



Attitude of Higher Education Teachers Relating the Use of Educational Technology in Teaching and Learning

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Abstract:

A study was conducted to examine the higher education teachers' perspectives on the use of technology in the classroom. The investigator adopted the normative survey method for the current study. Totally 150 higher educational institution teachers were selected randomly in Coimbatore District. A self-developed questionnaire was used by the investigator for data collection. There are three dimensions namely Computer, internet and projector consists respectively 17, 16 and 7 questions totally 40 questions. The test-retest method was used by the investigator used to determine the reliability of the Attitude Scale for Educational Technology (ASET). The Reliability of the ASET was 0.87. The results revealed that the higher education teacher's attitude level in educational technology is moderate. Higher educational teachers do not differ in their attitude towards educational technology in their gender but in the types of management and the dimension internet there exist significant. But there is no significant difference among higher education teachers in types of management in their attitude towards educational technology in dimensions computer and projector.

Keywords: *Attitude, Educational Technology, Higher Education Institutions and Higher Education Teachers.*

Introduction:

The term of the 21st century is information and communication technology or ICT. The information and communication era is upon us, seeing the world accelerating towards a digital communication and information milieu. The part of information and communication technologies (ICT) is extensively putative, then its emergence has significantly changed the practices and processes of wholly procedures of learning, corporate, governance and individual life. Information and communication technology can be a source of education for educators and pupils, then it affords them by openings to share the knowledge and keep one selves up to date with the modern educational resources and hypothetical advances in instruction. Every generation has its own unique teaching and learning techniques. To broaden and transform instructional practices within tertiary education, the use of technological vicissitudes shifts and transforms the role of teaching from the teacher-centered, i.e., knowledge transfer to the student-centered, where knowledge is gained through teacher-student cooperation.

Higher Education Necessitating Revamp with ICT:

Significant modifications were adopted in the ways we work, play, and communicate. The use of instructional technology is vital to bettering both teaching and learning techniques in higher education, says Kozma (2003). In accordance to the author, teachers may tailor their use of ICT through determining a variety of knowledge gaps in student evaluation, instruction, and learning activities. Furthermore, the digital age sources give instructors and pupils the ability to work together in detached, hostile instructional settings.

Teachers Attitude towards Technology:

India is becoming increasingly reliant on Information and Communication Technologies (ICTs). Recent research on ICT has revealed that it provides a range of educational opportunities, as well as the potential for substitute instruction. Through the utilization of modern technology, educators are able to comprehend the implications of the technology. The role of the instructor is essential for the successful implementation of ICT. Teachers must shift away from traditional teaching to incorporate the new learning technologies, and must have an accurate and optimistic outlook in order to effectively and efficiently utilize them.

Statement of the Problem:

The statement of the problem was entitled as “Higher Education Teachers’ Attitude towards The Use of Educational Technology in Teaching And Learning With Reference To Coimbatore District”.

Need for the Study:

Educational Technology is ubiquitous. It expects to work on the nature of schooling. Educational Technology has a mind-blowing potential to propel the nature of educating learning in impermeable compartments. In our pedantic framework, customarily it was viewed as that the instructive substance is parleyed exclusively through address strategy. However, a portion of the instructors endeavor to change the schooling system by utilizing weighty methods like Educational Technology. Educators can foster mentality and pedantic abilities to succeed and to produce employable mechanical practice in training, which might advance mechanical abilities among advanced education educators. Subsequently, the specialist is enchanted to decide the demeanor of advanced education instructors towards instructive innovation.

Operational Definition of the Terms:

1. **Education:** Education is a lifelong process of the individual mind, getting to its full possible development.
2. **Technology:** Technology is relation to any art, science, or unique technique, technology is the study of methods and approaches for achieving goals.
3. **Educational Technology:** Educational technology encompasses the use of scientific knowledge, learning, and learning environs to increase the efficacy and effectiveness of education and training. It emphasises enhancing the technique of human learning through the creation, implementation, and examination of techniques and approaches
4. **Attitude:** A person’s attitude, which is a result of their combination of beliefs and feelings, determines how they will react to other people, things and institutions – whether positively or negatively.
5. **Higher education teachers:** Instructors who teach in colleges or universities are called higher education teachers.

