ISSN (Print): 0974-6846 ISSN (Online): 0974-5645

Bringing out the Effective Learning Process by Analyzing of E-Learning Methodologies

A. R. Arunachalam*

Department of Computer Science & Engineering, Bharath University, Chennai, India; ararunachalam78@gmail.com

Abstract

E-learning is a boon for the academics. It is less expensive, self-paced, faster and consistent learning tool. It can be easily accessible, updatable and manageable and it leads to increased retention and has a strong grasp on the subject. This paper proposes the effectiveness of the various methods that can be implemented in learning process through e-learning.

Keywords: Academics, Accessible, E-learning, Retention, Self-paced

1. Introduction

The E-Learning industry has undergone radical changes over the last few years. Users can learn any time they are connected to the Internet. Most communication methods involve text-based chat, while some use video conferencing. Applications of new information technology to computers provide useful teaching materials for school education, extension courses, and lifelong learning classes1. Technology, thus, changes the way in which students and teachers interact. When students use technology to identify and collect information, they no longer depend on the teacher as the source of information. Thus, the age of information and communications technology (ICT) has caused leading institutions to define the processes of information access and delivery. Schools, colleges and universities will no longer be the sole distributor of knowledge, and the learning process will now takes place without the constraints of space and time. As a matter of fact, face-to-face learning may even become a peripheral activity in the near future. Some of the major changes in the forms of the teaching-learning process in light of technological innovations are from: institutionalbased to home-base learning, fixed curricula to personal curricula, knowledge transmission to learning facilitation, front-end education to life-long/distant learning, classroom study to learning packages. E-learning provides opportunities 24/7/365 to learners who might not otherwise have a choice. This opportunity has allowed learners cost effective high quality educational choices for college credit or their individual interest. This is independent of geographical location due to the fact that the Internet provides access practically anywhere and anytime². This paper presents relevance of various e-learning methodologies in the learning process.

2. Literature Review

Various studies have been performed to understand students' learning status. Some scholars believe that online learning activity helps improve learning achievement³. The continuing development of information technology over recent years has ensured its increasingly widespread usage in many domains. Recent developments in Internet and computer technology have led to e-learning, a new pedagogy free from time and space limitations^{4–5}. People are able to remember about 20% of what they listen to (passive), 70% of what they say (active), and 90% of what they say and do(active)⁶. Several studies^{7–11} suggest that students' satisfaction and motivation are important factors in measuring the successor effectiveness of the e-learning process.

^{*}Author for correspondence

3. Methodology

To study the effectiveness of e-learning process, we conducted a survey for students with a questionnaire of closed type, which consist of various parameters which should go hand in hand in the learning process. Based on the results provided by them we can enhance e-learning methods in an effective way. So that it would be very beneficial for the student community. From these observations there are certain criteria emerges which should be given more priority. After conducting the survey we will be able to know most required dimension to improvise E-learning.

Based on our survey the following dimensions were evaluated through a questionnaire (Table 1).

4. Results and Discussion

From the survey we analyzed various dimensions as shown in Figure 1, which is very predominantly needed for the effective implementation of e-learning used in the learning process . Figure 2 shows the various phases involved in developing an effective e-learning methodology. The various phases can be incorporated for fullest efficiency. Initially we have to go on with the collection of required information followed by analyzing the collected content, then comes the designing phase which is used to design the task with various tools followed by the check for adequacy. The next important phase for developing to the optimum level is to check the applicability factor. If it is satisfied (with allowance of enhancement factor which

can be deployed with latest tools and techniques,) it can proceed for the approval of the design, leading to the final implementation phase with allowance of enhancement factor which can be deployed with latest tools and techniques, if not (applicability factor fails) go back and restart from analyzing phase.

