

A STUDY ON UTILIZATION OF WEB TECHNOLOGIES AMONG STUDENT TEACHERS

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Abstract: The modern classroom across the world is equipped with latest teaching-learning equipments, which are web alienated and are capable of being developing skills needed to succeed in workplaces. The latest education researches focus much upon the technological devices and its impact on student development and academic achievement. There is no doubt that web technologies play a pivotal role in teaching-learning process. Where do the teachers acquire the basic skill to operate and use web technologies in real classroom? The capacity to employ web technology in classrooms should be imbibed as they undergo teacher training. However, do our teacher training institutions show interest to organize practice sessions to acquire the skill to apply web technologies in real classrooms? The present study explores the utilization of web technologies by student teachers.

Key Words: Web Technologies, Social Networking Sites, LMS, RSS, OER, Tagging and Social Bookmarking

INTRODUCTION:

As we know, we do experience the benefit of electronic devices in our daily and the impact is visible in education sector too. Even then, it is doubtful that do we enjoy the advantage of technology? “Throughout history, educators have always been interested by the question of how technology can be used to transform education and enhance student learning (Hew & Brush, 2007)”. The educational researches have shown that the use of technology enhances teaching learning. Years before the classrooms shown much interest to use devices like radio, television, over head projector (OHP), slide projector, etc. Even today, many educational institutions employ television as a teaching –learning device but other devices are kept aside. The world’s largest open distance education provider, Indira Gandhi National Open University (IGNOU) is successful in delivering classroom lectures via radio is to be reminded at this stage. However, in-depth examinations about the learning strategies of twenty-century learner community lead us to rethink on the credibility of supporting devices of teacher community. Today the interaction between teacher and student is not only restricted inside classrooms but also moved out and learning became a twenty-four (24*7) seven activity. Similarly, the dominated mode of delivering teaching content via lecture method has lost importance.

The learner’s do give emphasis to textual materials and rely upon to gather information. Nevertheless, the scenario transformed and the learners focus is now on use of latest technological equipments to learn. Children are keen to watch videos, listen to audio clips, interact via any internet media, express their own ideas in blog, read e-books, visit e-libraries, undergo online courses, participate in discussion forums, read OER materials, use mobile internet to get instant information’s, create social networking groups , observe web conferences, etc. The whole learning style reoriented with web related application as the center of attraction. “Since learning styles provide information about individual differences in learning preferences they can suggest how instruction can be best designed to support learning preferences (Akdemir & Koszalka, 2008)”.As learner’s are proficient and enthusiastic in use of technology, teacher community must reorient themselves with capacities and skills to meet the learning demands of tech savvy learners. The task of developing technologically proficient teachers should originate at the teacher preparing institutions.

As and when technically literate teachers are prepared, and then comes the question of, are they really applying the theoretical knowledge in real situations? Do they use technology in teaching-learning situations? Do they have sufficient knowledge to integrate technology, content and pedagogy? At this stage, technological pedagogical content knowledge (in short TPACK) plays a crucial role. TPACK is a teacher’s knowledge in technology, pedagogy and technology required to integrate technology in teaching-learning .A teacher who has the sufficient

TPACK can easily associate and use technology in any real teaching situations. However, many of the classrooms do not employ web technologies since the teacher's lack proper training and thereby declines the quality of teaching –learning.

NEED AND SIGNIFICANCE OF THE STUDY:

As we know many of the developed and developing countries are in a position to incorporate, modern web based technological tools to improve the quality of learning in both schools as well as teacher training institutions. Especially the facilities of internet and the associated tools are to employed to improve quality of teaching-learning. "Today the Internet is full of opportunities for the user to create content, share it with others, and interact on a global scale (Richardson, 2007)". But the situation is pathetic in a developing country like India. Today the teacher communities address the question of utilization of web technologies with the view that it became the part of teaching –learning process across the classrooms.

"Mioduser et al. (2000) identify web technologies relevant in educational process as result of:

- Support for sophisticated manipulation, which is at the heart of education transactions
- Communication facilities such as email, chat room and group discussion lists that enable communication between different actors in the educational process, and allow for collaborative work, regardless of time and place constraints
- User friendly tools that support student creativity and initiative
- The ability for the web to serve as an instructional deliver medium"

Use of web technologies in the teaching-learning atmosphere has many advantages. Unless and until the student teachers are equipped with the skill to apply web technologies, they may end up as incapable teachers who may not meet the learning demands of tech savvy learner community. This research is an attempt to find out answer to such a query that whether the teacher training institutions are making use of ICT specially web technologies in their teaching-learning process.

