
MEASURING AWARENESS OF PROSPECTIVE TEACHERS TO USE WEB 2.0 TECHNOLOGIES

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ABSTRACT

Education is critical to the development of every nation. The same is true in education, where technology has been used to stab students with claws. Likewise, Web 1.0, and Web 2.0 have provided a plethora of educational options and pathways, notably in tertiary education. Web 2.0 is open, prospective teachers can access, share, collaborate, and express knowledge with a single click from anywhere in the globe. Web 2.0 tools can help prospective teachers to construct instructional plans and tactics for instructing school students. The goal of this research was to unravel prospective teachers' Web 2.0 awareness and practices that influence prospective teachers' decisions to adopt Web 2.0 technology. The research was fact-finding in nature, with a quantitative approach employed to carry it out. A framework of digital literacies/awareness was used for awareness/digital literacies. A survey method was used to collect data, which provided a clear picture of a prospective teacher's present awareness and practices. The population of the study was comprised of prospective teachers of the teacher education departments from public and private sector universities of Sindh. The data were collected from the prospective teachers of public and private sector universities of Sindh province through random sampling. A descriptive analysis was carried out. Based on the findings, the results were drawn.

KEYWORDS

Web 2.0 technologies, awareness/digital literacies, prospective teachers

INTRODUCTION

Web 1.0 technologies were termed primitive (basic) since they consisted of groups of pages that could only be read. Web 2.0 is an emerging important factor that is transforming academic learning paradigms. Web 2.0 is a collective phrase for the social webs second generation, which represents online technologies that enable collaboration, communication, and engagement (Anderson, 2007). Web 2.0 technologies enable users to create, collaborate, contribute, connect, share, and participate in a learning community. Web 2.0 technologies also provide an excellent platform for active involvement, publication, and reflection for teachers and students (Hartshorne & Ajjan, 2009; Sadaf et al., 2012, 2016; Zakaria, 2013). It cultivates a collaborative and engaged community of teachers and students (Bower & Torrington, 2020).

However, universities in developing nations have not made the necessary efforts to adapt to the changing needs of the digital literacies/media as the digital natives and immigrants studying and working there. This article aimed to determine how Prospective teachers used Web 2.0 tools in the teaching learning process at teacher education institutions. Web 2.0 technologies are still in the infancy of higher education in Pakistan. This leads to a lot of impediments to overcome. Prospective teachers are gradually gaining confidence in using Web 2.0 technologies in teaching learning activities and the appropriate use of Web 2.0 by Prospective teachers makes them effective and efficient users (Yasmeen et al., 2015).

In Pakistan, public and private sector universities are offering teacher education programs. In both sectors, the main focus is on use of modern technology in order to equip the prospective teachers with modern technological skills for effective teaching-learning. There are issues (e.g. budgeting, infrastructure, technology, etc.) in both sectors resisting the adaptation of Web 2.0 technologies. However this research study uncovered the awareness of digital literacies which actual effect the behaviors of prospective teachers in order to practice Web 2.0 technologies in teaching-learning process. The study depicted an overall picture of prospective teachers' awareness of digital literacies in use of Web 2.0 technologies.

For awareness/digital literacies (Beetham, H. & Sharpe, 2011) framework of digital literacies/ awareness has been adopted. This framework has been divided into four categories Access, Skills, Practices and attributes/identity. Items has been prepared for 1st objective by using this framework. These included conditions of access

(availability of appropriate tools and Internet connections and Web 2.0 technologies); Skills: basic skills needed to apply and use when learning technologies in terms of Web 2.0; Practices: flexible practices (where learners make informed choices about the Web 2.0 technologies use personally and professionally in response to specific content and set of goals); Identity/mindsets: (an individual's mindset and identity about their learning with Web 2.0 technologies).



Figure 1.1: Awareness (*Digital literacies framework*)

LITERATURE REVIEW

According to the study (Öztürk & Sönmez, 2020), prospective teachers (PTs) in the teacher mentioned above training program gained practical experience with a variety of Web 2.0 applications in both controlled settings, such as computer labs, and real classrooms. They believed that there are advantages to Web 2.0 tools. The theme that the PTs brought up was educational enrichment. When talking about the advantages of the software utilized, they specifically emphasized that these tools provide instant feedback, help identify incomplete or inaccurate learning, and save time. The PTs recommended several tools, including Flipper, Kahoot, Edmodo, and Zip Grade. It offers advantages including improving student participation in the classroom, evaluating comprehension in real-time, encouraging teamwork and communication, and expediting the grading procedure.

