

THE IMPACT OF WEB TECHNOLOGIES ON EFFECTIVE LEARNING

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Abstract – *Web technologies breaks the barriers like classroom settings, communication & language, economic level and time limit. It also breaks the traditional learning process from teacher centered learning to student centered learning. It gives the learner a confidence to interact with educators as well as peer groups. Cooperative learning is the good benefit of web technologies. It develops the learners' broad mind from a citizen to global citizen. Worldwide resources accessibility is the main advantage of web based learning strategy. Web resources enhances learning activities such as questioning, supporting, mentoring, discussing, role playing, seeking, collecting and organizing in a flexible manner. Many countries have implement online institutions and virtual Universities to cater their human resource needs. In India the online and web learning is in a developing stage. USA, UK, Singapore, German, Japan have E learning as the main learning strategy. Without Wi-Fi campus there is no Universities in developed countries. Traditional face to face teaching is rapidly changing to online through web technologies. Even though the web technologies are developing in a fast phase in India till now Wi-Fi campus is a distance dream of many universities in India. The web technologies awareness level among the educators and students is good. But the implementation of web technologies in the educational environment is not up to the mark. The implementation is in a slower phase than the expected level. The main aim of this research is to analyses the awareness level among the educators, girls and boys students' differences about the web technologies. This research is also aims to study the implementation level in the educational environment. Many Indian universities are moving from the face to face learning to web connected learning so study about the web technologies is the very important aspect to enhance effective learning.*

Key Words: *Web technologies, student centered learning, global citizen, web resources, Wi-Fi campus, Virtual University, effective learning*

1. INTRODUCTION

Web technologies improves students' motivation, memory and retention skills and understanding capability [1]. Above all it enhances the self-expression and creativity of the learner. In the traditional class room set up a prospective learner learns new skills and behaviors through face to face teaching and learning process by a single educator. But in a web environment a learner can interact with many eminent professors, educators and even co learners [2]. Collective knowledge sharing and interactivity among the experts is the main benefit of web learning environment. Anyone can verify and check any statistical data within a single click in a web environment. Comparing the data is also possible in the web environment [3]. In the traditional teaching set up, a teacher's knowledge is transferred to students with his own ideas and ideology. But in the web environment the learning material and learning skills gets important than biased ideas. The traditional educational set ups needs more space and materials like books and papers, etc. But the web allows the learner free from time and space constraints [4]. Web blocks and drives are available free of cost to store and share millions of data in the form of web pages, photos and project works [5]. The development of cloud computing gives more flexible to retrieve worldwide data. Web technologies has the potential to grow to great extent. Web technologies has wide scope not only in educational but also in business and marketing [6]. Because of the developments in web technologies such as blogs and social sites interacting with others is further developing in a very fast manner [7]. Interacting each other is one of the main and basic activity of learning. Thus web technologies develops learning activities [8].

EFFECTIVE LEARNING

Learning can be classified into two types. They are verbal learning and motor learning. Driving skill is a form of motor learning. Classroom learning and teaching is called verbal learning [9]. Learning is a permanent change in the behavior of the learner. It includes changes in the attitudes, knowledge, experience and habits. Motor learning leads to develops new skills like swimming and driving etc. learning theorems, concepts remembering and memorizing a content is a verbal learning [10]. Effective learning can be achieved through proper training, monitoring, motivating, experimenting and practicing [11]. Effective learning can be also achieved through free environment, technical mediating (Web technology,

teleconference, eLearning, mobile learning etc.). Effective communication, good perception & attention, readiness to acquire, guidance and social and emotional needs satisfaction etc. [12].

Transfer of knowledge is very important in learning. Transfer of knowledge, skills requires not only methodology but also need additional tools [13]. Relevant, stable and meaningful knowledge transfer is important in learning [14]. Today we live in a knowledge and information society. So technology updating is the very important in learning [15]. Relevant skills should be transferred in a meaningful way for effective learning. So technology updating is the main aspects in effective learning.

