

# ATTITUDE OF TEACHERS OF THE DEGREE COLLEGES TOWARDS USE OF ICT IN HIGHER EDUCATION IN INDIA

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## ABSTRACT

*The present study focused at measuring the attitude of Teachers of the degree colleges towards use of ICT in Higher Education in India. For this study, the researcher has appointed the descriptive research method and its approach is quantitative for measuring the attitude of Teachers of degree colleges. In keeping the variables of this study (Gender, Locality, Experience, and teaching background) in mind, 150 samples were selected from the Government-aided colleges from the District of Kolkata and Nadia in West Bengal. An attitude scale based on likert's five point scale was developed and used by investigator. It's a bio- polar scaling method to indicate positive or negative response to a statement. The tool was standardized by applying test-retest method, and test-retest reliability score is 0.74. Content validity of this tool has been established with the help of experts. Mean, SD (descriptive stat), t- test (Inferential stat) and Bar-Graph were appointed and also 0.05 level and 0.01 level of significance were used to test the hypothesis. Finally investigator found that - 49.3% teacher's attitude was tremendously positive towards use of ICT in Higher Education. The male teachers have shown a little more positive attitude towards use of ICT in Higher Education than the female teachers.*

**Keywords:** *ICT, Attitude, Degree College Teachers, Higher Education.*

## Introduction:

“ICT is a scientific technology and engineering discipline and management that requires techniques used in information handling and processing, their applications, computers and their interaction with men and machine and associated social, economic and cultural matter”- UNESCO. Here, ICT stands for Information and Communication Technologies. It has three major phrases which are – Information, Communication technology and computer technology. Information means – when raw data, numbers are processed, it is called Information. When ideas, emotions, experiences and data are exchanged between two or more peoples its called communication. The communication types are – Radio communication, microwave communication, satellite communication, coaxial cable communication and Tele-communication etc. And technologies are – Radio, television, Computer, internet etc. which have been touted as potentially powerful enabling tools for educational change and reform. When these technologies have been used appropriately, its raise educational quality and helping make quality teaching and learning. ICT in education has both positive as well as negative impact on students and teachers. We have seen that the teacher's attitude towards use of ICT can be positive or negative. The positive attitude has been showed from those teachers who are more excited to use technology tools. And those teachers who are interest less and cannot operate technology in ICT, they have negative attitude towards use of ICT. That positive and negative attitude has been showed by gender, locality, experience, and teaching background of various teachers at different level. In Higher Education teachers have to known with ICT, otherwise teaching and learning would be incomplete. For teaching and learning every single Educational institution should have arrange ICT tools for all classes at each level. During this present study investigator wants to grasp – attitude of teachers of Degree colleges towards use of ICT in Higher Education on the basis of – Gender, Experience, Locality and teaching background. The question is – how many teachers have a positive

attitude towards use of ICT? Is vary this attitude from different strata such as - Gender, Experience, Locality and teaching background? For this quarries investigator has collected samples and analyzed and at last interpreted.

### Significance of the Problem:

The areas of importance and significance of this research paper are –

- By this research paper, it will be clear that – at present what is the attitude of teachers towards use of ICT.
- The Government will be able to take appropriate action on ICT in teaching and learning in Higher Education.
- This study will draw the attention of various educational institutions and these institutions will take appropriate action and build up ICT infrastructure in teaching and learning.
- And lastly, the Government, the policy makers, the stake holders, the teachers and the students will be benefited from this research paper.

### Statement of the Problem:

The statement of the problem in the study is captioned as – “Attitude of Teachers of the Degree Colleges towards Use of ICT in Higher Education in India”.

### Review of Related Literature:

**Shafeeq & Imran (2016)** conducted a study on Teacher’s attitude towards the use of Information and Computer Technology (ICT) in Classroom Teaching. The study found that more teachers have shown positive attitude towards ICT and male teachers have shown a little more positive attitude towards ICT than the female teachers. Below 10 years experience teacher have shown more positive attitude towards ICT than 10-20, 20-30, and 30 & above experience teachers.