A similar study was carried out to explore the pre-service teachers' familiarity with Web 2.0 resources. The study investigated the degree of department and grade-level variable awareness. It was also explored that through the implementation of customized training programs for pre-service teachers' aimed at particular

demographics or individuals, educators can augment their comprehension and application of Web 2.0 resources, hence augmenting their efficacy in pedagogical and learning environments (Başpınar & Özel, 2023).

The Interviews on attitudes, subjective norms, and perceived behavioral control about the use of Diffusion of Technology in the Pedagogy and Practice (DTPB) model were done as part of the study conducted by (Alkhayat et al., 2020). The main component, perceived usefulness, was brought to light by the participants' assessments of the advantages Web 2.0 technologies have for boosting student learning outcomes and their teaching methods. Additionally, the participants talked about how simple they thought it was to incorporate and use Web 2.0 resources into their instruction. The teachers brought up the compatibility aspect concerning their current pedagogical techniques, curriculum requirements, and teaching practices. The creation of tactics to encourage the efficient use of Web 2.0 tools and improve student learning outcomes can be guided by this understanding.

The study looked at three factors: age, gender, and type of bachelor's degree, in order to find out what teacher-trainees thought about their digital competency. Several insights were obtained from a study of the questionnaire data, including those related to digital competence, problem-solving abilities, safety awareness, and the effects of digital technology. The study sought to provide a thorough knowledge of teacher-trainees' digital competency and how it related to age, gender, and the kind of bachelor's degree they had earned through these in-depth investigations (Benaoui & Kassimi, 2021).

Both research (Koc & Bakir, 2010; Rhoades et al., 2008) used surveys to test the quantitative awareness of undergraduate and prospective teachers. According to the research, awareness of web 2.0 technologies remains low, and they are increasingly used as information tool rather than for fun. The results revealed that increased awareness is required for preparation to use web 2.0 efficiently. The study (Koc & Bakir, 2010) looked at the awareness of web 2.0 computer-based tools among 26 prospective students from a college of education at a university in the Middle East USA. The study's findings add to the discussion among educators in the field of teacher preparation over whether prospective teachers were effectively taught to achieve effective technology integration. In the survey, participants were ambivalent on their readiness to use technology.

Longitudinal studies (Chou, 2011; Desjardins & Bullock, 2011) raised students' awareness of web 2.0 tools through a reflective practice journal. (Chou, 2011) used an action research strategy including teaching blogs, interviews, and observations. Both

researchers found that prospective instructors had a good understanding of the tools utilized on web 2.0 platforms, as well as reflections on socialization.

Teacher candidates' predicting factors, actions, attitudes, and perceptions toward awareness of instructional uses of podcasts and blogs and other web 2.0 tools documented in (Kim & King, 2011; Least, 2012; Uerz et al., 2018). (Kim and King, 2011) was a case study of three teacher students, while the other two studies were quantitative. Both research looked at factors influencing awareness of Web 2.0 tools. Data were gathered using observations, research field notes, interviews, emails, dialogue, and a pre-term anonymous survey. Case studies were used to assess teacher candidates' awareness of post-casting and blogs, as well as predictive characteristics (attitude, SN, and PCB). It was established that students' attitudes toward awareness motivate them to become professional teachers. These factors can be regulated based on the extent of adoption in teacher education programs.

Not a single study has been found at the national level regarding awareness of web 2.0 tools/technologies of prospective teachers during the review of the literature. So there was a dire need to conduct such a study.

RESEARCH OBJECTIVE

1. To study the awareness affecting prospective teachers' decisions to adopt Web 2.0 technologies in the teaching-learning process at teacher education institutions of public and private sector universities.

RESEARCH HYPOTHESIS

1. There is no significant difference in awareness affecting prospective teachers' decisions to use Web 2.0 technologies in the teaching-learning process at teacher education institutions of public and private sector universities.

RESEARCH METHODS

The study was descriptive, and a quantitative approach was used. The research survey was used. The related data were collected from the teacher education departments/faculties of public and private universities of Sindh province. A survey questionnaire was developed by adopting the framework of digital literacies/awareness given by (Beetham, H. & Sharpe, 2011) for the collection of data and to measure the adoption of Web 2.0 Technologies among prospective teachers of Public and Private Universities of Sindh province. This framework is divided into four categories Access, Skills, Practices and attributes/identity. Access: These included conditions of access (availability of appropriate tools and Internet connections and Web 2.0 technologies); Skills: basic skills needed to apply and use when learning

technologies in terms of Web 2.0; Practices: flexible practices (where learners make informed choices about the Web 2.0 technologies use personally and professionally in response to a specific content and set of goals); Identity/mindsets: (an individual's mind set and identity in relation to their learning with Web 2.0 technologies).