STATEMENT OF THE PROBLEM:

There are many web related tools that support teaching-learning process and we call them web technologies. Even then, it is unknown that, whether the teachers are using them real teaching situation. Similarly it is uncertain that whether the teacher training institutions are imparting proper training to the student teachers to use web tools. The study is an attempt to explore the utilization of web technology by the student teachers. In addition, the study explores and how far student teachers use web technologies and hence the problem is stated as "A Study on Utilization of Web Technologies among Student Teachers".

OPERATIONAL DEFINITION OF KEY TERMS:

- Utilization: Utilization refers to the act of using of web technologies with a specific intention.
- Web Technologies: Web technologies refer to the application software's used for teaching learning purpose that work in the web environment.
- Student Teachers: It refers to the students undergoing B.Ed degree course in the teacher training institutions in Kerala

OBJECTIVES OF THE STUDY:

The following are the objectives of the study;

1. To study the extent of use of web technologies by student teachers.
2. To find whether there exists any significant difference in the mean scores of utilization of web technologies for the sub samples based on gender and type of management

HYPOTHESES OF THE STUDY:

The following are the hypotheses of the study;

1. There is no significant difference in the mean scores of utilization of web technologies between male and female student teachers.
2. There is no significant difference in the mean scores of utilization of web technologies between Govt. and private student teachers.

METHODOLOGY:

The study is set up to find the utilization of web technologies by the student teachers. In order to find the utilization of web technologies, survey method is used. To collect the data, a 'questionnaire on utilization of web technology (for student teachers)' was developed. The questionnaire consists of two parts. Part A consists of 26 questions to find the extent of use of web technologies. Part B consists of 54 questions to find the level of utilization of web technologies.

SAMPLE OF THE STUDY:

Teacher training institutions that offer training in graduate level teacher education programme which lead to Bachelor in Education (B.Ed) degree, across the state of Kerala constitute the population of the study. For the present study, student teachers from teacher training institutions coming under the jurisdiction University of Calicut where selected through random sampling method. The total sample consists of 175 student teachers. The final breakup of the samples is given below:

Table 1
Distribution of Sample

S.No	Variable	Size of the Sample	Total
1	Gender	Male	19
		Female	156
2	Type of Management	Govt.	65
		Private	110
			175

RESULT AND DISCUSSIONS:

Objective 1

The first objective was to find out the extent of usage of various web technologies by student teachers. To find the extent of usage of web technologies by student teachers Part A of the questionnaire was analyzed and the results are given below:

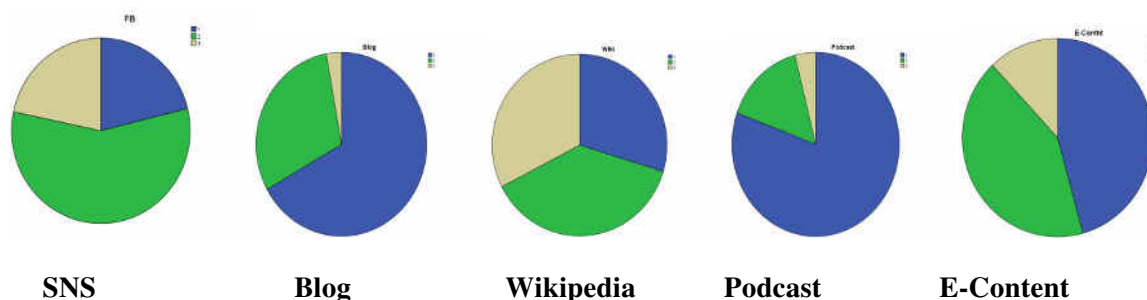
Table 2: Extent of Use of Web Technologies

Web Technology	Extent of Use	Frequency	Percentage
Social Networking Sites	1-Not at All	37	21.1
	2-Sometimes	100	57.2
	3-Always	38	21.7
	175	175	100
Blog/Vlog	1-Not at All	117	66.9
	2-Sometimes	53	30.2
	3-Always	5	2.9
	Total	175	100
Wiki/Wikipedia	1-Not at All	52	29.7
	2-Sometimes	66	37.7
	3-Always	57	32.6
	Total	175	100
Podcast/Vodcast	1-Not at All	141	80.6

