# ICT Awareness And Competencies Among Prospective Teachers In Jharkhand

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Abstract: Today's world is designed by technology, this world is so much into our life that the moment we wake up, we find ourselves accumulated in the lights of technology and digitalization, The small word is itself carrying a big phenomena inside, the use of smart phones, made our life so easy, we are available in this world to anybody around the globe. As the way of life changes so is our education, our children understand the language of computers, and most of them are' Tech Savy' almost all the school made it compulsory for the children that they should be well- acquainted with the technology, so it is equally important for the teachers to teach our coming generation, they should be well equipped or enhance their knowledge in this digital technology, computers, smartboards, and different learning software, they should be fully aware with ICT and be competent enough to handle the digital generation. The Researcher tries to find out in the B.ed training colleges of Jharkhand, how the prospective teacher is concerned about the awareness and competency in some of the district in Jharkhand.

# I. INTRODUCTION

Education is a process of human enlightment and empowerment for achievement of a better and higher quality of life. Teaching is an ever changing profession.

Information and communication technology is a new trend in today's IT world. It has been integrated in every walk of our life. Information and communication (ICT) have been in a dynamic way in society and is far lesser in education Formal education (i.e primary, secondary, higher education) or informal education of various modes (i.e professional training, life long learning etc are all affected by ICT.

It consists of three words information, communication and technology. Information refers to any knowledge such as facts, data or opinion in any medium or for including textual, numerical, graphic, narrative or audio-visual forms. Communication is the process and transferring information from a sender to receiver with use of a medium.

According to NCERT "education reforms in variably accord highest priority to improve teacher effectiveness. It requires consistent up gradation of teacher-education programmes. Further it mentions in the two-year B.ed course "Enriching learning through Information and communication Technology". In the Curriculum Framework: two-year B.ED Programme, NCTE (national Council for teacher education) mentions that "Preparing teachers to use technology in a classroom is an important step for ICT enabled education in the country.

The UNESCO World Education Report (1998) notes that the technologies challenge traditional conceptions of both teaching and learning and, by reconfiguring how teachers and learners gain access of knowledge, have potential to transform teaching and learning process.

# RATIONALE /NEED FOR THE STUDY

Wang, Mcpherson, HUS AND Tsuei (2008), found in their study that teachers needed to attain more ICT skills to introduce ICT before their student as well as to develop global awareness, Swamy (2010), found in his study about sound internet awareness and competence among teachers. Adebowale (2012) found that only a small percentage of teachers possess a high level of awareness on ICT. Beena and Mathur (2012) found that the role of ICT in transforming teaching and learning and seeks to explore the awareness of teacher educators. Gulhane (2011),

# STATEMENT OF THE PROBLEM

ICT Awareness and Competencies among Prospective teachers of Jharkhand

## **OBJECTIVES**

- ✓ To study the level of ICT awareness among the teacher trainees respect to managment
- ✓ To compare the level of ICT competencies among teacher trainees with respect to gender.
- ✓ To compare the level of ICT competencies among teacher trainees with To study the competencies of ICT in teacher trainee with respect to stream (Arts & Science).
- ✓ To study the ICT awareness of teacher trainees with respect to their age.

# DELIMITATION OF THE STUDY

The study will be delimited to B.ed College of Jamshedpur and Dhanbad.

#### II. DESIGN

Descriptive survey method was used for this research.

The present study undertaken by the investigator is a descriptive research. Descriptive research concerns itself with conditions or beliefs, points of view or attitudes that are held; that are going on; effects that are being felt, or trends that are developing (Best,1963). It involves collection of data, its compilation, interpretation and synthesis.

# HYPOTHESSIS OF THE STUDY

The hypotheses formulated in the light of the objective of the study are as follows

- ✓ There is no significant difference with respect to gender
- ✓ There is no significant difference with respect to management
- ✓ There is no significant difference with respect to stream (Arts/Science)
- ✓ There is no significant difference with respect to age

# SAMPLING

The study was aimed at B.Ed College of Jamshedpur and Ranchi. About 100 students were taken as a sample.

