



PERCEPTION OF TEACHER TRAINEES TOWARDS THE USE OF ICT IN TEACHER EDUCATION PROGRAMME

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ABSTRACT

Over the past few years, there has been a large investment in information and communication technology (ICT) in the teaching/learning process. In this context we have to know the perception of teacher trainees towards the use of ICT in teacher education programme. Three government teacher trainees institution of Cuttack were selected as population by using purposive sampling and by using random sampling select 100 B.Ed students. Out of which 50 male and 50 female students and 60 science and 40 Arts students. The investigator used descriptive survey method for this study. Data were analyzed by using statistical techniques like mean, standard deviation and t-test. The objectives were to identify the perception of teacher trainees towards using ICT in relation to they are sex and stream. The main findings were that most of the teacher trainees perceive the case of ICT in teacher education programme favorably. There is no difference in the perception of male and female teacher trainees towards the use of ICT in teacher education programme. Both science and arts teachers trainees perceived the dimensions in equal manner. It was also disclosed that teacher trainees need to be introduced more opportunities and exposure regarding using ICT and also proper practical training needed for ICT implementation and betterment of teaching learning process in teacher education programme.

Key Words:- Perception, exposure teaching learning process

INTRODUCTION

Educational Technology plays a very important role in the lives of human beings. The present era is known as the age of science and technology. Man comes in contact with technology in each and every moment of his life starting from simple household cooking work to operate a missile. Education is considered as an indispensable part of human life. So the whole system of education has also been greatly influenced by technology. In ancient days when technology in education was not introduced the teachers or the Gurus used to transmit knowledge only through spoken words. But now a days a number of techniques like computer, television, projector, mobile phones etc. have been developed in order to make education interesting, effective and purposeful.

In teaching and learning process we majorly used ICT .ICT stands for Information and Communication Technology and are defined as a diverse set of technological tools and resources used to communicate and to create ,disseminate ,store and manage information. These technologies include computers, internet, broadcasting technologies, radio, television, telephone etc. 21st century education is student centric so students learn from the multiple sources ,for this reason use of ICT and multimedia is very much essential in educational field and simultaneously teachers knowledge of ICT and multimedia also required. So specially in Teacher education program there is a need of ICT specially for pre service teacher trainees because they are prospective teachers and they have to know the use ,advantages and need of ICT in present scenario.

Educational systems around the world are under increasing pressure to use the new information and communication technologies (ICTs) to teach students the knowledge and skills they need in the 21st century. It has many forms like digital learning, e-learning, web-learning, Teleconferencing, information technology Mobile learning etc. The 1998 UNESCO World Education Report, Teachers and Teaching in a Changing world, describes the radical implications the new information and communication technologies have for conventional teaching and learning. It predicts the transformation of the teaching learning process and the way teachers and learners gain access to knowledge and process and the way teachers and learners gain access to knowledge and information. Science teacher is a real engineer in the process of teaching learning. Knowledge of ICT and skills for him to use in classroom has much importance. It is seen that the perception of pre-service teachers towards using ICT based of sex and subject area are found that it varies from highly skilled to insecure users. It needs instructing learning and powerful use of ICT in that field(Singh,2013).Apart from this there is a moderate level of perception towards blended learning by the teacher trainees on the bases of sex and their level of study(Angadi,2016).

RATIONAL OF THE STUDY

Now ICT has become an integral part of schooling process . Successful integration of ICT in the school system depends largely on the competence and on the attitude of teachers towards the role of modern technologies in teaching and learning. Thus the experienced teachers, newly qualified teachers and student teachers need to be confident in using ICT effectively in there teaching. Therefore teachers must have competence and right attitude towards technology.

Regardless of the quantity of technology placed in classrooms, the key to how those tools are used is the teacher. Therefore teachers must have the competence and the right attitude towards technology (kadel, 2005, Kyriakidou, Chrisostomou, & Bank 2000). Thomas (2009) opines that the colleges of education can play an important role in this regard as these institutions will produce teachers who will have to carry out the integration of ICT in school settings. Recognising this, NCFTE, 2009 has recommended for the restructure the education programmes and facilities of teacher education institutions of India with a view to improve the potentialities of the prospective teachers in using ICT in teaching (NCFTE, 2009). As per the recommendation of the NCFTE, 2009 universities of Odisha have included ICT as an add-on course in their new curriculum for B.Ed. trainees with an intention to help prospective teachers in integrating ICT in teacher training institute.

Research literature also reveals that the attitude of teacher trainees is very important as it is a tendency which helps them to be favorable or unfavorable towards the usage of ICT in the field of education in future when they go for teaching (Annaraja & Joseph, 2006).

RESEARCH QUESTIONS

- What is the perception of teacher trainees towards the use of ICT in teacher education programme?
- Does the perception of teacher trainees towards the use of ICT in teacher education programme vary in relation to their gender variable ?
- Dose the perception of teacher trainees towards the use of ICT in teacher education programme vary in relation to their stream?