Table No.1.1: Prospective Teachers of Public Sector Universities

University	n	%	Cumulative %
University of Sindh, Jamshoro	245	45.12	45.12
Jinnah University for Women	45	8.29	53.41
SBBU	51	9.39	62.80
University of Karachi	65	11.97	74.77
Federal Urdu University	51	9.39	84.16
BBSUL	5	0.92	85.08
SALU	81	14.92	100.00

Table No.1.2 Prospective Teachers of Private Universities

University	n	%	Cumulative %
AKU-IED	7	2.62	2.62
SMIU	17	6.37	8.99
SIBAU	44	16.48	25.47
Hamdard	84	31.46	56.93
SZABIST	52	19.48	76.40
IQRA	63	23.60	100.00

RESULTS

Table No. 1.3: Awareness Constructs Percentages for Prospective Teachers of Public and Private Sector

Access Sub-Construct of Awareness	Sector	Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
I access the internet in my classroom practices.	Public	65 11.97%	135 24.86%	65 11.97%	70 12.89%	63 11.60%	76 14.00%	69 12.71%
	Private	19 7.12%	27 10.11%	30 11.24%	21 7.87%	55	46	69

						20.60	17.23	25.84
						%	%	%
I can access digital media tools (smartphones and camera).	Public	61	129	82	65	48	88	70
		11.23%	23.76%	15.10%	11.97%	8.84%	16.21	12.89
						%	%	%
	Private	24	22	24	19	57	48	73
		8.99%	8.24%	8.99%	7.12%	21.35	17.98	27.34
						%	%	%
I can access web technologies/tools/apps (cloud storage).	Public	71	143	59	66	68	77	59
		13.08%	26.34%	10.87%	12.15%	12.52	14.18	10.87
						%	%	%
	Private	19	21	27	26	55	48	71
		7.12%	7.87%	10.11%	9.74%	20.60	17.98	26.59
						%	%	%
I am a digital literate prospective teacher.	Public	63	149	48	64	70	82	67
		11.60%	27.44%	8.84%	11.79%	12.89	15.10	12.34
						%	%	%
	Private	23	25	36	20	51	45	67
		8.61%	9.36%	13.48%	7.49%	19.10	16.85	25.09
						%	%	%

Statement 01: I can access the internet in my classroom practices.

The highest percentages of the private sector universities prospective teachers who had participated in this study agreed with statement #1 which means that 64% of prospective teachers perceived that they could access the internet in their classroom practices, whereas the prospective teachers from the public sector universities were found agreed with the statement# 1 with the ratio of 38% only.

On the other side, a huge ratio of 49% of prospective teachers from the public sector disagreed and only 28% of prospective teachers from the private sector remained disagreed with the same statement. This shows huge number of prospective teachers from the private sector were inclined towards agreement and on the contrary prospective teachers disagreed with a large portion. 13% of prospective teachers from the public sector and 8% of prospective teachers from the private sector are undecided about their opinion on statement#1.

Statement 02: I can access digital media tools (smartphones and cameras).

Of all 543 public universities prospective teachers who had participated in this study, 38% agreed with statement # 2, which means that prospective teachers from public sector access digital media tools. While 50% of prospective teachers sample were

disagreed. On the contrary from sample of 267 private universities prospective teachers 67% agreed with the statement #2 which means that prospective teachers from private sector access digital media tools and 26% disagreed. Whereas only 12% prospective teachers from public and 7% prospective teachers from private remained undecided for the statement #2.

Statement 03: I can access web technologies/tools/apps (cloud storages).

The high percentages of the private sector universities prospective teachers who had participated in this study agreed with statement #3 which means that 65% of prospective teachers perceived that they can use technologies and tools like cloud storage, whereas the 38% prospective teachers from public sector universities were found agreed with the statement#8. On the other side the same ratio of 50% prospective teachers from public sector were disagreed. Only 25% prospective teachers from private sector remained disagreed with the same statement. 12% prospective teachers from public sector and 10% prospective teachers from private sector undecided about their opinion for the statement #3.