The research was conducted on a purposive random sampling, the participants are often selected because they are typical or particularly interesting, those were selected because they are typical or particularly interesting,

The place Jamshedpur and Dhanbad was selected because it was quite convenient and easy for the researcher to gain information as the other colleges were having their exam. One private college was taken from the rural college of Dhanbad district

## III. TOOLS AND TECHNIQUES EMPLOYED

A questionnaire was constructed on the use of ICT and Internet for teacher trainees. An interview schedule was used to interview the faculty members. An evaluation of the effectiveness of ICT module was done after 90 days. The copies of the Questionnaire that was developed by the investigator were given to the prospective teachers in Jamshedpur Women's College, Co-operative College and Vishwerya College in Jmashedpur and Dhanbad respectively.

#### **IV. SURVEY INSTRUMENT**

The survey instrument used for this research was developed by the researchers based on established procedures in literature. The survey instrument contained four sections. Section A included four questions and it focused on demographic information of student-teachers: department, course, level, and gender. Section B focused on studentteachers' attitude towards Information and Communication Technology (ICT). The section contained 14 items

The researcher administered the test with prior permission from the Principal of the selected College. Likert response mode of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) were used. Section C of the questionnaire which contained two items addressed the issue of where student-teachers acquired their ICT knowledge and skills, while Section D was designed to know the level of competence of students-teachers in the use of ICT, basic ICT competence specifically, and not the educational ICT competence. The section contained 35 items and the response modes were: "I am fully competent with this application/operation" (FC coded 4); "I am a regular and confident user of this application" (RCU coded 3); "I have used this occasionally but need further training" (OU coded 2); "I do not use" (DU coded 1); and "I am not aware of this application/operation" (NA coded 0).

# STATISTICAL TECHNIQUES

To determine the awareness and competency the data were analysed in terms of central tendency and variabilities.

Mean, Standard deviation and t-test are the statistical technique used in this study.

# V. ANALYSIS AND INTERPRETATION OF DATA

The data collected from sample and through and administration of various tools do not lead to interpretation, unless the data is edited, classified and tabulated in the form needed for testing of hypothesis and consequent interpretation and generalization.

# ORGANIZATION

The first step in the treatment of data is its organization includes editing, classifying and tabulating the information. Editing implies checking of gathered raw data for accuracy, usefulness and completeness. Classification refers t o dividing of data into different categories, classes, groups or heads. Tabulation refers to the recording of the classified data in quantified terms.

## ANALYSIS

The second step in treatment of data is its analysis. Analysis of data means studying the organized material in order to discover inherent facts.

This requires an alert, flexible and open mind. Statistical techniques contribute a lot in gathering ,organizing, analyzing and interpretation of data

# **INTERPRETATION**

After the collection and analysis of the data, the researcher interprets the results. Interpretation is not a routine and mechanical process.

#### VI. ADMINISTRATION OF THE TOOL

The responses for the respondents were tabulated and compared, and descriptive analysis (percentages and means) were done to present the details about the attitude and competence of student-teachers in the use of ICT. Furthermore, "t" test was used to test the two hypotheses generated in the study.

Group	Male	female
Mean	148.47	152.28
SD	91.31	82.91
SEM	16.67	11.73
Ν	30	50

Table 1: Comparison of ICT awareness among male and female college of prospective teachers

P value and statistical significance: The two-tailed P value equals 0.8485

By conventional criteria, this difference is considered t not statistically significant.

Confiden ceinterval:

The mean of Male minus female equals -3.81 95% confidence interval of this difference:

From - 43.41 to 35.79 Intermediate values used in calculations:

t=0.1917

df=78

Standard Error of difference = 19.891 Table-1 shows that the computed value of "t" i.e. 2.2691 is smaller than the critical table value of "t" with 89 degrees of freedom at five percent and one percent level of significance is 1.97 and 2.59 respectively. The standard error of difference is 16.487. Hence, it is not significant up to 5% and 1% level of significance. Therefore, there is no significant difference in the level of ICT awareness among the male and female trained teachers.

College	Govt	Private
Mean	131.74	169.15
SD	71.53	85.71
SEM	10.12	13.39
Ν	50	41

Table 2: Comparison Of ICT Awareness Among GovernmentAnd Private Colleges Of Prospective TeachersP value and statistical significance:

The two-tailed P value equals 0.0257

By conventional criteria, this difference is considered to be statistically significant.