DEFINITION OF THE KEY TERMS

Teacher Trainees: Teacher trainees are the pupil teachers who are admitted in B.Ed course under SCERT ODISHA.

Information and communication Technology (ICT): Information and communication technology (ICT) can briefly be described as convergence of technologies (Telecommunication and television) with information. It basically refers to the use of computer and internet in information sharing process.

Perception towards the use of ICT: perception is refers as tendency to react favorable/positive or unfavorable/negative attitude or thinking towards ICT. In this study, we find how the teacher trainees take the use of ICT in teacher education programme.

OBJECTIVES OF THE PRESENT STUDY:

- The following are the objectives of the present study:
- To access the perception of teacher trainees towards the use of ICT in teacher education programme.
- To compare the perception of teacher trainees towards the use of ICT in teacher education programme in relation sex.
- To compare the perception of teacher trainees towards the different dimensions of the use of ICT in teacher education programme in relation to sex.
- To compare the perception of teacher trainees towards the use of ICT in teacher education programme in relation to stream.
- To compare the perception of teacher trainees towards the different dimensions of the use of ICT in teacher education programme in relation to stream.

DELIMITATION OF THE STUDY

The present study was delimited to the following conditions :

The study was delimited to 3 number of Govt. Teacher training colleges of cuttack where ICT is integrated successfully.

The teacher trainees sample was confined to only 100 B.Ed. students of 1st year and 2nd year from the 3 teacher training colleges.

Perception of the teacher trainees regarding the different aspects of the use of ICT were only assessed.

METHODOLOGY

"Descriptive survey method "was used to conduct this study. The researcher personally visited to the teacher training institution for data collection.

POPULATION AND SAMPLE

All the B.Ed students of cuttack were the population of the present study. 100 B.Ed students had taken by using simple random method from the said three teacher training colleges. Out of 100 B.Ed students 50 were male and 50 were female and again out of 100, 40 were from arts stream and 60 were from science stream.

TOOLS USED

A self- made tool was used to assess the perception of teacher trainees towards the use of Information and Communication Technology in teacher education programme. The tool was known as "Perception of teacher trainees towards use of Information and Communication Technology (ICT) in teacher education programme "The tool was a -

- (i) 5 point liker type scale.
- (ii) ICT classroom observation schedule.
- (iii) Interview schedule for teacher trainees.

PROCEDURE OF DATA COLLECTION

In this study, the investigator was collect data personally from the field. It was prepared perception scale and class room observation schedule for pupil teachers to collect the relevant data from 3 Teacher training schools.

TECHNIQUES OF DATA ANALYSIS

Following statistical techniques were used to analysis and interpret the data mean, Standard Deviation (SD), t- test.

- Assessment of the perception of teacher trainees towards the use of ICT in teacher education programme.
- Comparisons of the perception of teacher trainees towards the use of ICT in teacher education programme in relation to sex.
- Perception of teacher trainees towards different dimensions of the use of ICT in teacher education programme in relation to sex.
- Comparisons of the perception of teacher trainees towards the use of ICT in teacher education programme in relation to stream.
- Perception of teacher trainees towards different dimensions of the use of ICT in teacher education programme in relation to stream.

Assessment of the perception of teacher trainees towards the use of ICT in teacher education programme.

Table – 4.1

Scale/Dimensions	N	Mean	Mean Score	Perception
Total score	100	154.9	77.3	Favorable
Knowledge of ICT	100	33.58	74.62	Favorable
Use of ICT for academic purpose	100	26.68	76.2	Favorable
Pedagogical use of ICT	100	24.52	81.73	Most Favorable
Use of ICT in Research purpose	100	26.24	74.91	Favorable
Use of ICT in Teacher Education	100	43.51	79.1	Favorable

The table -4.1 and figure -4.1 reveals that out of the total maximum scores i.e,200 for the entire scale for the teacher trainees have scored 154.9 as their mean score. The calculated mean score and the mean score percentage of entire group clearly indicate that most of the teacher trainees have perceived the use of ICT in teacher education programme favorably. Similarly, with reference to the different dimensions of the scale the obtained mean scores and the mean score percentages also reveal that the teacher trainees perceive all the dimensions favorably. However the teacher trainees have perceived the 'pedagogical use of ICT' dimension most favorably (mean score % as 81.73) in comparison to other dimensions.

Comparison of the perception of teacher trainees towards the use of ICT in teacher education programme in relation to sex.