Statement 04: I am digital literate prospective teacher.

The uppermost percentages from the private sector universities prospective teachers who had participated in this study agreed with statement #4 which means that 61% of prospective teachers perceived that they are digital literate, whereas a relatively small number of prospective teachers from public sector universities 40% were found agreed with the statement # 4. On the other side a large number of sample 49% prospective teachers from public sector were disagreed and 31% prospective teachers from private sector remained disagreed with the same statement. 12% respondent prospective teachers from public sector and 7% prospective teachers from private sector undecided about their opinion for the statement # 4.

Table No 1.4: Skills sub-Construct Percentages for Prospective Teachers of Public and Private Sector

Skills Sub-Construct of Awareness	Sector	Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
I comprehend information	Public	80 14.73%	135 24.86%	49 9.02%	68 12.52%	66 12.15%	78 14.36%	67 12.34%

across multiple perspectives and assess the validity of digital resources before going to share with my school students.	Private	19 7.12%	37 13.86%	26 9.74%	21 7.87%	55 20.60%	46 17.23%	63 23.60%
I manipulate digital text (copy, annotate, share, remix) for my school students.	Public	64 11.79%	131 24.13%	47 8.66%	103 18.97%	63 11.60%	75 13.81%	60 11.05%
I can critically evaluate information relevancy and credibility before to share it with my school students.	Private	21 7.87%	21 7.87%	31 11.61%	33 12.36%	50 18.73%	44 16.48%	67 25.09%
I analyze, evaluate, and synthesize information credibility and relevancy perspectives before to use it for my	Public	71 13.08%	138 25.41%	57 10.50%	67 12.34%	66 12.15%	79 14.55%	65 11.97%
	Private	27 10.11%	23 8.61%	29 10.86%	21 7.87%	52 19.48%	46 17.23%	69 25.84%
	Public	62 11.42%	134 24.68%	49 9.02%	80 14.73%	68 12.52%	81 14.92%	69 12.71%
	Private	27 10.11%	35 13.11%	24 8.99%	19 7.12%	49 18.35%	47 17.60%	66 24.72%

school students.								
I use digital tools for learning and communication in and outside the classroom.	Public	62 11.42%	133 24.49%	49 9.02%	64 11.79%	93 17.13%	77 14.18%	65 11.97%
	Private	22 8.24%	20 7.49%	26 9.74%	16 5.99%	48 17.98%	72 26.97%	63 23.60%

Statement 05: I comprehend information across multiple perspectives, and assess the validity of digital resources before going to share with my school students.

All 267 private universities prospective teachers who had participated in this study, 61% agreed with statement # 5, which means that prospective teachers from private sector can comprehend information from multiple resources and assess the accuracy of digital information before using it in their assignments, class work and school based tasks. While 31% of prospective teachers from same sample were disagreed. On the contrary from sample of 543 public universities prospective teachers 39% agreed with the statement # 5, while a huge number of 49% prospective teachers disagreed. Whereas 13% prospective teachers from public and 8% prospective teachers from private remained undecided for statement # 5.

Statement 06: I manipulate digital text (copy, annotate, share, remix) for my school students.

The high percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 6, which means that 60% of prospective teachers perceived that they can manipulate digital text for students(school based tasks), whereas the 36% prospective teachers from public sector universities have shown their agreement with the statement # 6. On the other side 45% prospective teachers from public sector and 27% prospective teachers from private sector remained disagreed with the same statement. 19% prospective teachers from public sector and 13% prospective teachers from private sector undecided about their opinion for the statement # 6.

Statement 07: I can critically evaluate information relevancy and credibility before to share it with my school students.

From the sample of 543 public universities prospective teachers who had participated in this study, 39% agreed with statement # 7, which means that prospective teachers from public sector perceived that they can evaluate information relevancy and credibility before sharing it to school students for school based tasks. While 49%

sample of prospective teachers were disagreed. On the contrary from sample of 267 private universities prospective teachers' highest number with 63% agreed with the statement # 7 which means that prospective teachers from private sector can evaluate information relevancy and credibility before sharing it to school students for school based tasks and 30% disagreed. Whereas 12% prospective teachers from public domain and 8% prospective teachers from private domain remained undecided for statement # 7.

Statement 08: I analyse, evaluate, and synthesize information credibility and relevancy perspectives before to use it for my school students.