**Mahajan (2016)** attempted to measure the attitude of teachers towards use of ICT in teaching. For this study Descriptive Survey Method was used and 100 samples had been collected for the analysis of data. And finally study found that – 25% teachers have shown favorable attitude and 32% unfavorable and 43% moderate attitude towards use of ICT in teaching.

**Albert. A (2016)** led a descriptive survey study to determine high secondary teacher’s attitude towards use of ICT in teaching learning process. This study found that- the higher secondary teachers have shown neutral attitude towards using new technology in teaching. Female teachers have shown more positive attitude towards use of ICT in teaching learning than male teachers of high secondary level.

**Dixit & Kaur (2015)** made an investigation to study the attitude of teacher’s trainees towards ICT teaching. For this study, 200 samples had been collected and ICT teaching attitude scale (ICTTAS) developed by **T. Pardeep Kumar (2013)** had been used to collect the data. The statistical techniques were employed such as - mean, standard deviation, t-value. This study revealed that the factors like locality and gender of the teacher-trainees have shown more positive attitude towards information and communication technology teaching.

**Sing & Farrukh (2014)** aimed to measure the Teachers Attitude towards Use of ICT in Technical and Non-Technical Institutes. The result of this study revealed that- teachers of technical institutes have shown more positive attitude towards ICT than Non-technical institutes teachers. So, there was a significant mean difference between technical and non- technical institute’s teachers towards use of ICT.

**Mahat, Jamsandekar and Nalavade (2012)** attempted to investigate to study the attitude of teachers towards ICT teaching process. The study found that there was a high and negative correlation between teachers attitude towards ICT teaching and teaching time in the class.

**Singh (2012)** in his study, tried to find out the attitude of teachers towards ICT. This study found that- male teachers have shown more positive attitude towards use of ICT than female teachers and science background teachers have shown more positive attitude towards ICT than arts background teachers.

Above studies have already measured and stated the attitude of teachers towards the use of ICT, in India. In that case, there still needs more research on the use of ICT in teaching and learning process. So that, a cleared picture we will see on use of ICT in Higher Education in India.

### Objectives:

The objectives of this study are as follows:

1. To study the attitude of Teachers of the degree colleges towards use of ICT in Higher Education.
2. To compare the attitude of Teachers of the degree colleges towards use of ICT in higher education on the basis of –
  - Gender
  - Locality

- Experience
- Teaching Background.

**Hypothesis:**

On the basis of Research objectives, Researchers framed the following null hypotheses-

- **Ho.1** There exist no significant mean difference in the attitude of male and female teachers of the degree colleges towards use of ICT in higher education.
- **Ho.2** There exist no significant mean difference in the attitude of urban and rural teachers of the degree colleges towards use of ICT in higher education.
- **Ho.3** There exist no significant mean differences in the attitude of social science and science background teachers of the degree colleges towards use of ICT in higher education.
- **Ho.4** There exist no significant mean differences in the attitude of below 15 years experience and above 15 years experience teachers of the degree colleges towards use of ICT in higher education.

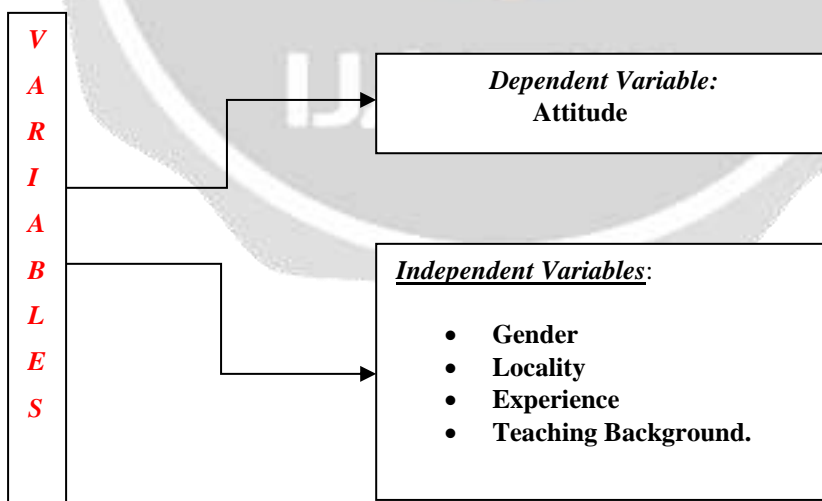
**Operational Definitions of the Terms Used:**