Objectives:

- To know the higher education teachers attitude level towards technology.
- To know the higher education teachers attitude level towards educational technology with regard their gender.
- To find out the higher education teachers attitude towards educational technology with their types of management.
- To know the attitude towards educational technology of higher education teachers those who have or have not personal computer or laptop at home.
- To know the attitude towards educational technology of higher education teachers those who have or have not completed supportive courses in educational technology.

Hypotheses:

- There is a statistically significance difference among gender and attitude towards educational technology.
- There is a statistically significance difference among types of management and attitude towards educational technology.
- There is a statistically significance difference among those who have personal computer or laptop at home and those who have or have not personal computer or laptop in their attitude towards educational technology.
- There is a statistically significant difference between higher education teachers who have undergone supportive courses and those who have not undergone the supportive courses in their attitude towards educational technology.

Research Methodology:

Stratified random sampling technique was adopted for the present study

Population

Teacher working in higher educational institutions belongs to Coimbatore District only.

Tool Description

The present study is done by using self-constructed tool by the investigator. The tool for the present study consists of 25 positive statement and 15 negative statements with five point rating scale. The statements were framed under three dimensions as Computer, Internet and Projector.

Tool for the Final Study:

S.No	Dimension	Question Number	No of Questions
1	Computer	1,3,5,6,8,10,13, 14,15,16,21,24,26,28,31,35,38	17
2	Internet	2,4,7,9,12,17,19,22,25,27,30,32,33,36,37,39	16
3	Projector	11,18,20,23,29,34,40	7
Total			40

Statistical Techniques Used:

In the present study the investigator used descriptive and inferential statistics. In descriptive statistics mean, median, skewness and kurtosis were calculated. Inferential statistics is used to find the significance difference in mean among different subgroup.

Analysis of the Study:

Table-1 Showing the Descriptive Analysis for Attitude of Higher Education Teachers towards Educational Technology

Mean	148.4
Median	147.5
Mode	148
Standard Deviation	16.91
Skewness	0.26
Kurtosis	-0.38
Maximum Score	190
Minimum Score	111

The mean, median, mode and standard deviation values for attitude of higher education teachers towards educational technology were found to be 148.4, 147.5, 148 and 16.91 respectively. Also skewness and kurtosis were found to be 0.26 and -0.38. The value obtained for kurtosis (-0.38) is less than the normal curve. Hence the curve is leptokurtic curve.

Inferential Analysis:

Level of Higher Education Teachers' Attitude towards Educational Technology:

The following table showing the attitude level of higher education teachers towards educational technology.

Table-2: Showing the Attitude Level of Higher Education Teachers

LEVELS	NO OF SAMPLES	PERCENTAGE
<i>Low</i>	26	17.33
<i>Moderate</i>	98	65.33
<i>High</i>	26	17.34

The level of the higher education teachers are 17.33% (low), 65.33% (moderate) 17.34% (high) in their attitude towards educational technology. The maximum number of higher education teachers having moderate level. Hence attitude level of higher education teachers in educational technology is moderate.

Null Hypotheses Testing

HO-1

There is no significant difference between the attitude of male and female higher education teachers towards educational technology.

