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Analysis of Student's Attitude Regarding Internet in Relation to Study Level and Stream

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Abstract: ***In modern era web technology is changing sharply every day and the Internet has turn into a lifestyle for people all over the globe. As new behaviors are obtained, it is apparent that the standard of living in societies is in a developing phase. Even though Internet is became life style in our social life so it is major concern that induce positive opinion about it. India is a rising ICT country in the world. The rate of internet use is increasing day by day. The increasing technological development increases the uses of internet in every field. The extensive use of Internet implies the thought that it can also be more broadly used for educational purpose. Internet use for education and research is very important. It is now in follow to teach college to university to get more out of it. In this research, the focus is given on to investigate attitude towards Internet of college and university going students. The analysis is done on two dependent variables like level of study and stream. We have tried to find the significantly difference between postgraduate and graduate as well as arts and science students in college and university located in Sirsa district. This research paper emphasize on all graduate and post graduate students frequently using the Internet for study and personal work. It also explores to measure attitude about Internet by arts and science students of the higher education whether it is an effective learning tool for them. The outcome of study exposes that mostly student wants that the Internet knowledge is essential for them in college and university.***

Keywords: T-test, Study level, Stream, Mean Difference

1. Introduction

In the past few years, rapid growth in information technology, like the Internet, has made significant and stroked impact on existing educational practice [1][2].Use of the internet to support learning and teaching is growing exponentially as more and more educational organizations are recognizing the potential that it offers [3]. Likewise web-based learning where educators assimilate the Internet into their teaching practice can not only encourage their knowledge building and evocative learning, but also provide learners with remote, interactive, wide and individualized learning activities [4][5].Students may have more wealthy experiences of utilizing the Internet because the Internet is using broadly in educational institutions and universities. However, while students have gradually more prospect to utilize the Internet to improve their educational knowledge, studies about the outlook of learners' Web use have not kept rapidity with their usage of the Internet [6].As resultant nature of students like their perceptions, attitudes and self-efficacy toward the Internet should be focused by educational researchers In 2014, nearly 75% (2.1 billion) of all internet users in the world (2.8 billion) live in the top 20 countries. Rajan Anandan, managing director, Google India said that Indian Internet users will exceed the number in the U.S. by the end of this year and around 500 million people will be online by 2018. India now has over 200 million Internet users and by 2018 almost half the country will be connected through the Internet [7]. In developed countries, many have been written on information seeking attitude towards Internet. Such research is required for users in India. This study is an applied to investigate the Internet attitude of master's level and bachelor's level students of the various colleges and university in district Sirsa. Dhiman Kar, Birbal Saha and Bhim Chandra Mondal stated that the stream of study did not influence the attitude of the university students towards e-learning. And female students have slightly higher attitude towards e-learning than their male counterpart. He also found found differences in attitude towards e-learning of University students according to the places they are born and brought up [8].Ying-tien wu and chin-chung tsai found that graduate students, in general, showed more positive attitudes toward the Internet than the college students in this study. However, the grade differences were not found in university students' self-efficacy toward the Internet. Graduate students' Internet attitudes were significantly better than those expressed by college students [9]. In Divaris, Polychronopoulos and Mattheos' study, the positive attitudes towards the necessity and value of IT for the practicing dentist as well as an important educational supplement in the dental curriculum were reaffirmed by the fact that two-thirds or more of the Greek post-graduate dental students strongly agreed with the statements for computer attitudes, whereas no negative response was given [10]. Khalid Mahmood stated that Subject based analysis shows a difference in computer access at university among three groups. Students from science & technology (76%) and social sciences (75%) departments have significantly more computer access at university than students from arts & humanities departments (48%).However, a difference is found between graduate and undergraduate level students. Graduate students (80%) use computers at home more than the undergraduate students (75%).Graduate students use computers at university more than the undergraduate students [11]. Ela Goyal, Seema and Purohit Manju Bhaga described that the results indicate that technology satisfaction and the internet usage significantly explains the variance on students' performance. Task-technology fit is the predictor for internet usage, whereas it is not a predictor for technology resistance. Technology Satisfaction is the predictor of Technology resistance, student's performance and internet usage. Internet usage is