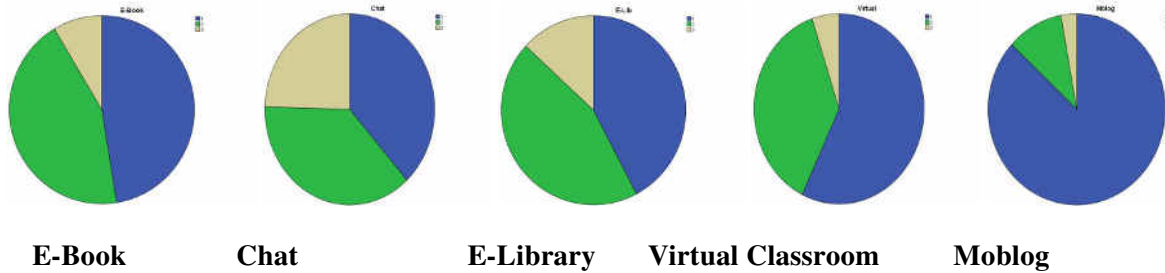
	2-Sometimes	27	15.4
	3-Always	7	4
	Total	175	100
E-Content	1-Not at All	80	45.7
	2-Sometimes	74	42.3
	3-Always	21	12
	Total	175	100
E-Book	1-Not at All	83	4.4
	2-Sometimes	77	44.0
	3-Always	15	8.6
	Total	175	100
Instant Messaging/Chat	1-Not at All	67	38.3
	2-Sometimes	65	37.1
	3-Always	43	24.6
	Total	175	100
E-Library	1-Not at All	74	42.3
	2-Sometimes	78	44.6
	3-Always	23	13.1
	Total	175	
Virtual Classroom	1-Not at All	100	57.1
	2-Sometimes	66	37.7
	3-Always	9	5.2
	Total	175	100
Moblogging	1-Not at All	152	86.9
	2-Sometimes	8	10.2
	3-Always	5	2.9
	Total	175	100
LMS	1-Not at All	141	80.6
	2-Sometimes	22	12.5
	3-Always	12	6.9
	Total	175	100
RSS	1-Not at All	154	88
	2-Sometimes	17	9.7
	3-Always	4	2.3
	Total	175	100
Discussion Forum	1-Not at All	123	70.3
	2-Sometimes	40	22.8
	3-Always	12	6.9
	Total	175	100
Webinar	1-Not at All	152	86.9
	2-Sometimes	18	10.2
	3-Always	5	2.9
	Total	175	100
OER	1-Not at All	121	69.1
	2-Sometimes	44	25.2
	3-Always	10	5.7
	Total	175	100
Wifi	1-Not at All	52	29.7
	2-Sometimes	81	46.3
	3-Always	42	24.0
	Total	175	

Mobile Internet	1-Not at All	15	8.6
	2-Sometimes	63	36.0
	3-Always	97	55.4
	Total	175	100
Tag and Social Bookmarking	1-Not at All	113	64.6
	2-Sometimes	48	27.4
	3-Always	14	8.0
	Total	175	100
Flickr	1-Not at All	146	83.4
	2-Sometimes	23	13.2
	3-Always	6	3.4
	Total	175	100
Whatsaap	1-Not at All	39	23.3
	2-Sometimes	53	30.3
	3-Always	83	47.4
	Total	175	100
Online Assessment	1-Not at All	115	65.7
	2-Sometimes	46	26.3
	3-Always	14	8
	Total	175	100
Online Teaching	1-Not at All	117	66.9
	2-Sometimes	50	28.5
	3-Always	8	4.6
	Total	175	100
E-mail	1-Not at All	57	32.5
	2-Sometimes	92	52.6
	3-Always	26	14.9
	Total	175	100
You-Tube	1-Not at All	47	26.9
	2-Sometimes	101	57.7
	3-Always	27	15.4
	Total	175	100
Web conference/Teleconference	1-Not at All	108	61.7
	2-Sometimes	54	30.9
	3-Always	13	7.4
	Total	175	100

