

Impact of Learning Approaches and Attitude Towards Technology on Teaching of Internet Users And Non-Users Teachers of Professional Colleges

Dr. Manju Gera

Assistant Professor, Deptt. of Education,
USOL, Panjab University, Chandigarh, India.

ABSTRACT

In the 21st century, there has been a great shift in terms of educational transaction, technology, environment, social values, culture, and gender sensitivity. Now, the focus is shifting from knowledge acquisition to information management and processing. The present study had examined the impact of learning approaches and attitude towards technology on teaching of internet users and non-users teachers of professional colleges. For conducted the presented study, 300 male & female teachers of various regular mode professional colleges of Punjab and Chandigarh were selected for the present study. The findings of the study pointed out that the user and non-user professional college teachers differ significantly in respect of scores on Computer/Internet use in their teaching. And the user professional college teachers integrate Computer/Internet more in their teaching as compared to their non-user counterparts. Although, user or non-user professional college teachers with high or low attitude, and deep or surface approach do not significantly affect each other to yield difference in levels of use of Computer/Internet. Moreover, in the same way, the interaction effect among learning approaches, attitude towards technology of user and non-user professional college teachers did not yield differences in mean scores for use of Computer/Internet in their teaching activities. The results of the present study indicate that the level of use of Computer/Internet by the professional college teachers in their teaching was different for user and non-user teachers having high and low attitude towards technology and having deep and surface approach of study/learning. The results have a direct implication for teachers and administrators. The quality of teaching may enhance and ultimately help teachers in their outlook, confidence & level of knowledge etc. There is a great need to enhance the use of Computer/Internet because it helps in providing an easy access to the experts and specialists. Lack of knowledge of Computers is a main barrier for integrating Computers into curriculum. Hence teachers should be provided adequate knowledge and skills for using Computers. Moreover, the support for staff development can be a significant factor in contributing to use Computers effectively and successfully. The support of a social environment of Computer using teachers at the same school is an important factor.

KeyWords:- Teaching, Learning Approaches, Attitude, Technology, Internet, Teachers.

Introduction

In the 21st century, there has been a great shift in terms of educational transaction, technology, environment, social values, culture, and gender sensitivity. Now, the focus is shifting from knowledge acquisition to information management and processing. The task ahead is a challenging one. To face it, we need a better and more resourceful task force. All over the world, teachers are learned and using information and communication technology for better teaching & learning. According to Gibson & Oberg (1999), "Teachers need to develop new informational and technological skills, as well as feelings of competence and confidence, in order to help their students to use the

Internet for learning. To develop these skills and dispositions, teachers need support for their learning and a user-friendly technological infrastructure". Our teachers will have to come down from the classroom centre-stage and live the redefined role of a facilitator, coordinator and an effective manager. The futuristic teachers must be able to become catalytic agents of change and active participants in the learning process. The teachers should use technology meaningfully to support the learning process in ways which focus attention, spark imagination and improve understanding. Information and communication Technology (ICT) can play a significant role in the creation of pupil-centered learning environments. Moreover, McNicholas & Todd, (1996) pointed out that "professional college teachers using the Internet are working in an environment of information abundance instead of information scarcity, which leads to new problems related to the location, evaluation and use of informational resources".

Internet has the potential of revolutionizing the teaching by turning away the teacher from direct instruction and other traditional methods towards interactive, inventive and discovery based approaches. Internet presents students and teachers an unprecedented opportunity to engage in one of the most democratizing movements in human history – equal access to unbounded unlimited information (Ryder, Hughes Williams, 1997). Thus, teachers being the dynamic agents, affect the behaviour, development and learning of students to a great extent. Therefore, it is believed that their attitude towards technology have a direct bearing on the students.

Therefore, the present study had examined the impact of learning approaches and attitude towards technology on teaching of internet users and non-users teachers of professional colleges.

