

## **Motivation and Interaction through Technology in Teaching Learning Process at Higher Education Level**

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### **Abstract**

The study aimed to explore students' opinion of integrating technology in teaching learning process at higher education level in Khyber Pakhtunkhwa Pakistan. The study was designed with the objectives: 1) To explore students' perceptions regarding motivation and interaction through technology in teaching learning process at higher education level 2) To compare male and female students' opinions about motivation and interaction through technology in teaching learning process at higher education level. Students studying in all the public sector universities of Khyber Pakhtunkhwa Pakistan constituted the population of the study. Out of 13 public sector university 5 universities were randomly selected from which 800 students studying in Master final year session 2008-2010 were selected through proportional allocation technique as a sample of the study. Mean, Standard Deviation and Chi Square test of

independence were used to analyze the data. Results of the study showed that students were motivated when technology was used in their teaching learning process. Both the male and female students found the technology as a better source of interaction and no significant difference was found in the opinion of male and female students about motivation and interaction through technology in teaching learning process. It was recommended that technologies i.e. Computer, multimedia and internet facilities may be provided to the institution in which these facilities are not available and students may be allowed access to the available technology resources any time they need.

**Keywords:** Students, Motivation, Interaction, Technology, Higher Education.

## Introduction

The word technology is mostly used for electronic tools like radio, television and computer etc which is narrow concept about technology.

Aggarwal (1995) quoted "Heirra-A (1973) that "Technology is the combination of tools and skills used for the fulfillment of the requirements of the public"

Williams and Williams (1996) clarify the word technology thus "the utilization of tools, materials and process in such a way to complete tasks efficiently, to develop quality of life, and to realize human requirements and desires".

The rapid growth and development in science and technology has not revolutionized any field of the world as quickly as education. The introduction of technological tools like computer, multimedia and internet in the teaching learning process not only brought great changes and improvement in education process but also made it interesting, alive and attractive. On one hand it facilitates instructional strategies and on the other hand encourages and motivates students in teaching learning process. Multimedia teaching and computer-based system including video, audio and digital storage media, facilitates educators with the device to make learning alive. Multimedia can take the place of most general type of instructional technology provided there is proper planning, sufficient financial support and faculty development (Jensen, 1993).

Computer and multimedia technology have encouraging and sound effects on students in EFL classroom as it let student to view actual life situation and significant communication in technology based classes (Kung, 2003). Distance education and electronic-learning technologies can best be used for motivating students in ELT program (Usun and Kamur, 2009). Language learner can improve their language skills, if attractive and real communicative devices are provided to them in their classrooms. Uses of computer and other technological devices make student energetic and motivated, giving them a sense of independence and support and engage them in language learning process (Wang, 2004). Use of computer for instruction purposes cultivate in students higher level thinking and critical skills (Lancy, 1990; Ryba & Anderson, 1990). Students use technology particularly mobile phone and internet for communication, text messaging, storing and transmitting data and information in education and training all over the world (Taxler, 2007). Technology is a source of meaningful and communicative materials in a classroom of tale-collaborative and tale-conferencing (Belz, 2002). Information and communication technologies facilitate learning everywhere, anytime, beyond the limitation of distance and time (Wieland, 2005). Instructional technologies not only facilitate access to a vast pool of information in one central place, but also provide opportunities to those who have no access to the remote advanced universities (Sadler-Smith 2000). Many advanced universities today offer online courses in various disciplines for different level of degrees, through distance learning system.

Students in their native soil have access to these universities through instructional technologies (Hemsley 2002). Moreover, the students on part time job can also get degrees from these universities. So information and communication technologies on one hand facilitate approach to the worldwide updated knowledge and on the other hand decrease the burden of enrolment on the already overcrowded universities.

In educational literature, motivation remains the focal point for students learning and instructional strategies. Wide spread research has been done on students' motivation and instructional strategies affecting students' motivation in the last two decades (Keller, 1983; Keller & Kopp, 1987). He further added that computer-based learning texts are valid, more effectual and motivating for all type of language learners. Lancy, Ryba & Anderson, (1990) declare that use of computer for instruction purposes cultivate in students' critical and higher order thinking skills.

Stepp-Granny (2000) assumes that classrooms having sufficient technologies enhances student's motivation and create interactive environment for various activities. Harmer (2007) declares that computer-based classrooms facilitate learners with inaccessible and charming activities which concentrate their attention and motivate them. Musker (2000) stated that uses of computer in classrooms have resulted in improvement in motivation and self-esteem in students in their work presentation. Charp, (1998): King, (1997) and New house, (1998) reported that uses of ICT improve students attendance and make better their feelings towards learning. Kozma, (1991, 1994) mentioned that ICT promote students engagement by connecting learners to information resources through hyperlink and hypertext systems.

Review of relevant literature revealed that numerous studies have been conducted about uses of instructional technologies. No specific study was found regarding students opinion about motivation and interaction through instructional technologies in teaching learning process at higher education level in Pakistan. Therefore the researcher was attracted to conduct a study in this area.