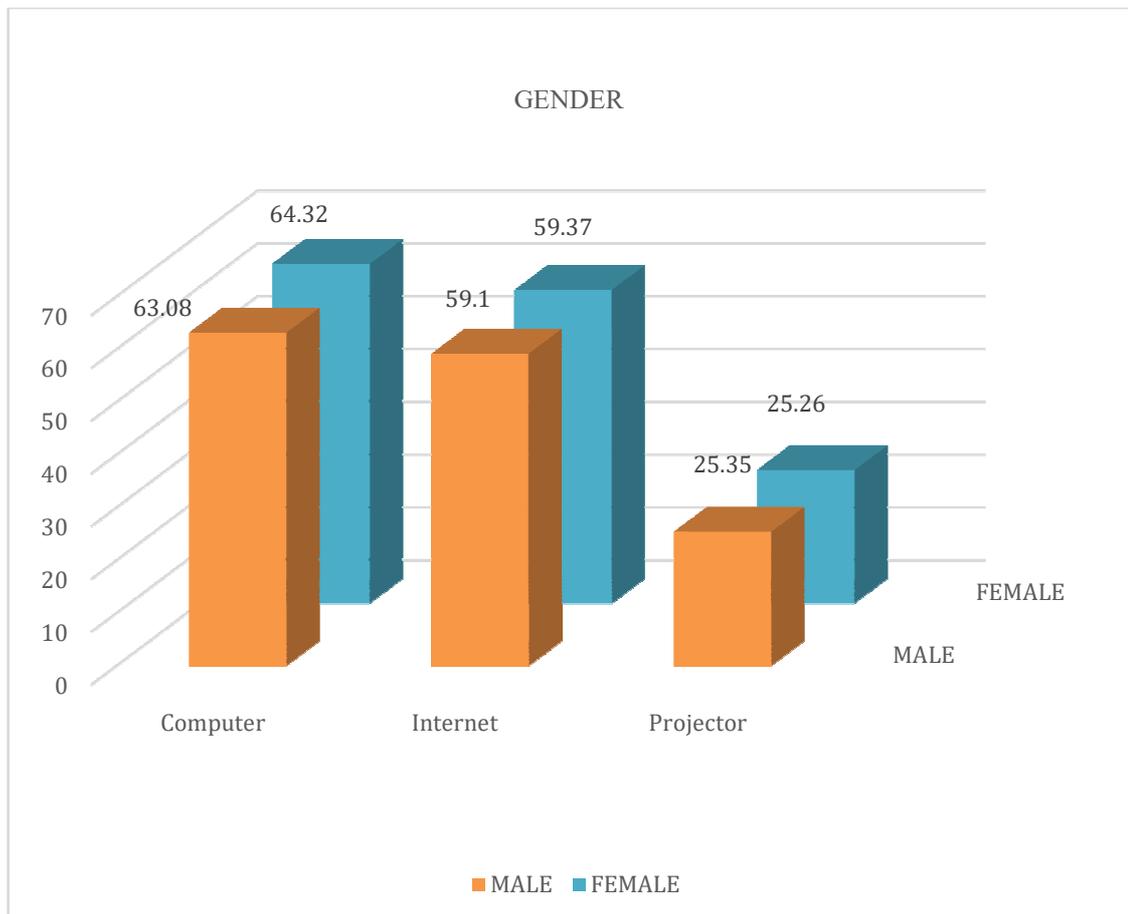
Table -3: The Mean Differences of Higher Education Teachers' Attitude towards the Use of Educational Technology Based on Gender

<i>Dimensions</i>	Male (N=89)		Female(N=61)		Calculated 't' value	Table value	Remark at 5% level
	Mean	SD	Mean	SD			
<i>Computer</i>	63.08	9.01	64.32	10.5	0.66	1.96	NS
<i>Internet</i>	59.10	8.67	59.37	7.70	0.20	1.96	NS
<i>Projector</i>	25.35	5.17	25.26	5.55	0.10	1.96	NS
<i>Total</i>	147.78	16.47	150.19	17.63	0.84	1.96	NS

NS-Not Significant

From the above table it is inferred that the calculated 't' values(0.84) is less than that of table value(1.96). There is no significant difference between male and female higher education teachers towards educational technology in all dimentions. Hence the null hypothesis is accepted.

Figure -1: Showing the Mean Differences of Higher Education Teachers' Attitude towards the Use of Educational Technology Based on Gender



HO2

There is no significant difference among Government, Aided and Private higher education teachers in their attitude towards educational technology.