Confidence interval:

The mean of Group One minus Group Two equals - 37.4100

95% confidence interval of this difference: From -70.1683 to -4.6517

Intermediate values used in calculations:

t = 2.2691

df = 89 standard error of difference = 16.487

Table-2 shows that the computed value of "t" i.e. 2.2691 is smaller than the critical table value of "t" with 89 degrees of freedom at five percent and one percent level of significance is 1.97 and 2.59 respectively. The standard error of difference is 16.487. Hence, it is not significant up to 5% and 1% level of significance. Therefore, there is no significant difference in the level of ICT awareness among the teachers of govt and private college.

Stream	Arts	Science
Mean	142.30	149.88
SD	72.98	76.19
SEM	12.70	15.55
Ν	33	24

 Table 3: Comparison of ICT awareness of prospective teachers with respect to the stream

P value and statistical significance:

The two-tailed P value equals 0.7057

By conventional criteria, this difference is considered to be not statistically significant.

Confidence interval:

The mean of arts minus science equals -7.57

95% confidence interval of this difference: From -47.54 to 32.40

Intermediate values used in calculations:

- t = 0.3797
- df = 55

standard error of difference = 19.944Table-3 shows that the computed value of "t" i.e. 0.37971is smaller than the critical table value of "t" with 55 degrees of freedom at five percent and one percent level of significance is 1.97 and 2.59 respectively. Hence, it is not significant up to 5% and 1% level of significance. Therefore, there is no significant difference in the level of ICT awareness among the arts and science prospective teachers.

Students	Age till 25	Age above 25
Mean	140.82900	157.43900
SD	79.84200	78.54000
SEM	12.31989	9.97459

 Table 4: Comparison of ICT awareness of prospective teachers with respect to age

The two-tailed P value equals 0.2957

By conventional criteria, this difference is considered to be not Statistically significant.

Confidence interval:

The mean of Group One minus Group Two equals - 16.61000

95% confidence interval of this difference: From - 47.95129 to 14.73129

Intermediate values used in calculations:

t = 1.0512

df = 102

standard error of difference = 15.801

Table-4 shows that the computed value of "t" i.e. 0.37971 is smaller than the critical table value of "t" with 102 degrees of freedom at five percent and one percent level of significance is 1.97 and 2.59 respectively. Hence, it is not significant up to 5% and 1% level of significance. Therefore, there is no significant difference in the level of ICT awareness among the prospective teachers with respect to age.

## VII. RESULTS AND FINDINGS

No significant differences were found to exist between the awareness regarding ICT of male and female among the prospective teacher.

After going through the questionnaire module, significant changes were found among the prospective teacher. A large number of trainees were found to use ICT and Internet for their seminars, assignments, and review of related literature.

28% of the teacher were found to do surfing at home, 48% of them do at university, while 20% surf at cyber cafés.

A sizeable number of the teacher (about 40%) use Internet for 3- 4 hours per week, 32% of them use it for 5-7 hours per week and 12% of them use the Internet for more than 8 hours in a week.

68% of the teacher were found to use ICT for designing and delivering seminars.

Significant changes were also found in their email habits. All teacher were found to check their email regularly and they started submission of assignments and seminars via email.

In this study, it was discovered that student-teachers have positive attitude towards the use of ICT. The results revealed that among the basic computer competency sub-divisions, student- teachers indicated competency in general computer operation, word processing, downloading and using basic internet resources.

However, the same students lacked required competence in the use of spreadsheet, presentation, database, and web authoring tools; and also the use of peripheral ICT equipment. The findings underscore the need to introduce student-teachers to more courses on ICT with needed hand-on experiences so as to promote effective integration of ICT throughout the curriculum by student-teachers Gender had no significant influence on the attitude of student-teachers towards ICT, and similarly no significant difference was established between male and female studentteachers in their ICT competence.

# CONCLUSIONS

It was discovered that student-teachers have positive attitude and awareness towards the use of ICT. The results revealed that among the basic computer Competency Subdivisions, student- teachers indicated Competency in general computer operation, word processing, downloading and using basic internet resources. However, the same students lacked required Competence in the use of Spreadsheet, Presentation, database, and web authoring tools; and also the use of peripheral ICT equipment.

Gender had no significant influence on the attitude of student-teachers towards ICT, and similarly no significant difference was established between male and female studentteachers in their ICT competence.

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