- ❖ **Attitude:** In the current study, the term ‘Attitude’ indicates the opinion or views of the college teachers of Government-aided Colleges in West Bengal about the Information and Communication Technology in Higher Education.
- ❖ **ICT:** Information and Communication Technology (ICT) in education is the mode of education that uses Information and Communication Technology to support, boost, and advance the delivery of information.
- ❖ **Teachers of the Degree Colleges:** Here, the term ‘Teachers of the Degree Colleges’ refers to those Teachers who are in teaching profession of different Government-aided colleges of Kolkata and Nadia Districts in West Bengal in India.
- ❖ **Higher Education:** The term ‘Higher Education’ refers to – education beyond the secondary level.

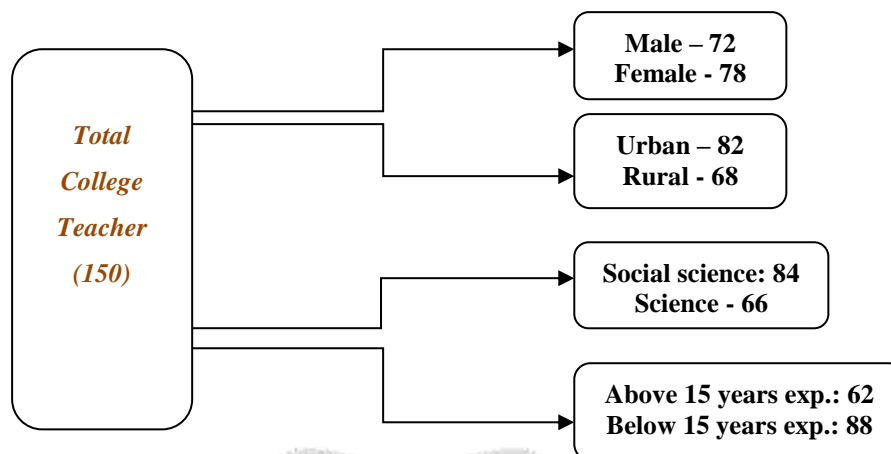
**Methodology:**

To supervise the current study successfully the researcher has appointed the descriptive research method and its approach is quantitative for measuring the attitude of the Teachers of degree colleges towards use of Information and Communication Technology in Higher Education.

- 1) **Variables of the study:** In the present study two types of variables – four Independent and one Dependent variable were used. Variables are diagrammatically presented below -



- 2) **The sample and Sampling procedure:** In keeping the variables of this study (Gender, Locality, Experience, and teaching background) in mind, 150 college teachers sample was selected from the different Government-aided College from the Districts of Kolkata and Nadia in West Bengal. And for the selection of sample, researcher was adopted stratified random sampling technique for the present study.



- 3) **Tools of the study:** An attitude scale based on likert’s five point scale was developed and used by investigator to measure the attitude of the Teachers of degree colleges towards use of ICT in Higher Education. It is a bio- polar scaling method to indicate positive or negative response to a statement. This standardized measure consists of 30 items covering different dimension of Information and Communication Technology in Higher Education. The tool was standardized by applying test-retest method, and test-retest reliability score is 0.74. Content validity of this tool has been established with the help of experts.
- 4) **Statistical Procedure:** The following statistical technique were employed for measuring the attitude of College Teachers towards ICT in Higher Education –
  - Mean
  - Standard Deviation (Descriptive stat.)
  - Bar-graph
  - t-test (Inferential stat.), and also 0.05 level and 0.01 level of significance were used to test the hypothesis.

