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The Impacts of Electronic Learning Techniques on Staff Performance in Sudanese Universities in Khartoum State

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ABSTRACT

The study aims to reveal the scale of the contribution of interactive E-Learning 2.0 techniques toward the improvement of the performance of the University Staff in Sudan from a viewpoint of specialist of Instructional and Informational Technology. The population of the study consisted of 41 subjects from the specialist of Instructional and Informational Technology that are Staff of the Sudanese Universities in Khartoum State and their parallels from other institutions of higher education. The researcher uses a questionnaire as a tool for data collection. Data analysis was undertaken with the SPSS. The findings show that there are no significant differences between the perceptions of the information technology specialist that works in Sudanese universities in Khartoum State and those employed in other institutions in the same State. It is recommended that the objectives of the instructional process should depend on the investment of the utmost capacities of students. Scientific contents should be connected with the suitable learning performance of the instructional Objectives. Classrooms should be equipped with interactive learning tools to enhance the students' concentration.

Keywords: Interactive e-Learning, Instructional Design, Sudan

INTRODUCTION

Universities have a leading role in the process of building scientific and cognitive and intellectual development of societies. Recently, the need for the use of information to enhance teaching and learning has gained consistent interest. E-learning is the most important applications of instructional and information technology (Kamtor, 2010). The cost and the large number of students who cannot attend Campus Based Courses have made e-learning techniques vital aspect of University development (Willis, 2000). Since 2001, different e-learning techniques have emerged including the Web 2.0 with its integrated features including the new techniques which require us to adopt new methods of e-learning (Downes, 2005). Students and teachers acquainted with the E. Learning 2.0 prefer to use the audio-visual e-learning system to the browsing of pages online (Essex, 2007; Al -Hasnawi, 2009). Zeitoun (2005) suggests that e-learning advantages are numerous including the effectiveness and usefulness in public

instructions. The e-learning 2.0 provide opportunities for students to interact with contents; give students the opportunity to select what they want to learn; and, provide the possibility of interaction between teachers and students, and among the students. Downes (2007) provides the following reasons for the adoption of e-learning techniques:

- The growing role of the learner as a partner and maker of the content.
- Content synergy, its association with other elements of the content automatically, so that if the original item changes, it will change the course content, by depending on techniques such as RSS (supply the information synchronously).
- Transformation of the management systems Instructional content, to the open systems and multi-source systems while achieving consensus among themselves, so Virtual Learning Environment (VLE) has become the personal learning environments (PLE), as look as the Future Virtual Learning Environment, which depends on the integration of several systems on the Internet with one another according to the needs of users.
- Design Instruction, as a centered on learner.
- The emergence of what is known Instructional Medium on demand, which depends on the availability of multimedia elements in different forms within the Instructional content in the form which gives the learner the freedom to choose from and asked what he wants, or left it.
- The growing role of sites and social networks on the Internet, which give everyone equal opportunities in terms of the ability to publish what they would like or comment on what other colleagues published or interact with it.
- The emergence of new technologies of the Internet and entry to Instructional sites such as Blogs and Wiki and dissemination of audio files over the Web Casting.
- Reduction of the communication level among teachers and learners in exchange for communication among learners and one another.

METHODS AND MATERIALS

The study followed a descriptive and analytical method which is based on the description and analysis of data in the light of available information. The study population consisted of a specialist of instructional and information technology of those who work in universities of Sudan in Khartoum state and their parallels from other institutions of higher learning; a total of 41 individuals were selected using the stratified random sampling amounted. Out of the total subjects, 22 of them representing 54% of the total community; 12 were from the first category and 10 from the second category. The study attempted to answer the following questions:

a) Do the Interactive E-Learning 2.0 techniques increase the development of performance of university Staff members?

b) Are there any differences between the perceptions of the information technology specialist that works in Sudanese universities in Khartoum State and those employed in other institutions in the same State?