Review of Related Literature

It is a general argument that the professional college teachers need to use the internet & they are considered to be positive attitude towards technology. Some important studies in this field were conducted to find out impact of learning approaches and attitude towards technology on teaching of internet users and non-users teachers of professional colleges. In this regards, Rogers (1995) described a theory of perceived attributes as the theoretical framework. And found that the various variables found to be significant in affecting the decision to use the Internet included relative advantage, observability, trialability, ease of use, and compatibility. Additionally, years of teaching experience emerged as a significant predictor of adoption. The study conducted by Holcombe (2000) to determine the factors which influenced teachers to adopt the Internet as a teaching tool. The sample consisted of public school teachers in Texas Schools. In this regard, Gomleksiz, also (2004) conducted a survey study on 150 English teachers to *determine their attitude on the use of education technology in their classes*. The findings of the present study imply that the teachers think that there is a relation between success and technology use. The teachers stressed that education technology has an important place in teaching learning process but they are not so willing in using education technology in their classes.

Objectives of the Study

The study was conducted to attain the following objectives:

- To study the impact of learning approaches on teaching of user and non-user professional college teachers.

- To study the impact of attitude towards technology of user and non-user professional college teachers on teaching.
- To study the interaction effect of learning approaches and attitude towards technology on teaching of professional college user and non-user teachers.

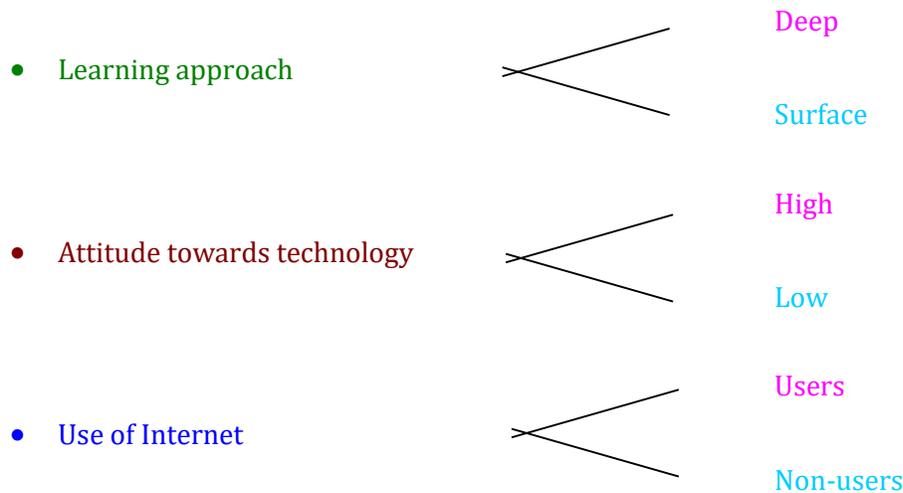
Hypotheses of the Study

On the basis of the above mentioned objectives, the study had been designed to test the following hypotheses:

- H_{0.1} : There is no significant difference in mean scores of use of Computer/Internet in Teaching activities of user and non-user professional college teachers.
- H_{0.2} : There is no significant difference in the mean scores of deep approach and surface approach professional college teachers for use of Computer/Internet in their teaching activities.
- H_{0.3}: There is no significant difference in mean scores of use of Computer/Internet in teaching activities of professional college teachers with high and low attitude towards technology.
- H_{0.4} : The mean scores for use of Computer/Internet in teaching activities of user and non-user professional college teacher having deep and surface learning approaches are not significantly different.
- H_{0.5}: The mean scores for use of Computer/Internet in teaching activities of user and non-user professional college teacher having high and low attitude are not significantly different.
- H_{0.6} : The mean scores for use of Computer/Internet in teaching are not significantly different for professional college teachers having deep and surface learning approach and high and low attitude towards technology.
- H_{0.7}: The interaction effect among learning approaches, attitude towards technology of user and non-user professional college teachers will not yield differences in mean scores for use of Computer/Internet in their teaching activities.

Research Design of the Study

The present research was descriptive in nature, and designed to study the impact of learning approaches and attitude towards technology on the teaching of Internet user and non-user professional college teachers. For the purpose of present investigation an exploratory ex-post factor design was employed. The study employed 2x2x2 factorial design wherein the teaching was the dependent variable. The learning approaches, attitude towards technology and use and non-use of Internet wherein the teaching was the dependent variable. The learning approaches, attitude towards technology and use and non-use of Internet were independent variables. Each of these three independent variables was studied at two levels viz.



Thus, with the help of tools different types of learning approach were categorised into (deep & surface), attitude towards technology grouped into (high & low) and use of internet assembled into (users & non-users).