Table 1. Questionnaire

S. No	DIMENSIONS	SA	A	DA	N
1	Is quality the prime factor	89	70	32	18
2	Good design required	118	50	18	23
3	Should the contents be relevant	156	30	12	11
4	Ease of use	101	60	31	17
5	Interactivity is must	74	70	41	24
6	Inclusion of innovative work	82	56	30	41
7	Accessibility is must	89	56	31	33
8	Designing needs creativity	90	60	12	47
9	Is Adequacy required	70	67	50	22
10	Usage of multimedia -needed?	91	52	21	45
11	Speed of display	67	64	50	28
12	Requires illustrative examples	98	74	20	17
13	Need of information security	60	58	57	34
14	User friendly	92	80	30	7
15	Currency	71	63	40	35
16	Clarity is important	99	65	14	31

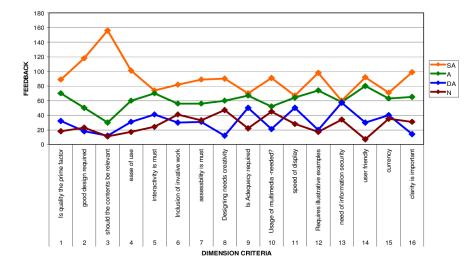


Figure 1. Dimensions of E-Learning.

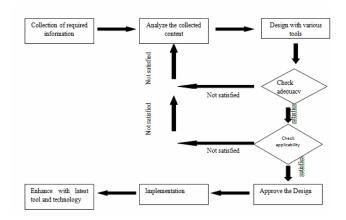


Figure 2. Phase of developing an effective E-Learning methodology.

5. Conclusion

In this paper we analyzed the various dimensions which are required in the e-learning methodology to achieve optimum reach enhancing the learning process. The parameter which has got the top priority should be given more importance for future implementations in e-learning methodologies so that it will have more reach among learning community. If we follow the same sequence as depicted in Figure 2, it will definitely end up to be a very effective e-learning methodology.

6. References

1. Bin-Shyan Jong, Member, IEEE, Te-Yi Chan, and Yu-Lung Wu," Learning Log Explorer in E-Learning Diagnosis"

- IEEE TRANSACTIONS ON EDUCATION, VOL. 50, NO. 3, AUGUST 2007
- 2. Mayur S. Desai, Jeff Hart, Thomas C. Richards, E-learning: paradigm shift in education Education, Winter, 2008
- 3. G. J. Hwang, "A test-sheet-generating algorithm for multiple assessment requirements," IEEE Trans. Educ., vol. 46, no. 3, pp. 329-337, Aug. 2003.
- 4. K. Maly, H. Abdel-Wahab, C. M. Overstreet, J. C. Wild, A. K. Gupta, A. Youssef, E. Stoica, and E. S. Al-Shaer, "Interactive distance learning over intranets," IEEE Internet Comput,, vol. 1, no. 1, pp. 60-71, .
- 5. R. Ubell, "Engineers turn to e-learning," IEEE Spectr., vol. 37, no. 10, pp. 59-63, 2000.
- 6. E. Dale, Audio-Visual Methods in Teaching. New York: Dryden.
- 7. E. M. Bures, P. C. Abrami, and C. Amundsen, "Student motivation to learn via computer conferencing," Res. High. Educ., vol. 41, no. 5, pp. 593-621, Oct. 2000.
- 8. G. Piccoli, R. Ahmad, and B. Ives, "Web-based virtual learning environments: A research framework and a preliminary assessment of effectiveness in basic it skills training," MIS Quart., vol. 25, no. 4, pp.401-426, Dec. 2001.
- 9. K. Swan, P. Shea, E. Fredericksen, A. Pickett, and W. E. Pelz, "Course design factors influencing the success of online learning," in WebNet World Conf. WWW and Internet, San Antonio, TX, 2000.
- 10. T. L. Donohue and E. H. Wong, "Achievement motivation and college satisfaction in traditional and nontraditional students," Educ., vol. 118, no. 2, pp. 237-244,
- 11. Y. Levy, "Comparing dropouts and persistence in e-learning courses," Comput. Educ., vol. 48, no. 2, pp. 185-204, Feb. 2007.