Table -4.2

Group	Sample	M	SD	SEM	SEMD	T-VALUE
Male	50	155.44	16.021	5.13	3.25	0.56
Female	50	157.28	16.49	5.44		

It is revealed from the Table -4.2 that the mean score of male and female teachers trainees towards the use of ICT are 155.44 respectively. This clearly indicate that the female teacher trainees perception towards use of ICT in teacher education programme is higher than male teacher trainees; regarding the level of significance difference between the male and female teachers' perception towards the use of ICT in teacher education programme Table -4.2 reveals that the obtained t- value is 0.56, which is not significant either at 0.01 or at level or at 0.05 level of significant. Because at .05 level the table value is 1.98 and at .01 level the table value is 2.63 which are more than calculated t-value 0.56. Thus the H₀ i.e there exist significant difference between the perception of teacher trainees towards the use of ICT in teacher education programme in relation to sex is rejected.

Comparison of the perception of the teacher trainees towards the different dimensions of the use of ICT in teacher education programme in relation to sex.

Table -4.3

Dimensions	Gender		Sample (N)		Mean		SD		“t” value level of significance
	Male	Female	50	50	32.72	33.2	4.99	5.96	
Knowledge of ICT	Male	Female	50	50	32.72	33.2	4.99	5.96	0.44
Use of ICT for academic purpose	Male	Female	50	50	27.56	27	4.77	3.83	0.65
Pedagogical use of ICT	Male	Female	50	50	24.32	22.8	3.21	3.40	2.30
Use of ICT in Research purpose	Male	Female	50	50	26.52	25.72	5.17	4.88	0.79

The Table -4.3 reveals that the calculated t-value of the mean scores of male and female groups with reference to 'Pedagogical use of ICT dimension is 2.30 which is more than the table value 1.98 at 0.05 level and less than the table value 2.63 at 0.02 level. This indicates that there exists significant difference between the perception of the male and female teacher trainees with reference to the 'Pedagogical use of ICT' dimension both at 0.05 level of significance. The above table also reveals that the calculated values for the dimensions Knowledge on ICT, Use of ICT in Academic purpose, Use of ICT in Research purpose and use of ICT in teacher. Education are 0.44, 0.65, 0.79, and 0.94 respectively. These 't' values are less than the table value 1.98 and 2.63 both at 0.05 and 0.01 level respectively. Hence, from the above table, it is clear that there doesn't exist significant difference in the perceptions of the male and female teachers towards the above four dimensions of the use of ICT in teacher education programme. Thus, the H₂ i.e., there exist significant difference between the perception of teacher trainees towards the use of ICT in teacher education programme in relation to sex is partially rejected.

Comparison of the perception of the teacher trainees towards the use of ICT in teacher education Programme in relation to stream.

Table-4.4

Group	Sample	M	SD	SEM	SEMD	T-VALUE
Science	60	155.13	14.28	3.39	3.52	0.44
Arts	40	156.6	19.09	9.11		

It is revealed from the Table-4.4 and Figure-4.4 that the mean score of perception of the Arts teacher trainees is more than the mean score of the Science teacher trainees towards the use of ICT in teacher education programme. This clearly indicates that the Arts teacher have more positive perception towards the use of ICT in teacher education programme in comparison of their Science counterparts. To ascertain whether the mean differences between the two groups are statistically significant or not, the 't' value was calculated and shown in the Table- 4.4. It is clear from the above table that the observed t- value is 0.44.

which is not significant both at .05 and .01 level. Because at .05 levels the table value are 1.98 and at .01 level the table value is 2.63 which are greater than calculated t-value i.e 0.31. Hence, the H3 i.e there exists significant difference in the perception of teacher trainees towards the use of ICT in teacher education programme in relation to stream is rejected.

Comparison of the perception of the teacher trainees towards the different dimensions of the use of ICT in teacher education programme in relation to stream.

TABLE-4.5

Dimensions	Academic Stream		Sample (N)		Mean		SD		“t” value level of significance
	Science	Arts	60	40					
Knowledge of ICT	Science	Arts	60	40	33.15	35.1	5.30	5.19	1.83
Use of ICT for academic purpose	Science	Arts	60	40	25.46	27.4	4.84	4.48	2.06
Pedagogical use of ICT	Science	Arts	60	40	22.33	25.25	3.33	2.94	4.63
Use of ICT in Research purpose	Science	Arts	60	40	25.76	28.15	4.83	4.48	2.54
Use of ICT in Teacher Education	Science	Arts	60	40	42.75	44.06	2.67	7.86	0.99

From the Table4.5 and Figure 4.5 it is informed that the teacher trainees of the Arts streams have scored better mean scores in all the dimensions of the Perception scale in comparison to their science stream. However to discern that whether difference observed are statistically significant of that the 't' test was applied and shown in the above table

The above table reveals that the calculated t-value of the 't' score of the science and arts group with reference to 'pedagogical use of ICT' DIMENSION IS 4.63 which is more than the table value 1.98 and 2.63. this indicates that there exists significant difference between the perception of the science and arts teacher trainees with reference to the 'pedagogical use of ICT'. Dimensions both at 0.01 and 0.05 level of significance However the calculated 't' values for the dimensions Knowledge on ICT and Use of ICT in Teacher education are 1.83 and 0.99 respectively which are less than the table value 1.98 and 2.63 at 0.05 level and 0.01 level respectively which indicates that there exists no difference between the Science and Arts teacher with reference to the Knowledge on ICT and use of ICT in teacher education dimensions. On the basis of the above analysis it is concluded that the H5 i.e. there exists significant difference in the perception of teacher towards the different dimensions of use of ICT in teacher education programme in relation to stream is partially accepted.