Sample of the Study

For conducted the presented study, 300 male & female teachers of various regular mode professional colleges of Punjab and Chandigarh were selected randomly for the present study.

Tools Used

The tools used in the study have been enlisted below.

- Scale for use of Computer/Internet in academic transaction, (developed and validated by the Investigator).
- Scale of Attitude towards technology (Developed and validated by the investigator).
- Revised Study Process Questionnaire (Biggs, Kember & Leung, 2001).

Statistical Techniques Used

To analyses the collected data, various staistical techniques like correlation, t-test, Anova were used.

ANALYSIS AND INTERPRETATION OF DATA

To find out the impact of attitude and learning approach on the use of computer/internet in teaching of professional college teachers, (2x2x2) ANOVA-test was used.

Table.1: Analysis of Variance for Impact of Attitude and Learning approach on the use of Computer/Internet in Teaching of Professional College Teachers

Source of Variation	m	Su of Squares	f	Mean sum of square	F- ratio
Main Effects User/non-user (A)	04.21	26	1	2604.2	202.88**
Learning Approach Deep/surface (B)	0	0.2	1	0.20	0.0
Attitude High/Low (C)	60	23.	1	23.60	1.8
Two Order Interactions (AxB)	5	5.8	1	5.85	0.4
(AxC)	7	9.7	1	9.77	0.7
(BxC)	4	0.2	1	0.24	0.0
Three order interactions (AxBxC)	8	0.2	1	0.28	0.0
Error Term	88.13	28	25	12.83	
Total	32.28	55	32		

** Significant at the 0.01 level of confidence

MAIN EFFECTS (A)

Users/Nonusers

F-ratio for the difference in mean scores on Computer/Internet use in teaching of user/non-user teachers was found to be 202.88 which is significant at 0.01 level of confidence. This indicates that the difference in the means of user and non-user teachers groups of professional college teachers on scores of Computer/Internet use was statistically significant. Thus the null hypothesis H_{01} : *There is no significant difference in mean scores of use of Computer/Internet in Teaching activities of user and non-user professional college teachers* was rejected at the specified level. It may be inferred that the user and non-user professional college teachers differ significantly in respect of scores on Computer/ Internet use in their teaching.

Table 2 : t-ratio for Difference in Means of user and non-user Professional College Teachers Scores on the scale of use of Computer/Internet in teaching

Groups	N	Mean	Standard Deviation	Variance	Standard Error Mean	t-ratio
Users	122	24.70	3.46	11.97	0.31	16.08**
Nonusers	111	17.18	3.66	13.39	0.34	

** Significant at 0.01 level of confidence.

The t-value of 16.08 for the difference in the means of the two groups was found to be significant at the 0.01 level of confidence. The two groups of user and non-user professional

college teachers may therefore be considered different beyond chance. It leads to an inference that there is a significant difference in the mean scores of the user and non-user professional college teachers in the use of computer/ Internet in their teaching.

MAIN EFFECT (B)

Learning Approaches

The F-ratio for the difference in mean scores of professional college teachers with deep and surface learning approach was not found to be significant even at 0.05 level of confidence. Thus the null hypothesis $H_{0.2}$: *There is no significant difference in the mean scores of deep approach and surface approach professional college teachers for use of Computer/Internet in their teaching activities* was not rejected at the specified level. It may be inferred that the professional college teacher with deep approach and surface learning approach were not different in their Computer/Internet use in teaching activities and difference if any, could be ascribed to chance only

MAIN EFFECT (C)

Attitude Towards Technology

The F-ratio for the difference in mean scores of high attitude and low attitude groups of teachers on Computer/ Internet use in teaching was found to be 0.01 which was not significant even at the 0.05 level of confidence. Hence the null hypothesis $H_{0.3}$: *There is no significant difference in mean scores of use of Computer/Internet in teaching activities of professional college teachers with high and low attitude towards technology* was not rejected at the specified level.