**Analysis and Interpretation:**

1. To study the attitude of the Teachers of degree colleges towards use of ICT in Higher Education.

**Table 1: Attitude of the Teachers of Degree Colleges according scale norms.**

Status	Response of Teachers
High Score	74 (49.3 %)
Average Score	42 (28 %)
Low Score	34 (22.6 %)
Total	150

Table-1 shows that 49.3% teachers of degree colleges came under high attitude score group. 28% teachers of the degree colleges fell under average attitude score group. In case of lower attitude score 22.6% teachers of degree colleges came under this category.

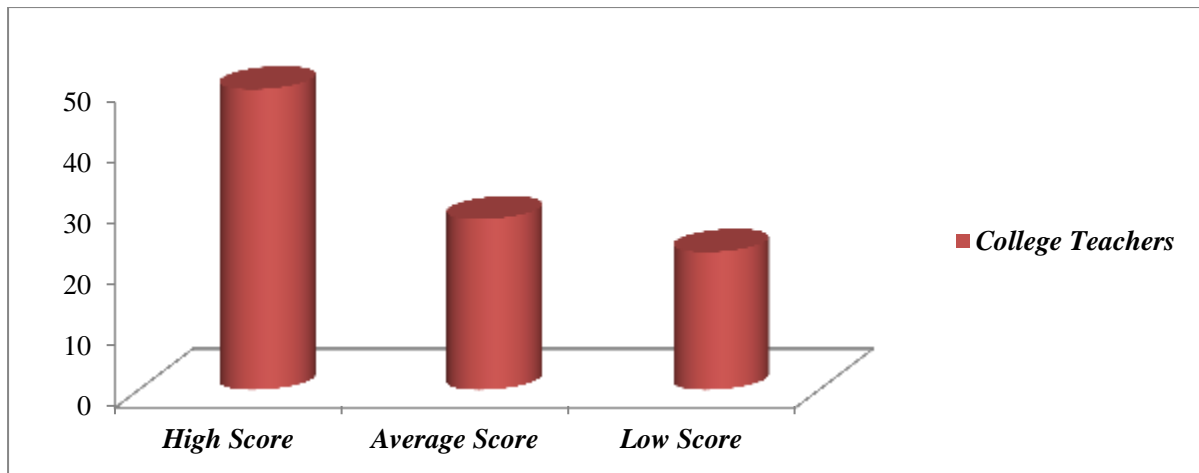


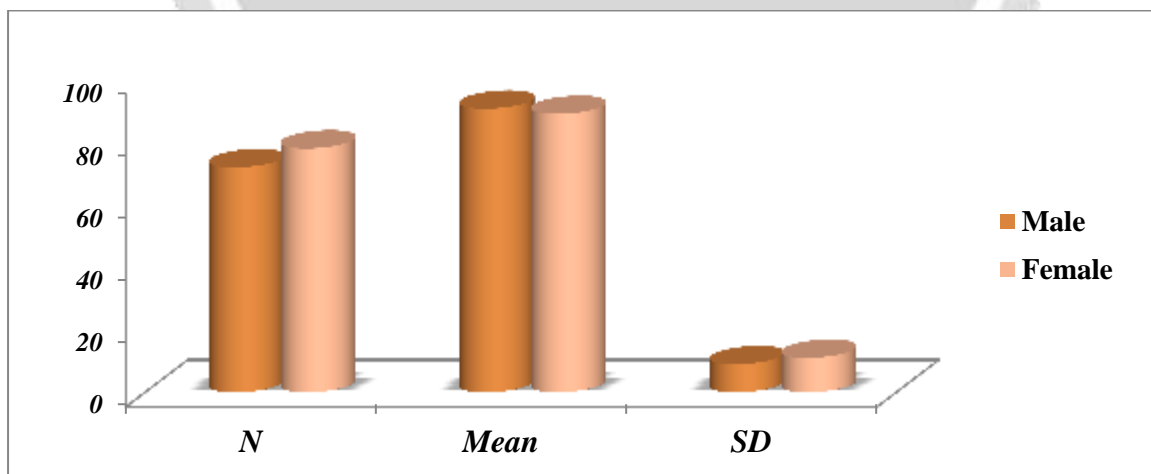
Chart - 1: Attitude of the College Teachers