the predictor of Technology satisfaction and student's performance [12]. Meena Sharma and Jasbir Singh stated that gender and Locality does not have any effect of the attitude towards Internet [13]. Vivien Rolfe concluded that the arts lag behind the sciences in the provision of e-learning, with staff suggesting that the use of e-learning was perhaps of less benefit to the subject. The lack of clarity and divergent attitudes provides an insight into how e-learning strategies must be adapted in order to improve staff understanding of what e-learning technologies are available, what the benefits are and how best to adopt them [14]. Sanjay Dahiya and Chaman Verma concluded that majority of the urban and rural students have positive attitudes towards the usage of the Internet in college/ University. They have also found that male students have more positive opinion towards Internet as compared to female students. Similarly urban students won from rural students regarding positive thoughts about Internet [15, 16].

2. Research Design & Objectives

In order to usability and availability of Internet in institutions it is require to understand the students' physiology about Internet. There are two objectives are given below.

1. To discover the difference of college and University students towards Internet with regard to their study levels.
2. To discover the difference of college and University students towards Internet with regard to their streams. For attaining the above aims two null hypotheses are made.

H01. There is no significant difference in attitude towards Internet between postgraduate and graduate students. PGm-UGm=0

H02. There is no significant difference in attitude towards Internet between arts and science students.

ARTm-SCIsd=0

a) Sampling

The population under investigation included those students whose are doing study in their graduation and post graduation at various colleges and university in Sirsa district of state Haryana. The sample space areas are five colleges and one university. Two colleges and one university is public and rest of three colleges are private but affiliated from public university in Sirsa. The population of this study is 106 (one hundred six) taken from various colleges and university in Sirsa district of Haryana as shown above in table 1. In order to acquire a sample that would represent the whole population, the random sampling method is adopted. All students are from various streams and experiences (consisting of 40 (37.7%) PG students and 66 (62.3%) UG students). All the students are doing either graduation or post graduation. Among 106 students 49 (46.2%) is from arts stream and 57 (53.8%) is from science stream. In this research study level and streams considered as independent and attitude towards Internet consider as dependent variable comprised of 19 questions. Table 1 is showing us distribution properties of variables.

Table 1: (Distributions properties of students)

Variables	Study Level		Streams	
	PG	UG	ARTS	SCIENCE
N	40	66	49	57
%AGE	37.7	62.3	46.2	53.8

(Source : Author)

b) Instrument

To study the attitudes of students regarding Internet, IAS (Internet attitude scale) is used. This instrument consisted of 19- questions self report scored on a 5 point Likert type scale (strongly disagree=1, disagree=2, undecided=3, agree=4, and strongly agree=5). Total scores on IAS ranged from 19, indicating an strongly disagree attitude toward the Internet, to a score of 95, which would imply an strongly agree attitude toward the Internet. This instrument also includes questions covering demographic characteristics of students such as name, locality, gender, study level and streams background. Students' responses to the questionnaire were statistically analyzed according to study level and streams. Face validity and content validity of given scale is confirmed through consultation with senior professors from JCD Vidyapeeth and Ch. Devi lal University, Sirsa.

c) Statistical Methods

In the analysis of data about demographic characteristics of Colleges/University students and distributions properties of students frequency (N) and percentage (%AGE) values is used as shown in table 1 and table 2 respectively. To determine significant difference among student's attitude in relation to their study level and streams, independent sample Student t-test is applied. In present research to analysis the student's filled score Microsoft Ms-Excel 2007 with extra Add-ins named Analysis Toolpack is used. There are six tables we framed in which two are for score entry in relation to genders and locality contained count (), average () and stdev () functions respectively and two are for find mean (m), observations (n) standard deviation (sd), degree of freedom (df), student t value (t), at significant level .05(α) by applied t test two sample with equal variance respectively and rest of two are for results compiled sheets only displayed here in analysis section.

3. Data Analysis and Discussion

In this research, quantitative research methods (standard deviations, mean, t-test, percentage, frequency) were used in order to validate assumed hypothesis H01 and H02. The attitude towards internet is compared in terms of study level and streams variables of students. To obtain student's opinion regarding Internet a questionnaire is designed which consisted of various 19 questions affects attitude. The results of the independent group's t-test which compares the students' attitudes towards internet in terms of study level variable are given in Table 3 below.