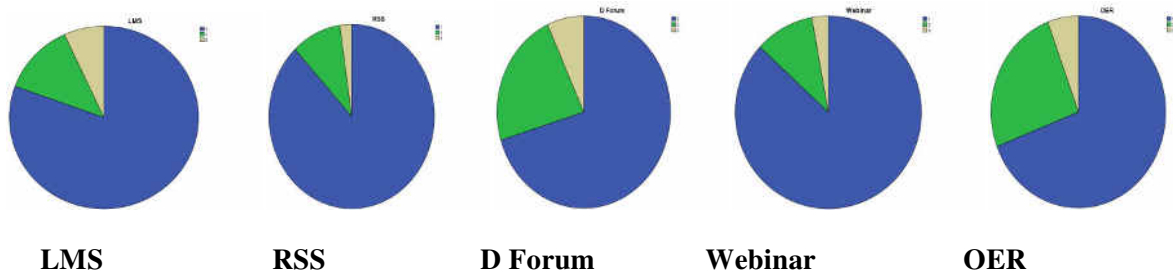
The extent of use of web technologies by student teachers is diagrammatically represented in pie diagrams given below (Colour Description: Yellow-Always, Green-Sometimes, Blue- Not at all):



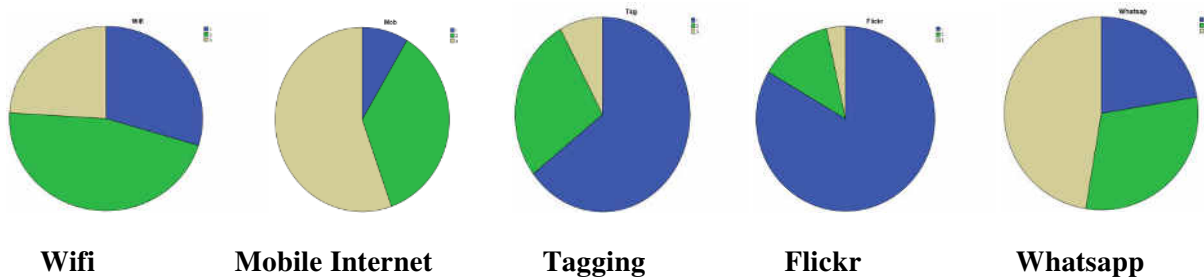
In the pie diagrams given above, social networking sites and wikipedia’s are the ‘mostly used’ web technologies. While, a few percentage (57.1% SNS, 42.3% E-content and 37.7 %Wikipedia) of student teachers ‘sometimes’ make use of these web technologies.



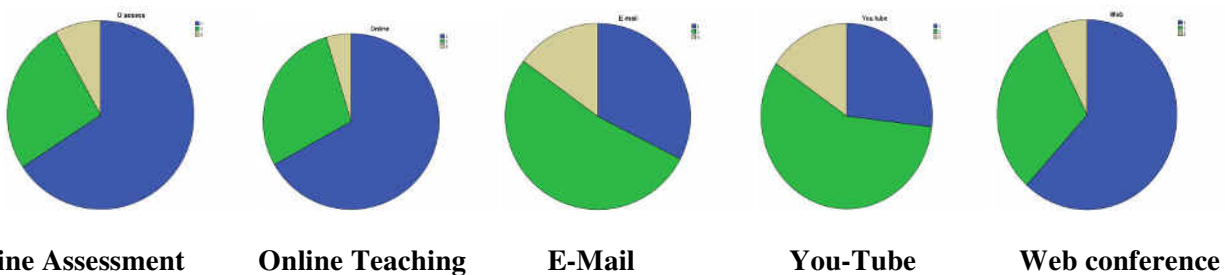
Pie diagrams given above shows that student teacher ‘always’ use chat as part of their teaching learning. While 44.6 % and 44.0% of student teachers ‘sometimes’ use e-book and e-library.



The pie diagrams given above indicate that student teachers do not make use these web technologies but few percentage ‘sometimes’ use OER and discussion forum (25.1% and 22.9% respectively).



Among the web technologies shown above mobile internet and whatsapp are the mostly used web technologies. Out of the total sample 55.4% of student teachers ‘always’ use mobile internet and 47.4% ‘always’ use whatsapp. While 46.3 % of student teacher ‘sometimes use’ wifi.



The pie diagrams shown above indicate that, student teachers ‘always use’ you tube as part of their teaching-learning. While 57.7% of student teachers ‘sometimes use’ you-tube and 52.6% ‘sometimes use’ e-mail.