Ho<sub>1</sub> There exist no significant mean difference in the attitude of male and female teachers of the degree colleges towards use of ICT in higher education.

Table- 2: Comparison the attitude of Teachers of degree colleges in relation their Gender.

Group	N	Mean	SD	Difference	df	t-value	Remarks
Male	72	90.75	9	1.72	148	1.04	Not Significant
Female	78	89.03	11.05				

Table no. 2 shows that the mean score of male teachers of degree colleges attitude is 90.75 whereas the mean score of female teacher’s attitude is 89.03 and shows the difference of 1.72. The calculate value of ‘t’ obtained is 1.04, which is lower than the table value of ‘t’ at df 148. It is not significant at 0.05 and 0.01 level. Hence, the null hypothesis is accepted. This states that there exit no significant difference in the attitude of male and female teachers of degree colleges towards use of ICT in higher education.



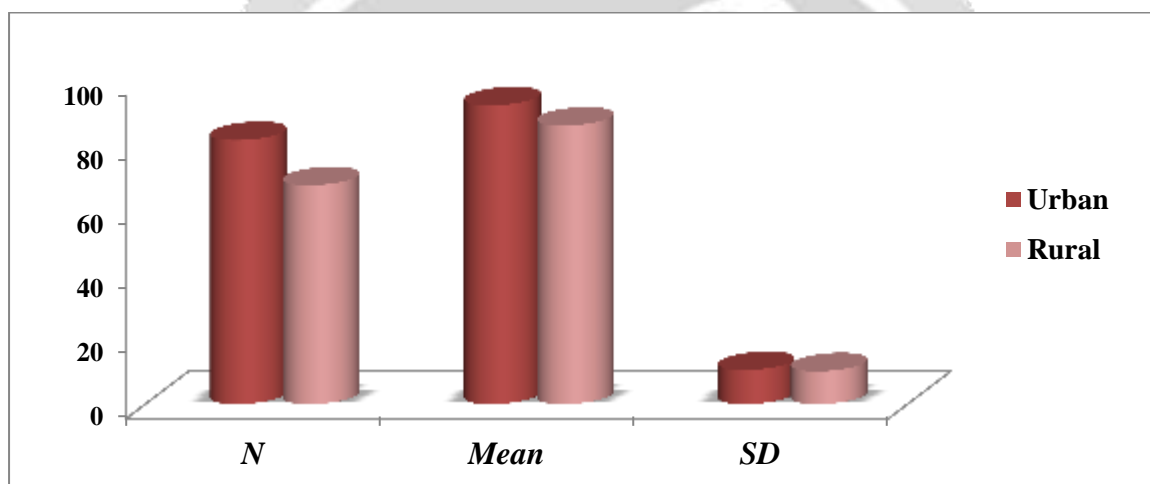
**Chart – 2: Comparison the attitude of Teachers of degree colleges in relation their Gender**

**Ho<sub>2</sub>** There exist no significant mean difference in the attitude of urban and rural teachers of the degree colleges towards use of ICT in higher education.

**Table- 3: Comparison the attitude of Teachers of degree colleges in relation their Locality.**

Group	N	Mean	SD	Difference	df	t-value	Remarks
Urban	82	92.8	10.6	6.3	148	3.7	*Significant  (At 0.05 & 0.01 level)
Rural	68	86.5	10.2				

Table no. 3 shows that the mean score of Urban Teachers of degree colleges attitude is 92.8 whereas the mean score of Rural Teachers attitude is 86.5 and shows the difference of 6.3. The calculate value of 't' obtained is 3.7, which is greater than the table value of 't' at df 148. It is significant at 0.05 and 0.01 level. Hence, the null hypothesis is rejected. This states that there exit significant difference in the attitude of urban and rural teachers of degree colleges towards use of ICT in higher education.