TECHNOLOGY IN LEARNING

Technology can be applied in many ways in the learning process [16]. Acquiring new skills and retention of new skills are the basics of learning. Web technologies are very useful not only in acquiring new skills [17] but also it develops memory because of relevance of data and skills. Educational technologies can be used in evaluation, monitoring, transferring, storing and retrieving data etc. in the learning environment [18].

2. RESEARCH DESIGN

This research is based on the opinion of Bachelors of Computer science students and the lecturers of the computer science in an 'A' Grade college and 'B' Grade college. Care was taken when the research design was implemented in the educational environment. Pilot study was conducted to analyze the opinion about the web technology in the learning process. Web learning portals of IITs and NITs were studied. A questionnaire was framed with careful construction to get the opinion about the web technology implementation and attitudes towards web tools. Secondary resources such as online courses and students attitudes was also used as a source for this research.

Aim of this study

The research aims to study the effectiveness of web technologies and its impacts in the learning process. It is aims to study the awareness level among the B.Sc. Computer science students and lecturers. This research is also aim to study the attitude of the educators regarding the web technologies in the college.

OBJECTIVES OF THIS STUDY

The objectives of this research is to find out

- To analyze the general awareness on web technologies among the B.Sc. CS students.
- To find out the differences between 'A' Grade colleges and 'B' Grade colleges in web resources.

- To study the difference among the A and B grade colleges in the city and villages in web technology.
- To study the impact of web technologies for effective learning.
- To study the implementation level in web technology in the colleges.
- To study the attitudes of educators in implementing the web portals in college environment.
- To study the differences between Girls and boys students in web technology awareness level.
- To study the opinion of B.Sc. students regarding the usage of smart phones, laptops, tablets, web learning system etc.

3. HYPOTHESIS

- There is a significance difference in web technology related awareness among the B.Sc. CS students of 'A' Grade and 'B' Grade colleges in village and city.
- There is a significance differences in awareness among the boys and girls students of B.Sc. CS.
- Lecturers and educators awareness level about the web technology and web tools is in a developed stage.
- Educators have the right attitude about the implementation of new web technologies in their educational environment.
- Many colleges do not have adequate web tools in their labs. Lab facilities is in a developing stage.
- Wi-Fi connection is not available in city as well as village colleges irrespective of 'A' Grade or 'B' Grade.
- Web technology implementation is very low in 'B' Grade, village colleges.
- Attitude is good regarding the implementation of web technology in 'A' Grade colleges than 'B' Grade colleges.

5. SAMPLING

The respondents are selected by using the convenient sampling technique. The research data includes the opinion of the educators, lectures and students of the 'A' Grade as well as 'B' Grad colleges. Simple random sampling was used to collect the data. 180 students was selected among the 'A' Grade and 'B' Grade College in the city and as well as village were selected for the study. Both boys and girls were carefully selected for their opinion analyses. This research developed based on a standardized web awareness finding tool among the B.Sc. CS. Students. The pilot study was conducted to calculate the validity of the tool.

Table -1: Opinion about Web technologies

S.NO.	OPINION	NO. OF RSPONDENTS	%
1.	Strongly agree	45	90
2.	Agree	2	4
3.	No opinion	0	0
4.	Disagree	1	2
5.	Strongly disagree	2	4
	Total	50	100

Table 1: This table shows that 90% of the respondents are fully agree and 6% of the respondents have disagree.

Table-2: Opinion about Web technologies Boys vs. Girls

S.NO.	OPINION	Girls	Boys	%
1.	Strongly agree	20	25	90
2.	Agree	1	1	4
3.	No opinion	0		0
4.	Disagree	1	0	2
5.	Strongly disagree	1	1	4
	Total	50		100

Table 2: This table shows that 90% of the respondents are fully agree and 6% of the respondents have disagree. Boys strongly agree than girls (20 and 25 respectively).

Table -3: Opinion and awareness about the web technologies among the educators

S.NO.	OPINION	NO. OF RSPONDENTS	%
1.	Strongly agree	49	98
2.	Agree	3	6
3.	No opinion	0	0
4.	Disagree	1	2
5.	Strongly disagree	1	2
	Total	50	100

Table 3: This table shows that 98% of the respondents are fully agree and 2% of the respondents have disagree.