Table-4: Showing the 'F' Values of Higher Teachers' Attitude Towards the Use of Educational Technology Based on Types of Management

<i>Dimensions</i>	Source of variance	Sum of Squares	df	Mean Square	F Value	Level of Significance
<i>Computer</i>	Between groups	100.25	2	50.12	0.45	NS
	Within groups	16329.94	147	111.08		
	Total	16430.19	149			
<i>Internet</i>	Between groups	578.29	2	289.14	4.42	S*
	Within groups	9612.88	147	65.39		
	Total	10191.17	149			
<i>Projector</i>	Between groups	68.04	2	34.02	1.20	NS
	Within groups	4134.60	147	28.13		
	Total	4202.64	149			
<i>Total</i>	Between groups	1247.85	2	623.92	2.20	NS
	Within groups	41522.98	147	282.46		
	Total	42770.83	149			

At 5% level of significance, the table value is 1.96

NS- Not Significant (Hypothesis is accepted) S- Significant (Hypothesis is not accepted)

From the above table that there is significant difference among Government, Government-Aided and private higher education teachers in their attitude towards educational technology in the dimension internet. But there is no significant difference among Government, Government-Aided and private higher education teacher in their attitude towards educational technology in the dimension computer and projector. Calculate 'F' value (2.20) is less than the table value(30.4). Hence the null hypothesis is accepted.

HO3

There is no significant difference between higher education teachers those who have personal computer or laptop at home and those who have not personal computer or laptop in their attitude towards educational technology.

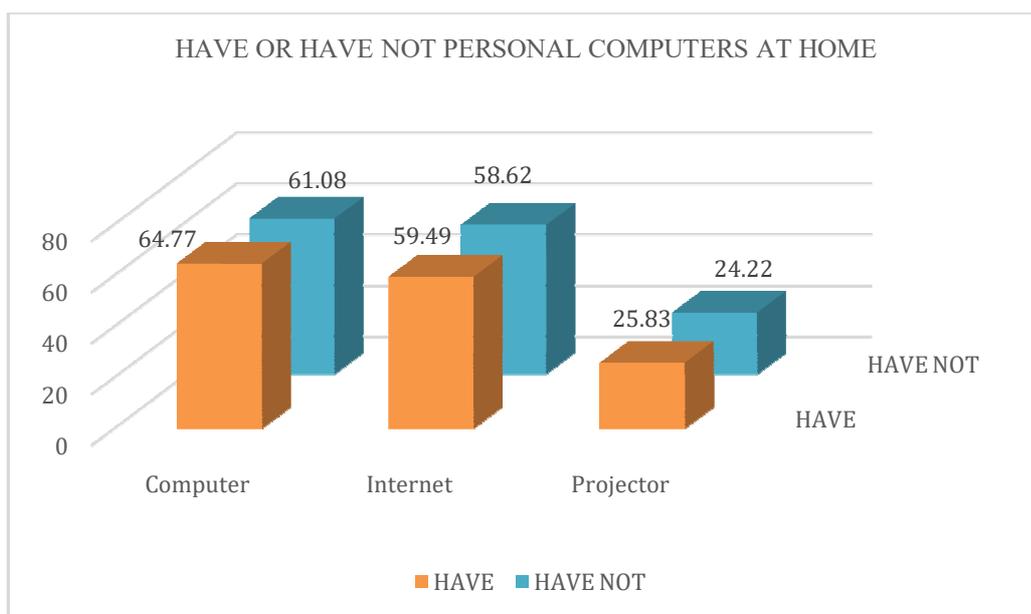
Table-5: Showing the Means Differences of Higher Education Teachers' Towards the Use of Educational Technology Based on have or has Not Personal Computer or Laptop at Home

<i>Dimensions</i>	Yes (N=102)		No (N=48)		Calculated 't' value	Table value	Level of Significance
	Mean	SD	Mean	SD			
<i>Computer</i>	64.77	11.35	61.08	7.93	2.29	1.96	S*
<i>Internet</i>	59.49	8.26	58.62	8.34	0.59	1.96	NS
<i>Projector</i>	25.83	5.99	24.22	3.23	2.12	1.96	*
<i>Total</i>	150.87	17.38	144.29	15.18	2.36	1.96	S*

