal.com/magaine/current/feat01.html) Retrieved July 22, 1999.

[7.] Hill, R.B., 1997. The design of an instrument to assess problem solving activities. Journal of Technology Education 9, p. 1; http://borg.lib.vt.edu/ejournals/J E/jte-v9n1/hill.html)

[8.] Hiltz, 1993 S.R. Hiltz, Correlates of learning in a virtual classroom, International Journal of ManMachine Studies 39:. 71-98.

[9.] Jarvenpaa&Leidner, 1999 S.L. Jarvenpaa and A.E. Leidner, Communication and trust in global virtual teams, Organisation Science10: 791–815.

[10.] JarvenpaaJarvenpaa, K. Knoll and D.E. Leidner, 1998. Is anybody out there? Antecedents of trust in global virtual teams, Journal of Management Information Systems 14 (4), pp. 29–64.

[11.] Kim & Bonk, 2002 K.J. Kim and C.J. Bonk, Cross-cultural comparisons of online collaboration, Journal of Computer Mediated Communication 8: 1–32.

[12.] Jochems, W.; Merriënboer, J. V &R.Koper. (2004). Integrated e learning : implications forpedagogy, technology and organization, New York: RoutledgeFalmer.

[13.] Kaufman, D. M. (2002). Teaching and learning in higher education: Current trends, retrieved from http://www.sfu.ca/lidc/research/ka fman/LifelongLearning.html

[14.] MacFayden& Hawkes, MacFayden, L. & Hawkes, B. H. 2002. Report on a survey of current uses of ICTs in Canadian international education activities. Vancouver, BC: University of British Columbia and Canadian Bureau for International Education.

[15.] Miller, A.H., Imrie, B.W. and Cox, K.,1998. Student assessment in higher education, Kogan Page, London.Odin, J.L., 1997. ALN: Pedagogical assumptions, instructional strategies, and software solutions, University of Hawaii at Manoa, Honolulu, HI;http://www.hawaii.edu/aln/aln_te.htm) Rsetrieved September 5.