To achieve the objectives and answer the research questions, questionnaires were presented to arbitrators from the education and psychology departments in faculties of education to assess the validity the paragraphs and their relevance to the objectives of the

study. The instrument was verified for stability by using the coefficient Alpha Cranach, which shows that the value of reliability coefficient is 84%. The self validity coefficient was calculated by taking the square root of the reliability coefficient which was 92% meaning that the stability of the instrument was adequate for the study. The data were processed and analyzed by the combination of the calculation of: Arithmetic means, standard deviation, correlation coefficient and t-test .The outcome were used to "weighted grades" for each index, numbers, and scores given by the researcher for each unit of scale namely, 5, 4, 3, 2, 1 respectively; 5 being the option representing 'strongly agree and 1 representing 'strongly disagree'. The weighted degrees of the questionnaire are shown in Appendix 1 which also provides numerical answers to the research question (a).

RESULTS AND DISCUSSION

Table 1 show that the result of t- test (One sample test) for the contribution of interactive E-Learning 2.0 technologies to the development of the performances of the university staff members

Test – Value = 132						
RESPONDENTS	NUMBERS	SMA	Sd	Df	t-value	Significance level
Specialist of Instructional& Informational Technology	22	201	12. 274	21	26. 28	0. 000

Table 1 shows that the perceptions of the instructional and information technology specialists about the development of good performance through e-learning within the university system using the interactive E-Learning 2.0 is statistically significant level of 95% (0.05).

This result reveals that the instructional and information technology specialists agreed that the use of the interactive E-earning 2.0 technologies would lead to the development of the good performance among the university staff. These results are consistent with the position occupied by instructional technology in the educational literature as a methodology of thinking for the development of instructional levels and problem-solving, and make the elements of educational practice operating by the highest technology to achieve the highest return possible by using devices, instructional technologies, methods and design wizards. When considering the expected role of E-learning techniques - as an integral part of the system of instructional technology - in developing the performance, the university staff should not be thinking of instructional equipment and materials only, but must be used as a systemic utilizing the integrated system to achieve the best results.

Table 2 presents the results of the analysis on the second research questions – "Are there significant differences between the averages of responses of a specialist of instructional & information technology of those who work in Sudanese universities in Khartoum State and those who work outside in other institutions of high education?

Table 2: The value of (t-test) and its statistical significance of the differences between the average scores of the respondents

RESPONDENTS	NUMBERS	SMA	Sd	Df	t-value	Significance level
Specialist of Instructional& Informational Technology in universities	12	202. 58	12. 62	20	0. 753	0. 753
Specialist of Instructional& Informational Technology in other higher education institutions.	10	198. 60	12. 13			

The results show that there are statistically significant differences between the average scores of the sample about development which can be realized in performance of the university staff member as a result of using the Interactive e-learning 2.0 techniques at the signified level of (0.05). Although there are no statistically significant differences, however, the specialist of instructional & information technology of those who work in Sudanese universities were more positive in their views; reaching mean square (202.58) compared with those who work outside in other institutions of high education who were mean square (198.60).

This can be explained on the basis that some of the respondents who work outside of universities, who have relationship with the field of instructional media and working in administrative positions and by virtue of dropping out for a period of teaching practice, probably did not realize that the development status of the system of e-learning in general and the techniques developed, including the second generation in particular, as instructional environment multi-source is not the purpose of obtaining information only, but to interact with them and achieve the greatest possible participation by the learner so as to reach the level of proficiency (Mastery Learning), as some of them still believe that e- learning is the only use of electronic devices and the Internet, and confined that the function of e-learning techniques in the presentation of information, which inevitably leads to neglect other aspects.

CONCLUSIONS

The results of the study reflected the extent of the role of E-Learning 2.0 techniques can play in developing the performance of the university staff if it had the best use, by making the educational practice is working as a system, by standardization of methods and procedures of university teaching with ways to use E-learning techniques interactive and designs instructional , so working in a complementary manner, as the development is the umbrella which all the analysis and design processes and evaluation of instructional problems under it. Perhaps this conclusion is consistent with the view of the many researchers of the role of expectancy for E. learning and techniques in the promotion and development of university instructional, and the associated change the role of the staff university through his work as an expert in the content, designer, producer, and Director of the instructional process.