## **Objectives of the study**

This study was conducted with the following objectives:

1. To explore students' perceptions regarding motivation and interaction through technology in teaching learning process at higher education level
2. To compare male and female students' opinion about motivation through technology in teaching learning process at higher education level.
3. To compare male and female students' opinion about interaction through technology in teaching learning process at higher education level.
4. To suggest some workable recommendation for improvement of the situation.

## **Research Hypotheses**

This study was guided by the following two null hypotheses:

**Ho1:** There is no significant difference between male and female students opinion about motivation through technology in teaching learning process at higher education level.

**Ho2:** There is no significant difference between male and female students opinion about interaction through technology in teaching learning process at higher education level

## Research Methodology

The study was descriptive type in nature. In order to achieve the objectives of the study the following research methodology was adopted.

## Population and Sample

All the Students enrolled in different Masters Programs studying in final year session 2008-10 in the public sector universities of Khyber Pakhtunkhwa, Pakistan constituted the population of the study.

Keeping in view the different number of male and female students in different Universities, out of 13 Public Universities, 5 universities were randomly selected from which 800 students, 444 male and 356 female were randomly selected as a sample using proportional allocation technique.

## Instrumentation

The questionnaire was developed on the basis of the objectives of the study using five point likert scale (Agree, Strongly agree, Undecided, Disagree, Strongly disagree). The questionnaire based on two parameters (motivation and interaction). For validity and reliability and to remove language ambiguity, research and language experts were consulted, their suggestions, observations were incorporated. The questionnaire was personally distributed among 50 students as a pilot run. The subject were part of the population but were not included in the sample of the study. The final version of the questionnaire contains 15 questions, among those eight were regarding motivation and seven stands for interaction through technology. Data was analyzed through SPSS-16. The reliability of 15 items at Cronbach's alpha obtained was 0.70 which was quite reasonable for provident start of data collection.

## Analysis and Interpretation of Data

The collected data was entered in SPSS 16 and were analyzed, tabulated according to the objectives of the study using, Mean, Standard Deviation, and Chi Square test of independence. Result were elicited, analyzed and interpreted according to the stated objectives of the study. Hypotheses were tested on 0.05 level of significance.

The following scale was applied in descriptive analysis:

Weight	Scale	Scale Abbreviation	Range of Means
1	Strongly Disagree	SA	1.00– 1.50
2	Disagree	DA	1.51 - 2.50
3	Undecided	UD	2.51 – 3.50
4	Agree	A	3.51 – 4.50
5	Strongly Agree	SA	4.51 – 5.00

**Table 1:** Motivation as a Benefit of Integrating Technology in Teaching Learning Process (N=800)

S. No	Statement	M	SD
1	Technology based teaching-learning activities motivate me in learning.	4.23	0.76
2	Multimedia technology makes the presentation more enjoyable.	4.37	0.80
3	Multimedia technology makes the presentation interesting and alive.	4.30	0.87
4	Multimedia technology makes presentation visible and clear.	4.39	0.78
5	Technology makes the teaching- learning process attractive.	4.13	0.90
6	Multimedia technology makes the presentation easy, understandable and comprehensive.	4.18	0.93
7	I understand a lesson better with the use of technology instead of being taught by traditional method.	3.74	1.19
8	Technology should be used in every teaching learning exercise in class room.	3.83	1.10
	Overall	4.15	.59

Table 1 shows that the respondents are “Agree” with the statement “technology based teaching learning activities motivate in learning” (M=4.23, SD=0.76). Respondents are “Agree” with the statement “Multimedia technology makes the presentation more enjoyable” (M=4.37, SD=0.80). Respondents are “Agree” with the statement “Multimedia technology makes the presentation interesting and alive” (M=4.30, SD=0.87). Respondents are “Agree” with the statement “Multimedia technology makes presentation visible and clear” (M=4.39, SD= 0.78). Respondents are “Agree” with the statement “technology makes the teaching-learning process attractive” (M=4.13, SD= 0. 90). Respondents are “Agree” with the statement “Multimedia technology makes the presentation easy, understandable and comprehensive” (M=4.18, SD= 0.93). Respondents are “Agree” with the statement “I understand a lesson better with the use of technology instead of being taught by traditional method” (M=3.74, SD= 1.19). Respondents are “Agree” with the statement “Instructional technology should be used in every teaching learning exercise in class room” (M=3.83, SD= 1.10). Over all respondents are “Agree” with the statement “motivation as a benefit of integrating technology in teaching learning process at higher education level”(M=4.15, SD=.59)

**Table 2:** Interaction as a Benefit of Integrating Technology in Teaching Learning Process (N=800)

S.#	Statement	M	SD
1	Internet/mobile technology enables me to have contact with my teachers any time any where through mobiles or text messaging.	4.15	1.04
2	Mobile technology enables me to have contact with my class fellows and other community members.	4.44	0.80
3	Internet technology enables me to send my assignment and other research materials to my supervisors easily.	4.22	0.94

4	Mobile/internet technology enables me to receive instruction and other helping materials from my supervisor easily.	4.15	0.96
5	Internet technology enables me to do collaborative and cooperative work from various sites.	4.29	0.81
6	Internet technology enables me to attend educational Seminars and conferences held in far flung areas.	4.05	0.99
7	Technologies provides equal opportunities to all the students in a classroom	4.02	0.99
	Overall	4.19	.60