**Chart – 3: Comparison the attitude of Teachers of degree colleges in relation their Locality**

**Ho<sub>3</sub>** There exist no significant mean differences in the attitude of social science and science background teachers of the degree colleges towards use of ICT in higher education.

**Table- 4: Comparison the attitude of Teachers in relation their Teaching Background.**

Group	N	Mean	SD	Difference	df	t-value	Remarks
Social Science	84	88.9	11.4	1.5	148	0.88	Not Significant
Science	66	90.4	9.4				

Table-4 shows that the mean score of Social Science Teachers of degree colleges attitude is 88.9 whereas the mean score of Science Teachers attitude is 90.4 and shows the difference of 1.5. The calculate value of 't' obtained is 0.88, which is lower than the table value of 't' at df 148. It is not significant at 0.05 and 0.01 level. Hence, the null hypothesis is accepted. This states that there exit no significant difference in the attitude of social science and science background teachers of degree colleges towards use of ICT in higher education.

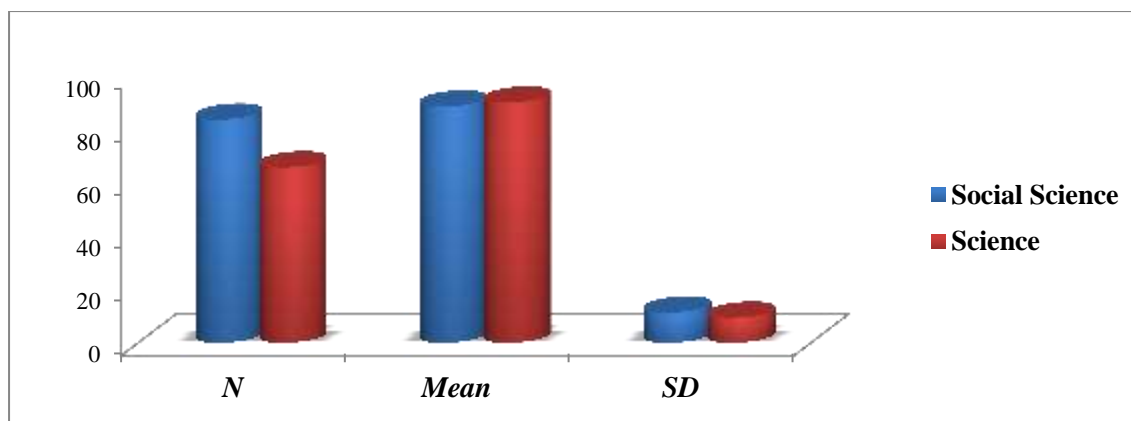


Chart – 4: Comparison the attitude of Teachers in relation their Teaching Background

Ho<sub>4</sub> There exist no significant mean differences in the attitude of below 15 years experience and above 15 years experience teachers of the degree colleges towards use of ICT in higher education.

Table- 5: Comparison the attitude of College Teachers in relation their Experience.

Group	N	Mean	SD	Difference	df	t-value	Remarks
Below 15 years (Exp.)	88	88.3	10.01	3.5	148	2.02	*Significant (At 0.05 level)
Above 15 years (Exp.)	62	91.8	10.8				

Table-5 shows that the mean score of below 15 years (exp.) College Teachers attitude is 88.3 whereas the mean score of above 15 years (exp.) College Teachers attitude is 91.8 and shows the difference of 3.5. The calculate value of t' obtained is 2.02, which is greater than the table value of t' at df 148. It is significant at 0.05 level. Hence, the null hypothesis is rejected. This states that there exit significant difference in the attitude of below 15 years experience and above 15 years experience teachers towards use of ICT in higher education.