NS - Not Significant, S- Significant

From the above table it is inferred that there exist no significant difference between higher education teachers those who have personal computer or laptop at home and those who have not personal computer or laptop in their attitude towards educational technology in the dimension internet. But there exist significant difference between higher education teachers those who have personal computer or laptop at home and those who have not personal computer or laptop in their attitude towards educational technology in the dimensions computer and projector. The calculated 't' value(2.36) is higher than the table value (1.96). Hence the null hypothesis is rejected.

Figure -2: Showing the Mean Differences of Higher Education Teachers' Attitude Towards the Use of Educational Technology Based on have or have Not Personal Computer or Laptop at Home



HO4

There is no significant difference between higher education teachers those who have undergone supportive courses and those who have not undergone the supportive courses in their attitude towards educational technology.

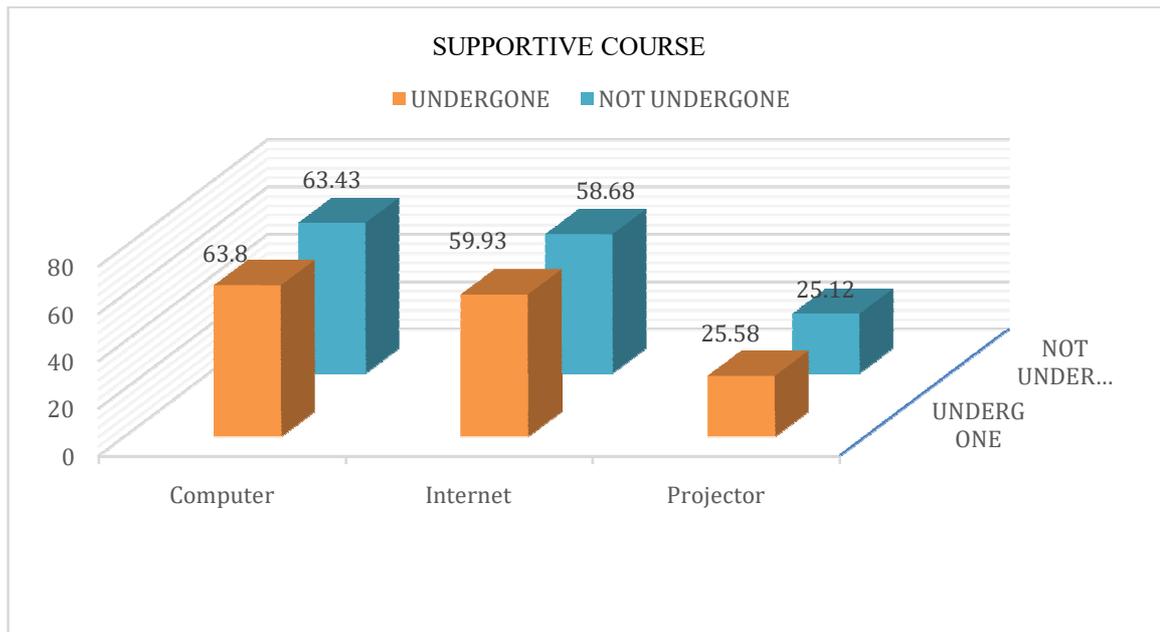
Table-6: Showing the Mean Differences of Higher Education Teachers' Attitude Towards the Use of Educational Technology Based on Supportive Course

Dimensions	(N=63)		(N=87)		Calculated 't' value	Table value	Significance at 5% level
	Mean	SD	Mean	SD			
Computer	63.80	10.70	63.43	10.40	0.21	1.96	NS
Internet	59.93	8.02	58.68	8.45	0.91	1.96	NS
Projector	25.58	5.50	25.12	5.18	0.51	1.96	NS
Total	149.42	17.29	148.28	16.76	0.40	1.96	S*

NS – Not Significant

From the above table it is inferred that the calculated 't' value is less than the table value (1.96). Hence the null hypothesis is accepted. There exist no significant difference between higher education teachers those who have undergone the supportive courses and those who have not undergone the supportive courses in their attitude towards educational technology in all the three dimensions.