Table 2 Shows that the respondents are “Agree” with the statement “Internet/mobile technology enables me to have contact with my teachers any time any where through mobiles or text messaging” (M=4.15, SD=1.04). Respondents are “Agree” with the statement “Mobile technology enables me to have contact with my class fellows and other community members” (M=4.44, SD=0.80). Respondents are “Agree” with the statement “Internet technology enables me to send my assignment and other research materials to my supervisors easily” (M=4.22, SD=0.94). Respondents are “Agree” with the statement “Mobile/internet technology enables me to receive instruction and other helping materials from my supervisor easily” (M=4.15, SD=0.96). Respondents are “Agree” with the statement “Internet technology enables me to do collaborative and cooperative work from various sites” (M=4.29, SD=0.81). Respondents are “Agree” with the statement “Internet technology enables me to attend educational seminars and conferences held in far flung areas” (M=4.05, SD=0.99). Respondents are “Agree” with the statement “Technologies provides equal opportunities to all the students in a classroom” (M=4.02, SD=0.99). Over all respondents are “Agree” with the statement “Interaction as a benefit of integrating instructional technology in teaching learning process at higher education level” (M=4.19, SD=0.60).

Inferential analysis of data was made for the comparison of two groups male and female views.

**H<sub>01</sub>:** There is no significant difference between male and female students opinion about motivation through instructional technology at higher education level.

**Table 3:** Comparison of Male and Female Students Views of Integrating Technology in Teaching Learning Process at Higher Education Level about Motivation

Gender	f	SDA	DA	UD	A	SA	$\chi^2$	P	Phi
Male	Observed	79	245	225	1472	1531	26.01	0.52	0.18
	Expected	76	236.6	233.7	1556.9	1449.1			
Female	Observed	58	181	169	1333	1080			
	Expected	61	189.5	187.3	1248.1	1161.9			

$P \leq 0.05$

Table 3 shows that male observed frequency for “Strongly Disagree” ,”Undecided” and “Strongly Agree” is greater than expected frequency while female observed frequency for “Agree” is greater than expected frequency with  $\chi^2 = 26.01, P=0.52$  and  $\Phi = 0.18$ . The above table shows that the calculated value of  $\chi^2$  (26.01) is greater than the table value of  $\chi^2$  (9.488) at  $p = (0.05)$ , so the result is significant and it may be concluded that there is no significant

difference between the opinion of male and female students opinion about motivation through technology in teaching learning process at higher education level. Therefore Ho is accepted

**Ho2:** There is no significant difference between male and female students opinion about interaction through instructional technology in teaching learning process at higher education level

**Table 4:** Comparison of Male and Female Student's Views of Integrating Technology in Teaching Learning Process at Higher Education Level about Interaction

Gender	f	SDA	DA	UD	A	SA	$\chi^2$	P	Phi
Male	Observed	66	173	207	1215	1459	26.01	0.52	0.18
	Expected	96.1	189.9	223.6	1260.3	1373.1			
Female	Observed	56	169	196	1056	1015			
	Expected	48.9	152.1	179.4	1010.7	1100.9			

\* $P \leq 0.05$

Table 4 shows that male observed frequency for “Strongly Agree” is greater than expected frequency while female observed frequency for “ Strongly Disagree” “Disagree” and “Agree” is greater than expected frequency with  $\chi^2 = 26.01, P=0.52$  and  $\Phi = 0.18$ . The above table shows that the calculated value of  $\chi^2$  (26.01) is greater than the table value of  $\chi^2$  (9.488) at  $p = (0.05)$ , so the result is significant and it may be concluded that there is no significant difference between the opinion of male and female students about interaction through technology in teaching learning process at higher education level. Therefore Ho is accepted

## Conclusions

The following conclusions were drawn in this study.

1. Teaching through technology makes the teaching learning process enjoyable, alive, visible, attractive, and motivating.
2. Teaching through instructional technology makes the lesson easy, understandable and comprehensive and is best replacement for traditional method of teaching.
3. Internet/mobile technologies enable students to have contact with teachers, class fellows and other community members, send their assignment and other research materials to supervisors and receive instruction from supervisor.
4. The respondents were consent that Internet technology enables students to attend and participate in educational seminars and conferences held in far flung areas and helps in collaborative and cooperative working from various sites easily.

## Recommendations

On the basis of the conclusion the following recommendations/suggestion were made safely.

1. Student's have the opinion that teaching through technology motivate them in teaching learning process, so technology facilities(computer, multimedia, internet) may be provided to the institution in which these facilities are not available.
2. Student may be allowed to use the available technologies (computer, internet, multimedia) in the department any time they need, so that they may interact with their teachers, experts, and scholars easily and have access to the reservoir of knowledge.

3. For better usage of the instructional technologies proper arrangement may be made for the training of the teacher at higher education level.
4. For better usage of instructional technologies for learning, a time of technology utilization may be arranged conveniently for students weekly at higher education level

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