3. CONCLUSIONS

The research concludes that the awareness level among the educators and students of B.Sc. CS is in a very good level. Even though the educators and lecturers knows the important of web technologies in the learning process the implementation of the new concept is in a very slower phase than the expected level. 'A' Grade city colleges have the better level of web tools and facilities in their learning environment. Wi-Fi connection is not at all implemented in 'A' Grad as well as 'B' Grade college irrespective of village of city set up. Boys have the better knowledge in web tools in city based colleges because for the availability of tablets, smart phones and web connection. Majority of the respondents have the web tools awareness and have motivation to learn through web learning system. Integration of other technologies such as animation, graphics and media, interactivity, flexibility, connectivity should be incorporated into web learning system to enhance the learning experience. In this information society effective and efficient learning is possible through web learning system and its tools. Web technologies makes the learners independent and free to access and learn their requirements. In this way web technologies changes the teacher centered learning into student centered learning.

REFERENCES

- [1] Yang Ping et al, " Study on Personality Learning in E-Learning ", IEEE transactions, Proceedings of International Conference on E-Learning, E-Business, Enterprise Information Systems and E-Government, ISBN 978-0-7695-3907-2, 2009.
- [2] Mazni, Omar et al, "Analyzing personality types to predict team performance", IEEE transactions, Science and Social Research (CSSR), International Conference, ISBN 978-1-4244-8987-9, 2010.
- [3] Al-Dujaily et al, "Personality and collaborative learning experience", 2007
- [4] IEEE transaction, Advanced Learning Technologies, ICALT 2007. Seventh IEEE International Conference on, ISBN 0-7695-2916-X, 2007.
- [5] Miles Perkins, 'Computer Animation Festival conference, SIGGRAPH Special Interest Group on Computer Graphics and Interactive Techniques Conference ACM. 2009.
- [6] Khoo shiang Tyng et al, "Visual application in multi-touch tabletop for mathematics learning: a preliminary study", Proceedings of the Second international conference on Visual informatics: sustaining research and innovations, ACM ISBN: 978-3-642-25190-0, 2009
- [7] Ann McNamara et al, "Perception in graphics, visualization, virtual environments and animation", ACM ISBN: 978-1-4503-1135-9., 2009.

- [8] Hsiu-Mei Huang et al, "Investigating learners' attitudes toward virtual reality learning environments: Based on a constructivist approach, ACM, 2011.
- [9] Mark van Langeveld et al, "Educational impact of digital visualization and auditing tools on a digital character production course", International Conference on Foundations of Digital Games, ACM, 2009.
- [10] Frutuoso G. M. Silva et al, "Teaching animation in computer science", SIGGRAPH ASIA Educators Program ACM, 2009.
- [11] Yen-Shou La et al, "A Multimedia Learning System Using HMMs to Improve Phonemic Awareness for English Pronunciation", ACM, 2007
- [12] Rajarathnam Chandramouli, "Learning through Multimedia Interaction", IEEE Computer Society Press, 2006/
- [13] Vanja Garaj et al, "m-Learning in the Education of Multimedia Technologists and Designers at the University Level: A User Requirements Study", IEEE Transactions on Learning Technologies, 2010.
- [14] Bruce L. Mann, "The evolution of multimedia sound", Computers & Education, IEEE, 2008.
- [15] Qi Dunsworth et al, "Fostering multimedia learning of science: Exploring the role of an animated agent's image", Computers & Education, 2007.
- [16] Makis Leontidis et al, "Using an affective multimedia learning framework for distance learning to motivate the learner effectively", International Journal of Learning Technology, 2011.
- [17] Martin et al, "Improving Intelligence", Mar-Early Online Publication, Swiss Medical Weekly, 2010.
- [18] Kirsi et al, "Identification of multiple intelligences with the Multiple Intelligence", Psychology Science Quarterly, 2008.