The high percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 8 which means that 61% of prospective teachers perceived that they analyse, evaluate and synthesize information credibility and relevancy before sharing it to school students for school based tasks, whereas the 40% prospective teachers from public sector universities were found agreed with the statement # 8. On the other side 45% prospective teachers from public sector and 32% prospective teachers from private sector remained disagreed with the same statement. 15% prospective teachers from public sector and 7% prospective teachers from private sector undecided about their opinion for the statement # 8.

Statement 09: I use digital tools for learning and communication in and outside the classroom.

The highest percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 9 which means that 69% of prospective teachers perceived that they use digital tools in and outside the classroom for learning and communication, whereas the 43% prospective teachers from public sector universities were found agreed with the statement # 9. On the other side 45% prospective teachers from public sector and 25% prospective teachers from private sector remained disagreed with the same statement. 12% prospective teachers from public sector and 6% prospective teachers from private sector undecided about their opinion for the statement # 9.

Table No. 1.5: Practice sub-Construct Percentages for Prospective Teachers of Public and Private Sector

Practices Sub-Construct of Awareness	sector	Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
I demonstrate	Public	60 11.05%	138 25.41%	45 8.29%	90 16.57%	70	76	64 11.79%

fluent use of digital tools for teaching learning purpose.	Private	23	17	49	22	12.89%	14.00%	
I select and articulate how to use technology (or not use technology) for teaching learning purposes.	Private	23	17	49	22	18.35%	15.73%	65
I select and articulate how to use technology (or not use technology) for teaching learning purposes.	Public	91	136	47	61	11.97%	14.36%	65
I can select and articulate which digital tools appropriate for different communication for teaching learning process.	Private	22	20	42	22	18.35%	16.10%	69
I can select and articulate which digital tools appropriate for different communication for teaching learning process.	Public	61	172	46	61	12.15%	13.63%	63
I use and assess digital tools purposefully for scholarly pursuits in teaching learning process.	Private	24	35	26	28	17.60%	15.73%	65
I use and assess digital tools purposefully for scholarly pursuits in teaching learning process.	Public	66	137	45	61	17.50%	14.00%	63
I use and articulate digital tools collaboratively to build Knowledge	Private	28	24	27	28	18.35%	16.48%	67
I use and articulate digital tools collaboratively to build Knowledge	Public	62	136	47	65	14.92%	16.57%	62
	Private	17	28	38	21	19.48%	17.23%	65

community
for students.

Statement 10: *I demonstrate fluent use of digital tools for teaching learning purpose.*

All 543 public universities prospective teachers who had participated in this study, 39% agreed with statement # 10, which means that prospective teachers from public sector were found fluent users of digital tools for learning purpose. While a large number with 45% of prospective teachers sample were disagreed. On the contrary from sample of 267 private universities prospective teachers a relatively high ratio of 58% agreed with the statement #10 which means more than 20% of prospective teachers from private sector were found fluent users of digital tools for teaching learning purpose in comparison to public sector and 33% disagreed. Whereas 17% prospective teachers from public and 8% prospective teachers from private remained undecided for statement #10.

Statement 11: *I select and articulate how to use technology (or not use technology) for teaching learning purposes.*

The high percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 11 which means that 60% of prospective teachers perceived that they can select and articulate how to use technology for learning purposes, whereas only 38% prospective teachers from public sector universities were found agreed with the statement# 11. On the other side half number of sample 50% prospective teachers from public sector and 31% prospective teachers from private sector remained disagreed with the same statement. 11% prospective teachers from public sector and 8% prospective teachers from private sector undecided about their opinion for the statement #11.

Statement 12: *I can select and articulate which digital tools appropriate for different communication for teaching learning process.*

A high percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 12 which means that 58% of prospective teachers perceived that they select and articulate appropriate digital tools for different communication for learning process, whereas the 37% teacher educators from public sector universities were found agreed with the statement # 12. On the other side a huge number 51% prospective teachers from public sector and 31% prospective teachers from private sector remained disagreed with the same statement. 11% prospective teachers from public sector and 10% prospective teachers from private sector undecided about their opinion for the statement # 12.

Statement 13: I use and assess digital tools purposefully for scholarly pursuits in teaching learning process.

All 543 public universities prospective teachers who had participated in this study, 43% agreed with statement # 13, which means that prospective teachers from public sector use and assess digital tools purposefully for pursuits in learning process. While 46% of prospective teachers sample were disagreed. On the contrary from sample of 267 private universities prospective teachers 60% agreed with the statement #13 which means that prospective teachers from private use and assess digital tools purposefully for pursuits in learning process and 30% disagreed. Whereas 11% prospective teachers from public and 10% prospective teachers from private remained undecided for statement # 13.