Table 3 (Independent sample t-test analysis of attitude towards internet in relation to study level)

Q .No	Questions	PG N=50		UG N=56		t value (df=104 alpha=.05 two tail =1.983)
		PGm	**PGsd**	**UG_m**	**UG_{sd}**	
1	Internet is easy to learn and use	4.375	0.490	4.273	0.735	0.781
2	Internet is necessary in College/University	4.65	0.632	4.485	0.614	0.926
3	I use internet in my mobile	4.375	0.628	3.955	1.282	1.935
4	I can connect to someone to remote area by use of Internet	4.075	0.764	3.606	1.175	2.250
5	I feel Comfortable to search information on Internet	4.25	0.543	4.136	0.975	0.676
6	Internet help us to find JOB in remote area	3.975	0.577	4.045	0.919	0.435
7	I can see examination result quickly on Internet	4.175	0.712	4.470	0.638	2.206
8	Use of Internet is enhancing my standard of living	3.675	1.118	3.682	1.125	0.030
9	I do not like Internet due to waste time & efforts	2.025	1.187	2.333	1.219	1.274
10	I can find study material on Internet easily	4.1	0.709	4.121	0.851	0.132
11	I use Internet in both in my home and in College/University	4.45	0.749	3.667	1.128	3.899
12	I can use Internet for Online Payment	3.95	0.749	3.379	1.212	2.683
13	Internet is source of entertainment	4.425	0.549	3.591	1.052	4.639
14	Internet help me to find e-book	3.775	0.974	3.636	0.971	0.712
15	I use Internet once in a week	2.975	1.441	2.318	1.303	2.417
16	Internet is hub of Useful information	4.35	0.580	4.167	1.001	1.055
17	My Teacher should use Internet in his/her teaching	4.275	0.679	4.136	1.065	0.737
18	I have never been frustrated with the Internet	3.775	1.121	3.258	1.207	2.198
19	I used social websites, chatting, surfing on Internet	4.55	0.639	3.727	1.376	3.552

(Source : Author)

Table 3 above, giving clear view that In Q.no. 1-3, 5-10, 14 and 16-17 students of post graduation and graduation have no meaningful different attitude regarding Internet due to calculated t value is less than observed value found. Therefore H01 "There is no significant difference in attitude towards Internet between postgraduate and graduate students." is accepted here in these cases. It is also revealing from Q.no. 4, 11-13, 15 and 18-19 that there is a significant difference on the attitude towards Internet between post graduate and under graduate students due to calculated t value is greater than observed value. Therefore hypothesis H01 is rejected here in these cases. Q.no 2 showing the highest mean value (PG_m= 4.65, $UG_{m=}$ 4.48) proved that Internet is necessary in college and university. It is also observed tha in Q. no. 9 that Internet is not wastage of time and efforts due to lowest mean value (PG_m= 2.025, $UG_{m=}$ 2.333). In Q.no 13 (PG_m =4.425, $UG_{m=}$3.591) stating PG students believe more in Internet as Entertainment source as compare to UG students. Q.no 19 proving that PG students use more Internet in chatting, social sites, surfing as compare to UG students (PG_m =4.55, $UG_{m=}$3.727) but in Q.no. 6 UG students commit more in finding job in remit area through Internet as compare to PG students (PG_m 3.975, UG_m =4.045) The students strongly agreed to the statement "Internet is necessary in College/University." They agreed to the Q. no. 1-8, 10-14, 16-17 and 19 (**PG_m** > 3.5< **UG_m**). Also found PG students have more trust in online payment as compare to UG students. The students remain "Undecided" to Q. no. 9 and 15 (2.5=>**PG_m** and **UG_m** <=3.5).