MAJOR FINDINGS

- To achieve the objective of the study and answer the research question a descriptive survey approach was employed. After objective wise analysis of data the following findings emerged from the study:
- Most of the teacher trainees perceive the case of ICT in teacher education programme favorably.
- There is no difference in the perception of the male and female teacher trainees towards the use of ICT in teacher education programme.
- The teacher trainees of the arts stream perceive the use of ICT in teacher education programme significant by more favorable way in comparison to their arts counterparts.
- Significant differences are found in the perception of Science and Arts teacher trainees with reference to the dimensions use of ICT in Academic purpose, pedagogical use of ICT, use of ICT in Research purpose. The Arts teacher trainees they perceive these dimensions more favourably than their science counterparts with reference two other dimensions knowledge on ICT and use of ICT in teacher education both science and Arts teacher trainees they perceive the dimensions in equal manner.

DISCUSSION

Any innovation demands right attitude of the person involves in it. Likewise for the successful integration of ICT in teaching learning process, It is necessary to have favourable perception of teacher trainees towards the use of ICT. So present study possesses the importance of ICT in teaching learning process especially for teacher trainees. Mostly the perception of teacher trainees are favourable specially pedagogical use of ICT. It is revealed that perception of female teacher trainees toward use of ICT is more favourable than male counterparts. so there is a significant difference between both in relation to sex. There is also significance difference between arts and science stream teacher trainees. The findings of the study helpful for the development of new policies by the state and central government jointly. Different teacher training programmes also conducted for integration of ICT in classroom. In B.ed curriculum ICT must be integrated for the practice aspect. This study makes the the teacher education programme more successful. "ICT at education really imply paradigm shift in learning models. It is not about doing the same thing we do using "IT". It is about doing different things that we don't do today using IT" - Sam Pitroda.

References

- Kadel,R.(2005)How Teacher Attitude affect Technology.Learning and leading with Technology,39.5:34-36
- Kyriakidou,M.,chrisostomou,c.& Bank ,F.(2000).Primary teachers' attitude to the use of ICT: A comparative study between Cyprus and the UK.Paper presented at the European conference on Educational Research.Lahti,Finland
- Beauchamp,C and Thomas,L.(2009) Understanding Teacher identity:An overview of issues in the Literature and implications for Teacher Education. *Cambridge Journal of Education*,39,175-189.
<https://doi.org/10.1080/03057640902902252>
- Annaraja P, Nima M Joseph.Teacher Trainees 'Attitude Towards Information and Communication Technology:*DESIDOC Bulletin of Information Technology*.2006; 26(2) 37-40 c 2006,DESIDOC.
- Victor, S.R. (2013). Teacher-trainees' attitude towards ICT. *Journal of Education and Practice*, 4(19), 18-21. Retrieved from <https://pdfs.semanticscholar.org/a3e5/b42885e1ba06f7b4c928ccb65c178ae402fd.pdf>
- Singh, R. (2013). Perception of teacher trainees towards learning through information and communication technologies. *International Journal of Enhanced Research in Educational Development*, 1(4), 16-29. Retrieved from <https://pdfs.semanticscholar.org/14ec/c834fc7a9de3812f3d58a0d9df2e880221d0.pdf>
- Mura, G. & Diamantini, D. (2014). The use and perception of ICT among educators: The Italian case. *Procedia - Social and Behavioral Sciences*, 141, 1228-1233.
Retrieved from <https://doi.org/10.1016/j.sbspro.2014.05.211>
- Angadi, G.R. (2016). Student-teachers perceptions towards blended learning approach in critical understanding of ICT in education. *International Journal of Research in Economics and Social Sciences*, 6(3), 77-82. Retrieved from <http://euroasiapub.org/wp-content/uploads/2016/09/11ESSMarch-3326.pdf>
- NCERT(2010). National Curriculum Framework for Teacher Education 2009.Retrieved https://ncte.gov.in/Website/PDF/NCFTE_2009.pdf
- Word Education Report1998:te.Tachers and teaching in a changing world.Retrieved <https://unevoc.unesco.org>
- Shodhganga@INFLIBNET Centre.Retrieved <http://hdl.handle.net/10603/460906>.