Statement 14: I use and articulate digital tools collaboratively to build Knowledge community for students.

The high percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 14 which means that 61% of prospective teachers found using and articulating digital tools to build knowledge community for prospective teachers, whereas the 43% prospective teachers from public sector universities have shown their agreement with the statement # 14. On the other side 45% prospective teachers from public sector and 31% prospective teachers from private sector remained disagreed with the same statement. 12% prospective teachers from public sector and 8% prospective teachers from private sector undecided about their opinion for the statement #14.

Table No 1.6: Mindset sub-Construct Percentages for Prospective Teachers of Public and Private Sector

Mindsets Sub-Construct of Awareness	sector	Strongly Disagree	Disagree	Slightly Disagree	Undecided	Slightly Agree	Agree	Strongly Agree
I demonstrate willingness to accept change.	Public	65 11.97%	140 25.78%	49 9.02%	76 14.00%	70 12.89%	79 14.55%	64 11.79%
	Private	33 12.36%	27 10.11%	32 11.99%	23 8.61%	44 16.48%	42 15.73%	66 24.72%
I value the process of learning	Public	63 11.60%	134 24.68%	47 8.66%	79 14.55%	78 14.36%	78 14.36%	64 11.79%

with technologies	Private	19 7.12%	26 9.74%	27 10.11%	20 7.49%	68 25.47%	43 16.10%	64 23.97%
I value collaborative knowledge building.	Public	63 11.60%	134 24.68%	48 8.84%	76 14.00%	79 14.55%	80 14.73%	63 11.60%
	Private	18 6.74%	37 13.86%	51 19.10%	19 7.12%	27 10.11%	48 17.98%	67 25.09%
I demonstrate flexibility, curiosity, collaboration, risk taking in getting more knowledge.	Public	71 13.08%	132 24.31%	51 9.39%	64 11.79%	73 13.44%	79 14.55%	73 13.44%
	Private	27 10.11%	23 8.61%	29 10.86%	21 7.87%	52 19.48%	46 17.23%	69 25.84%
I demonstrate willingness to take risks, explore, experiment and adopt web 2.0 digital tools for teaching learning.	Public	60 11.05%	149 27.44%	52 9.58%	79 14.55%	63 11.60%	77 14.18%	63 11.60%
	Private	20 7.49%	22 8.24%	28 10.49%	23 8.61%	62 23.22%	46 17.23%	66 24.72%
I value ethical consideration in use of web 2.0 technologies.	Public	64 11.79%	133 24.49%	49 9.02%	66 12.15%	75 13.81%	91 16.76%	65 11.97%
	Private	23 8.61%	23 8.61%	55 20.60%	17 6.37%	29 10.86%	56 20.97%	64 23.97%

Statement 15: I demonstrate willingness to accept change.

The highest percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 15 which means that 57% of prospective teachers perceived that they demonstrate willingness to change their attitude towards digital tools use in learning purpose, whereas the 39% prospective teachers from public sector universities were found agreed with the statement # 15. On the other side a huge number 47% prospective teachers from public sector and 34% prospective teachers from private sector remained disagreed with the same statement. 14% prospective teachers from public sector and 9% prospective teachers from private sector undecided about their opinion for the statement # 15.

Statement 16: I value the process of learning with technologies.

Of all 543 public universities prospective teachers who had participated in this study, 57% agreed with statement # 16, which means that prospective teachers from public sector value the process of learning with technologies. While 34% of prospective teachers sample were disagreed. On the other hand, from sample of 267 private universities prospective teachers 66% agreed with the statement #16 which means that prospective teachers from private sector value the process of learning with technologies and 27% disagreed. Whereas 15% prospective teachers from public and 7% prospective teachers from private remained undecided for statement #16.

Statement 17: I value collaborative knowledge building.

The private sector universities prospective teachers who had participated in this study agreed with statement #17 which means that 53% of prospective teachers perceived that they value collaborative knowledge building, whereas the 41% prospective teachers from public sector universities were found agreed with the statement # 17. On the other side 45% prospective teachers from public sector and 40% prospective teachers from private sector remained disagreed with the same statement. 14% prospective teachers from public sector and 7% prospective teachers from private sector undecided about their opinion for the statement # 17.