Two Order Interactions (A x B): Users/Nonusers and Learning Approaches

The F-ratio for the difference in means of groups due to interaction effect of attitude towards technology and use/no use of Computer/Internet, was not found to be significant even at the 0.05 level of confidence. The null hypothesis $H_{0.4}$: *The mean scores for use of Computer/Internet in teaching activities of user and non user professional college teacher having deep and surface learning approaches are not significantly different* was not rejected at the specified level. It may be inferred that the mean scores on Computer/ Internet use in teaching of various groups was not different for the teachers having high or low attitude towards technology.

Two Order Interactions (A X C): User/Nonusers and Attitude towards technology

The F-ratio for the difference in means of groups due to interaction effect of use of computer in teaching activities and learning approaches, was not found to be significant even at the 0.05 level of confidence. The null hypothesis $H_{0.5}$: *The mean scores for use of Computer/Internet in teaching activities of user and non user professional college teacher having high and low attitude are not significantly different* was not rejected at the specified level. It may be concluded that the user/non-user professional college teachers having deep or surface learning approach yielded equal mean scores for use of Computer/Internet in teaching activities.

Two Order Interactions (B x C): Learning Approaches and Attitude towards Technology

The F-ratio for the difference in means of groups due to the interaction effect of learning approach and attitude towards technology, was found to be 0.01. This value was not significant even at the 0.05 level of confidence. The null hypothesis $H_{0.06}$: *The mean scores for use of Computer/Internet in teaching are not significantly different for professional college teachers having deep and surface learning approach and high and low attitude towards technology* was not rejected at the specified level. It may be inferred that the professional college teachers having high or low attitude towards technology with deep or surface approach of learning, exhibited equal levels of Computer/Internet use in their teaching.

Three Order Interaction A x B x C : Use of Computer/Internet, Learning Approaches and Attitude towards Technology

The F-ratio for difference in means of groups due to interaction effect of use of computer, attitude towards technology and learning approach was found to be .022. This value was not significant even at the 0.05 level of confidence. The null hypothesis $H_{0.7}$: *The interaction effect among learning approaches, attitude towards technology of user and non-user professional college teachers will not yield differences in mean scores for use of Computer/Internet in their teaching activities* was not rejected at the specified level. It may be concluded that the user or non-user professional college teachers with high or low attitude and deep or surface approach do not significantly affect each other to yield differences in levels of use of Computer/Internet.

Main Findings of the Study

- There was a significant difference in the level of use of Computer/Internet in Teaching activities of user and non-user professional college teachers. Mean scores of user professional college teachers were more than that of non-user professional college teachers.
 - There was no significant difference in the mean scores of use of Computer/ Internet in teaching of deep approach and surface approach professional college teachers.
 - There was no significant difference in the mean score of use of Computer/Internet in teaching activities of professional college teachers with high and low attitude towards technology.
 - The mean scores for use of Computer/Internet in teaching activities of user and non-user professional college teachers having high and low attitude were not significantly different.
 - The mean scores for use of Computer/Internet in teaching activities of user and non-user professional college teachers having deep and surface learning approaches were not significantly different.
 - The mean scores for use of Computer/Internet in teaching were not significantly different for professional college teachers having deep and surface learning approach and high and low attitude towards technology.
 - The interaction effect among learning approaches, attitude towards technology of user and non-user professional college teachers did not yield differences in mean scores for use of Computer/Internet in their teaching activities.
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Educational Implications

On the basis of the main findings of the study some educational implications of the study are that the level of use of Computer/Internet by the professional college teachers in their teaching was different for user and non-user teachers having high and low attitude towards technology and having deep and surface approach of study/learning. The results have a direct implication for teachers and administrators. The quality of teaching may enhance and ultimately help teachers in their outlook, confidence, level of knowledge etc. This quality enhancement may further trigger a chain of quality improvement among students as well. There is a great need to enhance the use of Computer/Internet because it helps in providing an easy access to the experts and specialists. Moreover, interactive capability of innovative media offers an unlimited potential for transfer of learning experiences. Teachers should be encouraged to use Computer/Internet in their academic transactions as a productive tool to enrich their teaching, enhance students' learning and change their instruction in order to benefit students. As the study pointed out that the lack of knowledge of Computers is a main barrier for integrating Computers into curriculum. Hence teachers should be provided adequate knowledge and skills for using Computers. Additionally, the support for staff development can be a significant factor in contributing to use Computers effectively and successfully. The support of a social environment of Computer using teachers at the same school is an important factor.

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