The importance of identifying the necessary actions to be taken to activate the role of the administrative in institutions of higher education to aspects of organizational development and planning about the use of E. learning techniques in his university or college, and by calling for the explicit use Interactive E. learning 2.0 techniques, and to provide adequate support, as well as the need to establish the concept of interactive e-learning in the minds of staff of the faculty as a system teaching and a way to solve problems and develop levels.

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APPENDICES

Appendix 1: The "Weighted degrees" - descending arranged - for the paragraphs of the questionnaire on the scale of contribution of interactive E. Learning 2.0 technologies to develop of Performance of the University Staff members

Paragraph number	Content	Weighted degree
15	Objectives of instructional process should depend on the investment of the utmost capacities of students	4. 86
27	Scientific contents are to be connected with the suitable learning performance of the instructional Objectives.	4. 86
14	Classroom are to be converted into an Interactive learning environment that would concentrate in the student.	4. 86
28	Provision of great deal of interaction.	4. 86
5	The easy flow of propagation of teachers audio and video lessons on students´ digital devices.	4. 82
6	Reinforcement of instruction which allows the freedom of performance and achievement of the students.	4. 77
22	Change the traditional formula for the use of instructional techniques from information to complete the process teaching to information that requested by student to complete the learning.	4. 77
17	Fluency of management of electronic content and propagated periodically.	4. 77
10	Realization of learning process.	4. 77
1	Linking Staff member with informational progress and cognitive World.	4. 73
26	Support the social aspect of the instructional process, for compensation for the spatial separation between teacher and student.	4. 73
29	Increase opportunities for any student to know the results of his response and his behavior in any instructional process.	4. 73
13	Design instruction as a form "centered around student ".	4. 73
41	Transfer of instructional media from communication and transportation sources of information to the sources interaction learning.	4. 73
18	Address the problems of geographical and temporal dimension in higher education through the interactive E. Learning 2.0 techniques.	4. 73
43	Saving time and effort of university staff member.	4. 73
7	Facing the individual differences among students.	4. 73
16	Develop the quality expertise for the teachers through the web sites which they make.	4. 68
12	The ability to innovate instructional forms new in the current situation.	4. 68
44	Take advantage of the rules and information sources to meet the basic needs of instructional practice .	4. 64
21	Develop the research capacity of university staff member.	4. 64
2	Benefit from the local and global information net not to get the information, but to interact with it.	4. 64
36	Transforming the role of university staff member from the knowledge authority to the consultancy and design experience .	4. 59
34	Promote a culture of continuous training and making the university as a real work fields.	4. 59
23	providing modern rules information for each university staff member	4. 59
9	Make the university staff member is able to solve instructional problems.	4. 55
42	Increase the amount of information possessed by the student and the university staff member about the real problems in the area of his specialization and the life. .	4. 55
39	Integrity and comprehensiveness of the student experiences, through the systematic use of the E. Learning 2.0 techniques.	4. 50
37	Student participation in content..	4. 50
25	The ability to employ modern technique in the easy delivery of information	4. 50

8	Increase the uniqueness of the national experience university through increased access to the international expertise .	4. 45
4	Development of the methods demand learner of information.	4. 45
30	Enable collaborative learning in an interactive way.	4. 45
24	Easily update content to all that is new.	4. 45
11	Make the university teaching based on needs students' learning.	4. 36
31	Change the traditional formula of the university management to the management of sources knowledge and learning .	4. 36
38	Reduce the cost of instruction , by the adoption of Electronic Materials.	4. 36
35	The transfer of university teaching from teaching facts to learn the concepts in order to invest them in solving the problems.	4. 32
33	attention to the feedback Immediate.	4. 32
3	Adopt a virtual learning, by simulated reality.	4. 23
19	Into account the students styles learning .	4. 18
20	transfer the Library from the store of information containers to interactive learning resources.	4. 05
32	Make the educational practice elements, operating as a system, by adoption of the systematic approach in the analysis of this practice.	3. 82
40	Determine the outputs and outcomes required and then search for events needed to achieve these outputs.	3. 27