Statement 18: I demonstrate flexibility, curiosity, collaboration, risk taking in getting more knowledge.

The major percentages of the private sector universities prospective teachers who had participated in this study agreed with statement # 18 which means that 63% of prospective teachers perceived that they can demonstrate flexibility, curiosity, collaboration, risk taking in getting more knowledge, whereas the 41% prospective teachers from public sector universities were found agreed with the statement# 18. On the other side 47% prospective teachers from public sector and 30% prospective teachers from private sector remained disagreed with the same statement. 12%

prospective teachers from public sector and 8% prospective teachers from private sector undecided about their opinion for the statement# 18.

Statement 19: I demonstrate willingness to take risks, explore, experiment and adopt web 2.0 digital tools for teaching learning.

Of all 543 public universities prospective teachers who had participated in this study, 37% agreed with statement # 19, which means that prospective teachers from public sector demonstrate willingness to take risks, explore, experiments and adopt web 2.0 tools for learning. While a huge number 48% of prospective teachers sample were disagreed. On the other side from sample of 267 private universities prospective teachers 65% agreed with the statement #19 which means that demonstrate willingness to take risks, explore, experiments and adopt web 2.0 tools for learning and 26% disagreed. Whereas 15% prospective teachers from public and 9% prospective teachers from private remained undecided for statement # 19.

Statement 20: I value ethical consideration in use of web 2.0 technologies.

The prospective teachers from private sector universities who had participated in this study agreed with statement # 20 which means that 56% of prospective teachers perceived that they value the ethical consideration in use of web 2.0 technologies, whereas the 43% prospective teachers from public sector universities were found agreed with the statement# 20. On the other side 45% prospective teachers from public sector and 38% prospective teachers from private sector remained disagreed with the same statement. 12% prospective teachers from public sector and 6% prospective teachers from private sector undecided about their opinion for the statement #20.

Hypothesis Testing

Analysis of Two-Tailed Independent Samples t-Test for Prospective Teachers of Public and Private Sector Universities

Objective: To study the awareness effecting prospective teachers' decisions to adopt Web 2.0 technologies in teaching-learning process at teacher education institutions of public and private sector universities.

Hypothesis: There is no significant difference in awareness effecting prospective teachers' decisions to use Web 2.0 technologies in teaching-learning process at teacher education institutions of public and private sector universities.

Table No 1.7: Two-Tailed Independent Samples t-Test for Awareness by group

Variable	Public Universities		Private Universities		t	p
	M	SD	M	SD		
Awareness	3.82	1.90	4.74	1.87	-6.54	< .001

Note. $N = 810$. Degrees of Freedom for the t -statistic = 536.53.

Statistical Results

Welch's t -test was used as an alternative of Student's t -test, which is more consistent when the two samples have unequal variances and unequal sample sizes (Ruxton, 2006). The statistical outcome of the two-tailed independent samples t -test was significant based on an alpha-value of 0.05, $t(536.53) = -6.54$, $p < .001$, representing the null hypothesis can be rejected. This finding indicating that the mean of Awareness was significantly different between the Public Universities and Private Universities categories of group. The results in boxplot of the means is presented in Figure No. 1.2

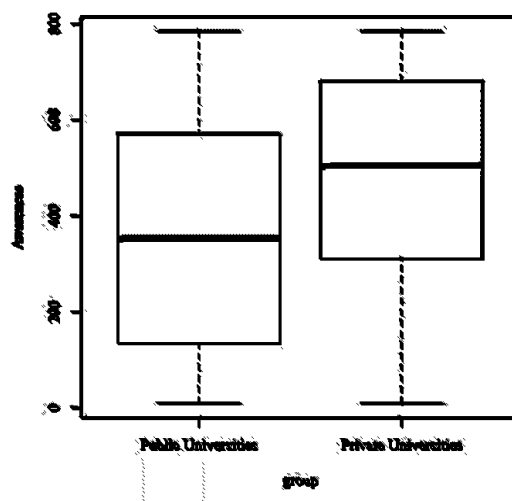


Figure No. 1.2: The mean of Awareness by levels of group

FINDINGS AND DISCUSSION

Likewise the more private universities prospective teachers were digital literate, fluent users of digital tools and can access internet for using web 2.0 technologies, access digital media tools (smart phones and laptops), manipulate (evaluation of information relevancy and credibility of digital text) for students, in their classroom teaching-learning process they value the process of learning (collaborative knowledge building with Web 2.0 tools and ethical concern) than public universities prospective teachers. They perceived that Web 2.0 technologies are useful and helpful in learning the subject matter in better way in their teaching-learning process, improve their satisfaction with the courses improve their grades, fit well with the teaching style of their teacher educators, compatible with the existing computer in the classroom/laboratory, they

can also use Web 2.0 technology on any machine that is linked to the internet, comfortable with Web 2.0 technologies and they enough know about the use of Web 2.0 technologies than public universities prospective teachers.