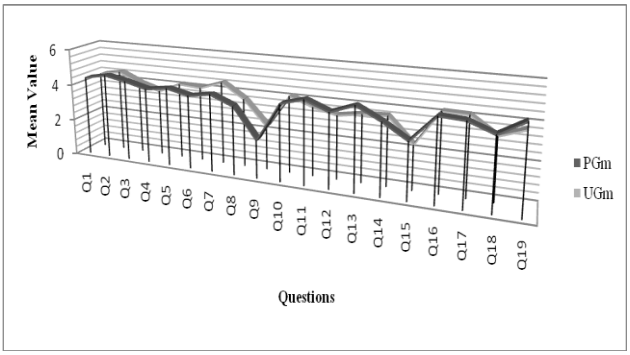

Figure 1: (Independent mean comparative chart for PG (PG_m) and UG (UG_m) students)

(Source : Author)

Figure 1 providing us clear view regarding significant difference between students in post graduation and students in graduation. In case of 1-3, 5-10, 14 and 16-17 there is no significant difference but in case of 4, 11-13, 15 and 18-19 there is a significant difference between mean value relations to study level.

Table 5 (Internet attitude of study level t-Test at significant level 0.05)

Statistic	PG	UG
mean	4.008	3,736
variance	.377	.365
observations	19	19
sd	.614	.604
df	36	
t Stat	1.375	
md	0.272	
P(T<=t) two-tail	0.178	
t Critical two-tail	2.028	

(Source : Author)

As shown in above table 5 we can see the descriptive statistics display mean, variance, observations, sd, df, t-value for both PG and UG students. Calculated t-value is less than observed value (1.375<2.028094) showing that there is no

significant difference on attitude towards Internet of students in relation to their study level. It is also shown from mean difference (md=0.272). So our first hypothesis HI is accepted hence it is proved that PGm-UGm=0.272. We have not found significant difference between PG and UG students' attitude regarding Internet.

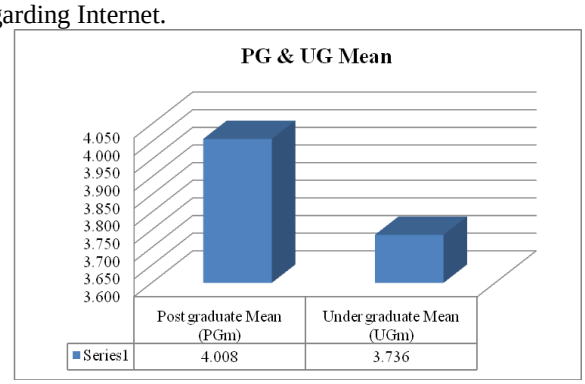

Figure 2: (Study Level Mean)
(Source : Author)

In Figure 2 result showing that PG student's mean value (PGm=4.008) is greater than UG student's mean value (UGm=3.736) reflecting PG students have higher positive attitude towards Internet as compare to UG students. It is concluded that there is a no significant difference difference between students in post graduation and students in graduation regarding Internet attitude. Hence our first hypothesis H01 "There is no significant difference in attitude towards Internet between postgraduate and graduate students." is accepted here.

Table 4: (Independent sample t-test analysis of attitude towards internet in relation to streams)

Q .No.	Questions	ART N=49		SCI N=57		t value (df=104 alpha=.05 t-two tail =1.983)
		ARTm	ARTsd	SCIm	SCIsd	
1	Internet is easy to learn and use	4.143	0.764	4.456	0.503	2.526
2	Internet is necessary in College/University	4.204	0.676	4.807	0.398	5.684
3	I use internet in my mobile	3.694	1.245	4.474	0.804	3.881
4	I can connect to someone to remote area by use of Internet	3.653	1.091	3.895	1.03	1.172
5	I feel Comfortable to search information on Internet	3.776	0.963	4.526	0.504	5.128
6	Internet help us to find JOB in remote area	3.714	0.913	4.281	0.59	3.844
7	I can see examination result quickly on Internet	4.102	0.77	4.579	0.498	3.835
8	Use of Internet is enhancing my standard of living	3.245	1.109	4.053	0.99	3.962
9	I do not like Internet due to waste time & efforts	2.265	1.238	2.175	1.197	0.379
10	I can find study material on Internet easily	3.939	0.689	4.263	0.856	2.125
11	I use Internet in both in my home and inCollege/University	3.755	1.128	4.14	0.99	1.873
12	I can use Internet for Online Payment	3.224	1.177	3.912	0.912	3.386
13	Internet is source of entertainment	3.592	0.998	4.175	0.889	3.184
14	Internet help me to find e-book	3.469	1.002	3.877	0.908	2.198
15	I use Internet once in a week	2.633	1.395	2.509	1.39	0.457
16	Internet is hub of Useful information	3.896	0.881	4.509	0.759	3.83
17	My Teacher should use Internet in his/her teaching	3.898	0.832	4.509	1.023	3.857
18	I have never been frustrated with the Internet	3.184	1.167	3.684	1.183	2.186
19	I used social websites, chatting, surfing on Internet	3.571	1.472	4.439	0.756	3.892