Table 1 (and pie diagram) indicate that whatsapp, wikipedia ,chat, wifi and social networking sites are the mostly used web technologies.47.4%,32.6%,24.6%,24.0% and 21.1% of student teachers ‘always use’ whatsapp, wikipedia ,chat, wifi and social networking sites respectively as part of their teaching-learning. While most of the student teachers ‘do not use’ rest of the web technologies. Among these, RSS is the ‘rarely used’ (do not use) web technology, which amounts 88% of student teachers. After that moblogging 86.9%, webinar 86.9%, podcast 80.6% and discussion form 70.3%.

TESTING OF HYPOTHESES:

Hypotheses 1: There is no significant difference in the mean scores of utilization of web technologies between male and female student teachers.

To test the above hypotheses the collected data was grouped based on the gender of the student teachers and the mean scores and SD were calculated. After that t test was employed to find out the difference in the mean scores of utilization of web technologies between male and female student teachers. The results of test are shown in the table given below:

Table 3
Mean values, SDs and t value

Gender	N	Mean	SD	t-test	Level of Significance
Male	19	32.21	11.44	2.00	Significant
female	156	27.39	9.69		

Computed t value is greater than 1.96 for 0.05 level of significance, which is significant. Therefore, null hypothesis is rejected at 0.05 level of significance. So there is significant difference with respect to the mean scores of male and female student teachers. High mean scores are associated with boys for the variable utilization of web technologies compared with girls.

Hypotheses 2: There is no significant difference in the mean scores of utilization of web technologies between Govt. and private student teachers.

Table 4
Mean values, SDs and t value

Management	N	Mean	SD	t-test	Level of Significance
Govt	65	28.08	11.59	.165	Not Significant
Private	110	27.82	8.94		

Computed t value is less than 1.96 for 0.05 level of significance, which is not significant. Therefore, null hypothesis is accepted. In other words, there is no significant difference in the mean scores of Govt. and private college student teachers i.e. they are equal in their utilization of web technologies.

MAJOR FINDINGS:

The study explored the extent and utilization of web technologies by student teachers in the state of Kerala. To collect data a questionnaire on utilization was constructed and distributed to 175 student teachers selected through random sampling method. While selecting sample due consideration was given to gender and type of institutions. The collected data was subjected to statistical treatments and results were interpreted accordingly. The major findings of the study are given below:

1. Student teachers do not use most of web technologies as part of their teaching-learning process.
2. The mostly used(always) web technologies are mobile internet, whatsapp, wikipedia, chat, wifi and social networking sites
3. The rarely used (do not use at all) web technologies are RSS, moblog, webinar, podcast and discussion forum.
4. There is an effect of gender on the utilization of web technologies. Male and female student teachers differ in the utilization of web technologies.
5. The usage of web technologies does not have any connection with the type of management of teacher training institutions.

CONCLUSION AND EDUCATIONAL IMPLICATIONS:

The present study was undertaken to investigate the utilization of web technologies by student teachers. The study has great relevance in the present day context since teaching learning greatly relies upon contemporary teaching – learning aids. The manually operated devices are replaced with web related teaching-learning aids. Today any kind of information is available at learner’s fingertips. The manner in which world has changed has impact on the teaching-learning process too. Today learners show exceedingly proficiency to learn, operate and use technical devices. They expect technically rich classrooms that make learning easier and enjoyable for them. However, unfortunately many of the educational institutions are still at the beginning stage of experimenting ICT devices. Why? One of the main reasons behind is the lack of proper training of student teachers. If the teacher training institutions take active interest in training student teachers with all the skills and capacities to handle and use web devices in classroom, it would help them to apply as they become real teachers.

The study is an attempt to find out the utilization of web technologies by student teachers. The data analysis revealed that very few student teachers make use of web teachers as part of their teaching –learning process. Amongst the web technologies listed, mobile internet, whatsapp, wikipedia, chat, wifi and social networking sites are the commonly used by student teachers. While, RSS, moblog, webinar, podcast and discussion forum are the rarely used web technologies. Therefore, teacher-training institutions must take steps to train student teachers to use and apply web technologies in the real teaching-learning situations. Also the stakeholders and policy makers of teacher education should adopt steps to revisit and to reframe curriculum. The curriculum should provide ample opportunities to study and apply the use of web technologies. Unless and until proper care is not advocated, the state may not be able to justify and meet the demands of teach savvy learner community.

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