Major Findings

1. The study revealed that (64%) prospective teachers from private universities and (38%) public universities prospective teachers can access internet for using web 2.0 technologies in their teaching learning process the sharp difference in the accessibility in the internet facility is due to infrastructure and maintenance of system at private sector universities is better than public sector universities (Yasmeen et al., 2015).
2. (38%) public universities prospective teachers and (67%) private universities prospective teachers were able to access digital media tools (smart phones and laptops) hence the huge difference was observed between two systems because of socio economic background of the students, in public sector universities, mostly low income deprived areas students get admission and private sector universities students belong to elite class(Eze, 2016; Tyagi, 2012).
3. (61%) prospective teachers from private and only (40%) prospective teachers from public sector universities perceived that they are digital literate for using web 2.0 technologies the huge difference between public and private sectors is due to high standard private schooling where students are already exposed to Web 2.0 technologies hence when they start university they are already digital literate with the gadgets they already have, whereas in public sector universities the scenario is quite different as the students are mostly product of public schooling where computer lab access and practice is only possible once in a week or very rare during classes.
4. The 60% private sector universities prospective teachers and 36% public sector universities prospective teachers were able to manipulate digital text for students (for practicum based tasks) the notable difference found in ability to manipulate digital text of prospective teachers from private sector is far more better than prospective teachers of public sector is because of that they more digital literate and they can choose, manipulate the digital text for practicum tasks (Aucoin, 2013; Liu, 2016; Rogers-Estable, 2014).
5. The 39% prospective teachers from public sector and 63% prospective teachers from private sector perceived that they can evaluate information relevancy and credibility before sharing it to school students (for practicum based tasks) this found difference is because private sector prospective teachers are more exposed to digital text and they frequent use it. They know the relevancy and credibility digital text before sharing it to school students in practicum process. 61% prospective teachers from private sector and 43% prospective teachers from public

sector universities were found using and articulating digital tools to build knowledge community for learning purpose the large percentage of prospective teachers from private sector were found using articulating digital tools to build knowledge community for learning purpose is because they are digital literate, and they evaluate information relevancy and credibility before sharing it to students(Cakir, 2015; Hew & Cheung, 2013).

6. (57%) public universities prospective teachers and private universities prospective teachers with 66% were agreed that learning with Web 2.0 technologies is worth a value from this data it is interpreted that prospective teachers from both sectors admits the benefits of learning with Web 2.0 technologies. 53% private sector universities prospective teachers and 41% prospective teachers from public sector universities valued the collaborative knowledge building with the help of Web 2.0 technologies value from this data it is inferred that prospective teachers from both sectors with little difference acknowledges the collaborative knowledge building through Web 2.0 technologies(Conole & Alevizou, 2010; Eze, 2016).
7. 56% prospective teachers from private sector universities and prospective teachers from public sector universities with 43% were able to value and practice the ethical consideration in use of web 2.0 technologies from the data it is concluded that prospective teachers from both sectors with little difference were able to value and practice the ethical consideration in use of web 2.0 technologies.

RECOMMENDATIONS

General Universities should provide access of internet facilities to prospective teachers and students.

Exposure of access to web 2.0 tools should be given to prospective teachers from public sector universities by the system.

Knowledge for using and articulating web 2.0 digital tools for building knowledge community for learning purpose, so the more weightage of prospective teachers from public sector can use and articulate web 2.0 digital tools to build knowledge community for learning purpose.

Both sectors should provide trainings to the prospective teachers, so they can learn with Web 2.0 technologies is worth a value, as percentage ratios also supports the facts that both prospective teachers from both sectors admits the benefits of learning with Web 2.0 technologies.

Universities from both sectors should design and device the policy for the prospective teachers and other students to value and practice the ethical consideration in use of web 2.0 technologies, as result found that prospective teachers from both sectors with little difference were able to value and practice the ethical consideration in use of web 2.0 technologies.

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