(Source : Author)

As seen in table 4 above, it is found from Q.no. 4, 9, 11 and 15 that there is no significant difference on the attitude towards Internet between arts and science students because calculated t value is less than observed value. Therefore H02 "There is no significant difference in attitude towards Internet between arts and science students." is accepted here in cases. It is also found from Q.no. 1-3, 5-8, 10, 12-14, and 16-19 that there is significant difference on the attitude towards Internet between arts and science students due to calculated t value is greater than observed value. Therefore hypothesis H02 "There is significant difference in attitude towards Internet between arts and science students" is rejected here in cases. Q.no 2 had the highest mean value (A$\mathbf{RT_m}$= 4.204, $\mathbf{SCI_{m=}}$ 4.807) described that Internet is necessary in Colleges and university. It has been also found in Q.no. 9 that Internet is not wastage of time and efforts due to lowest mean value (A$\mathbf{RT_m}$= 2.265, SCI_m = 2.175). The students strongly agreed to the statement "Internet is necessary in College/University." They agreed to the Q.no. 1-7, 10-11, 13-14, 16-17 and 19 (A$\mathbf{RT_m}$ > 3.5< $\mathbf{SCI_m}$). But in case of Q.no.4, 6 and 12 we found science students have greater mean value as compare to arts students ($\mathbf{SCI_m}$> $\mathbf{ART_m}$) showing science students have more positive attitudes towards Internet in relation of; Remote connectivity, Job search in remote area, online payment.

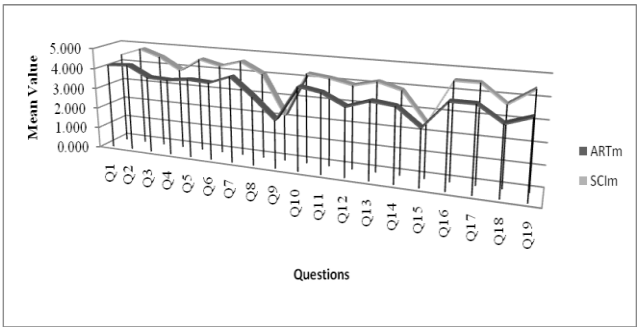

Figure 2: (Independent mean comparative chart for Arts (ART_m) and Science (SCI_m) students)
(Source : Author)

Figure 2 showing that there is significant difference between students of arts and science about Internet attitude. In case of

4, 9, 11 and 15 there is no significant difference but in case of 1-3, 5-8, 10, 12-14, and 16-19 there is significant difference between mean value relations to streams.

Table 6: (Internet attitude of streams t-Test at significant level 0.05)

Statistic	Arts	Science
mean	3.589	4.053
variance	.258	.447
observations	19	19
sd	.497	.675
df	36	
t Stat	2.54	
md	0.490	
P(T<=t) two-tail	0.015	
t Critical two-tail	2.028	

(Source : Author)

As shown in above table 6 we are able to see mean, variance, observations, sd, df, t-value for both arts and science students. Calculated t-value is less than observed value (2.54>2.028) stating itself that there is meaning significant difference on attitude towards Internet of students in relation to student's stream. So our second hypothesis H02 is rejected here, hence it is proved that PGm-UGm≠0 (md=0.490). We found significant difference between Arts and Science students' attitude regarding Internet.