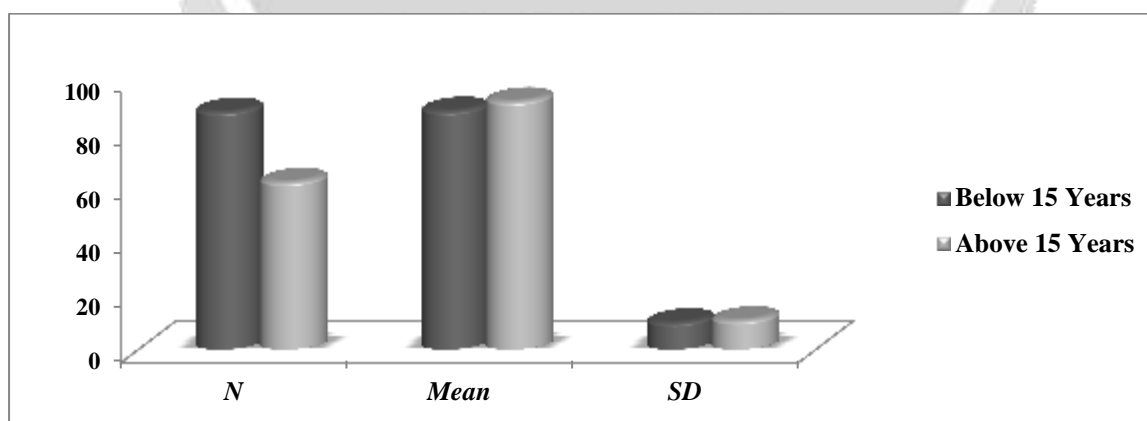


Chart – 5: Comparison the attitude of College Teachers in relation their Experience

**Findings, Recommendations and Conclusion:**

The findings of this study are as follows-

- 1) 49.3% teachers of degree colleges, attitude was tremendously positive towards use of Information and Communication Technology in Higher Education.
- 2) 22.6% teachers of degree colleges, attitude was extremely negative towards use of Information and Communication Technology in Higher Education.

- 3) 28% teachers of degree colleges, attitude was average towards use of Information and Communication Technology in Higher Education.
- 4) There existed no significant difference in the attitude of male and female teachers of degree colleges towards use of ICT in higher education. The male teachers have shown a little more positive attitude towards use of ICT in Higher Education than the female teachers of degree colleges.
- 5) There existed significant difference in the attitude of urban and rural teachers of degree colleges towards use of ICT in higher education. The urban teachers have shown more positive attitude towards use of ICT in Higher Education than the rural teachers of degree colleges.
- 6) There existed no significant difference in the attitude of social science and science background teachers of degree colleges towards use of ICT in higher education. The science background teachers have shown more positive attitude towards use of ICT in Higher Education than social science background teachers of degree colleges.
- 7) There existed significant difference in the attitude of below 15 years experience teachers and above 15 years experience teachers towards use of ICT in higher education. The above 15 years experience teachers have shown a little more positive attitude towards use of ICT in Higher Education than the below 15 years experience teachers of degree colleges.

Based on the above findings of this study, it can be recommended that –

- The entire faculties Teachers need to be known properly about the usages of ICT.
- Universities and colleges have to be arranged many workshops on ICT in teaching.
- An ICT related subject has to be included in the college and university curriculum.
- Different work on college premises including library work has to be done through ICT and that would be the mandatory work for all colleges and universities.
- The Government needs to pay attention on ICT in Higher Education and has to arrange more fund to develop the ICT structure in different institutional.

After analysis of this study, researchers concluded that- the timing has never been finer for using technology to delegate and upgrade learning at all levels, in all places, and for people of all backgrounds. ICT can make proper arrangement in teaching at a high level of education. And for this – usages of technology, communication tools, and collaboration has to be made, which will be connected teachers, students and all stakeholders with instantaneous ease.

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