Figure -3: Showing the Mean Differences of Higher Education Teachers' Attitude Towards the Use of Educational Technology Based on Supportive Course



Major Findings of the Study:

- ❖ 17.33% lower level, 65.33% moderate level and 17.34% higher level of higher education teachers in their attitude towards educational technology. Hence the level of attitude of higher education teachers in educational technology is moderate.
- ❖ There exists no significant difference among male and female higher education teachers towards educational technology in all dimensions. Both male and female higher education teachers are equal attitude towards educational technology.
- ❖ There exist significant difference among Government, Aided and Private higher education teachers in their attitude towards educational technology in the dimension internet. There exist no significant difference among Government, Aided and Private higher education teachers in their attitude towards educational technology in the dimensions computer and projector.
- ❖ There exist no significant differences among higher education teachers who have or have not personal computer or laptop in their attitude towards educational technology in the dimension internet. There exist significant difference between the higher education teachers who have or have not personal computer or laptop in their attitude towards educational technology in the dimensions computer and projector.

Discussions:

- ❖ In the current study the higher education teachers have moderate level of attitude towards educational technology. Because they have better awareness about educational technology but lack of motivation and technological devices only influences them. This study is supported by “Use of the internet by academic community” conducted by Sawant, S. (2011)., Teachers have favorable attitude in computer supported by Goagai, K.P. and Joseph, J.(2010). In the titled “Attitude of teachers towards computer education”. This study is supported by titled, “Prospective elementary teacher attitude towards computer and internet” conducted by Salih Birischi (2009) and it is contrary to “Developing a technology attitude scale for pre service chemistry” conducted by Soner Yavuz (2005).

- ❖ The 'F' test results reveals that there exist significant difference among higher education teachers in Government, Aided and Private higher education teachers in their attitude towards educational technology. This study is contrary to, 'Attitude of teacher trainees towards internet usage' conducted by Sivakumar, .S (2009).
- ❖ The 't' test result reveals that there exist significant difference among higher education teachers those having personal computer or laptop at home or those have not personal computer or laptop at home their attitude towards at home or those have not personal computer or laptop at their attitude towards technology. This study is supported by titled ' A study on science teacher attitude towards ICT in education' conducted by Bulent Cavas, Pmar Cavas (2009).

Conclusion:

Educational technology has undoubtedly become a powerful tool in breaking the tradition methods of education. The future of India depends on what is taught today based on technological innovation. Technology is a tool and it should be used to accomplish a complex task. Teacher with the usage of computer at home have good attitude towards educational technology than the teacher who does not possess the computer. Teachers want to try it out to achieve a specific goal. Attitude of teachers are moderate towards the educational technology. It is guessed that they have moderate level of awareness on educational technology which can be improved to the high level by prompting little motivation and create interest to use technology.

Recommendations:

The administration ought to urge the training resources to involve instructive innovation in educating and educational experience

- ❖ The government can find introductory ways to give innovative gadgets (PCs) to all the faculty, understudy, and understudy instructors' students to acquire information about instructive innovation.
- ❖ Mechanical expertise-based direction program, in-administration, and pre-administration preparation of the resources will accelerate significant changes in their expert turn of events.
- ❖ Innovation can be given to the staff with office changes in learning conduct, guidelines are progressively led through electronic.
- ❖ Instructors ought to be demanded to utilize innovation to foster Worldwide educators in the local area.
- ❖ Educators can update their insight as often as possible by utilizing different methods.
- ❖ The board can give Wi-Fi innovation in the instructive grounds for getting to the web.
- ❖ Profundity of information in instructive innovation created different abilities inside them and made their expert proficient.

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