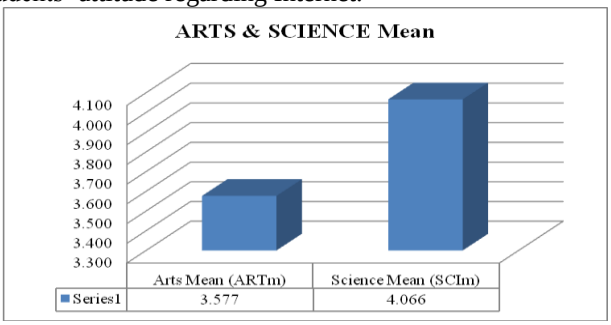

Figure 3 (Stream Mean)
(Source : Author)

It is seen from Figure 3 that arts student's mean value (ARTm= 3.577<SCIm=4.066) is less than science student's mean value. It is reflecting science students have higher positive attitude towards Internet as compare to arts students. It is concluded that there is significant difference between students in relation to stream towards Internet attitude.

4. Conclusion

This research is accomplished on the students of graduation and post graduation belongs to arts and science streams to investigate the attitude toward the use of Internet. The research idea is to find out significant difference between students in relation to their study level and streams. It is found that the Internet is an essential for students in college and universities. There is a meaningful difference of thoughts between groups of participants based on their streams but there not meaningful difference of opinions between groups of participants based on their study level. But Post graduate students have higher positive attitude towards Internet as compare to undergraduate students even though majority of the students are from undergraduate. Post graduation students are leading from graduate students in cases like mobile use in home and university, job find in remote area, use of social sites but undergraduate students win from them in only see examination result online. Ying-tien wu and chin-chung tsai described that Graduate students' Internet attitudes were significantly better than those expressed by college students [9]. Similarly science students have higher positive attitude towards Internet as compare to arts students. It is concluded that there is meaningful difference between students in relation to stream towards Internet attitude. Results of research satisfied Vivien Rolfe's conclusion that the arts lag behind the sciences in the provision of e-learning [15]. This study motivates to college and university administration to take steps to persuade their students by providing Internet facility on campus.

References

[1] Chou, C., & Tsai, C.-C.. "Developing Web based curricula: issues and challenges". Journal of Curriculum Studies, 34:623–636, 2002.
[2] Havick, J. "The impacts of internet on a television-based society". Journal of Technology in Society 22:273–287, 2000.
[3] Norzaidi, M.D., Chong, S.C., Murali, R. and Intan Salwani, M. "Internet usage and managers' performance in the port industry", Industrial Management & Data Systems, 107(8), 1227-50, 2007
[4] Jonassen, D.H., Peck, K.L., & Wilson, B.G." Learning with technology: a constructivist perspective". Upper Saddle River, NJ: Merrill, 1999.
[5] Leflore, D. "Theory supporting design guidelines for web-based education. In: B. Abbey (ed.), Instructional and cognitive impacts of web-based instruction", Hershey, PA: Idea Group Publishing, pp 102–117, 2000.
[6] Metzger, M.J., Flanagin, A.J., & Zwarun, L. "College student Web use, perceptions of information credibility, and verification behavior", Computers & Education 41:271–290, 2003
[7] The Hindu Times http://www.thehindu.com/sci-tech/technology/internet/google-india-indian-internet-users-to-surpass-us-in-2014/article6308559.ece Accessed on 7 Jan 2015.
[8] Dhiman Kar, Birbal Saha and Bhim Chandra Mondal "Attitude of University Students towards E-learning in West Bengal" American Journal of Educational Research, Vol. 2, No. 8, 669-673, 2014.
[9] Ying-tien wu and chin-chung tsai, "University Students' Internet Attitudes and Internet Self-Efficacy: A Study at Three Universities in Taiwan" Cyberpsychology & Behavior "Volume 9, Number 4, 2006.
[10] Divaris, K., Polychronopoulou, A., & Mattheos, N. "An investigation of computer literacy and attitudes amongst Greek post-graduate dental students", European Journal of Dental Education, 11 (3), 144-147, 2007.
[11] Khalid Mahmood "Gender, subject and degree differences in university students' access, use and attitudes toward information and communication technology (ICT)" International Journal of Education and Development using Information and Communication Technology, Vol. 5, Issue 3, pp. 206-216, 2009.

[12] Ela Goyal, Seema and Purohit Manju Bhaga "Study of satisfaction and usability of the Internet on student's performance" International Journal of Education and Development using Information and Communication Technology, Vol. 7, Issue 1, pp. 110-119, 2011.

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