ICT Responsive Pedagogy for Professional Development of Teachers-With Reference to B. Ed Pre-Service Trainees of Guwahati

Gitanjali Choudhury

West Guwahati College of Education, Guwahati

ABSTRACT

ICT paper nowadays is very essential to rethink and redesign the present educational scenario. To cope up with the digital teaching-learning process, every teacher should be accustomed with the ways of learning ICT during their pre-service teacher training program. During professional journey as a teacher, they should be alert what is happening around the present education sector. The investigator, hence, tries to analyse the scope of ICT paper prescribed by various universities of B.ed courses in North-East India. The investigator tries to know the attitudes towards ICT paper of the B.Ed trainees with respect to their gender, qualifications. Their attitude towards ICT paper as a subject of study and as a responsive pedagogy are taken as objectives of the study. The investigator has taken 70 nos. Pre-service teacher trainees from different B.Ed colleges of Guwahati, Assam for the study. The study is based on descriptive in nature to achieve the objective. The paper has focussed the attitudes of B.Ed trainees for ICT paper through which they can use ICT in teaching other pedagogical subjects.
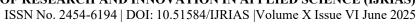
Key words: ICT, Responsive, Pedagogy, Professional Development, B.Ed trainees

INTRODUCTION

Pedagogical Content Knowledge demands the use of multimedia for effective learning of students. Incorporating information and Communication technologies (ICT) tools into the curriculum and in pedagogy as per the social environment are necessary for achieving improved qualitative learning (Kremer and Holla 2008), Sreekumar and Sanchez 2008, Barret (2009), Gurumurthy (2009). The need to improve teaching quality and learning outcomes for all students is the concern for all. In the present information age, it is essential that the teachers need to be responsive of students' social environment (community and family cultures) and information gathered through interaction must use the obtained knowledge in pedagogy. Culture is a powerful resource for student learning. The process of integration of ICT into curriculum and pedagogy, the role of teachers has been argued to be crucial as the "agents" of change (OECD 2001, Semenov 2005). Development of teachers' technology skills and knowledge of new pedagogic approaches as well as attitudes toward teaching needs consideration. ICT can improve students' conceptual understanding, problem solving and team working skills (Culp , Honey & Mandinach, 2005, Gerban, 1992, Tao & Gunstone,1999, Toomey & Ketterer, 1995, Zhou , Brouwer, Nocente & Martin, 2005). Consequently, most curriculum materials emphasize the value of ICT and urge educators to use it. To use ICT in the classroom, teachers must receive specialized training.

North-East India (NEI) is renowned for its cultural diversity, and each culture aspires to emphasize its individuality. It is clear from this scenario that professors and students come from a variety of cultural backgrounds. Therefore, it is necessary to consider the idea of ICT responsive pedagogy in order to attain the intended teaching quality and learning results. NEI's diverse and culturally impacted population has led to the introduction of technology into educational settings, especially schools. The Computer Literacy Program (CLP) was the first ICT introduction at NEI in the early 1980s, and research indicates that this fact is widely accepted. In the states of Assam, Meghalaya, Manipur, Mizoram, Nagaland, and Tripura, CLP has been in existence from 1984–1985. For two or three weeks, teachers from 147 schools that are covered by the CLP are dispatched in batches to receive computer training. The CLASS (Computer Literacy and Studies in Schools)

project marked the beginning of computer technology's introduction at the classroom level, even though it had been in use in India since the middle of the 1950s. After that, computer education was abruptly introduced in Indian schools, either on their own initiative or with the assistance of private computer institutes. According to the study, the majority of teachers believed that computer education helped pupils develop the information, abilities, and critical thinking skills they would need in the workplace. Most teachers also believed that in order to improve classroom management, training and orientation courses were necessary.

In 1989, 20 of the 94 schools in Shillong, the capital of Meghalaya, began offering computer education courses, according to another study. The majority of these schools' computer education teachers were hired from the private computer institutes Padma and Chakrabarty rather than being part of the school's staff.

The Department of Teacher Education of the National Council of Educational Research and Training developed a distinct paper named "Understanding ICT and Its Application" after realizing the need and demand for ICT to be included in Teacher Education courses (B.Ed.).As shown in Table No. 1, universities in the remaining six states of the NEI offer B.Ed. programs and have included ICT as a paper in their Teacher Education curricula. All pre-service teachers are enrolled in pedagogical training as a prerequisite for their professional development program.

Table No.1: ICT as a paper in the B. Ed course in NEI

States	University	Name of the ICT paper
Arunachal Pradesh	Rajiv Gandhi University	Not Available
Assam	Gauhati University	ICT and Classroom Transaction
	Dibrugarh University	ICT Skill Development
	Assam University	ICT in Education
Meghalaya	NEHU	Computer in Education
Manipur	Manipur University	ICT Skill Development
Nagaland	Nagaland University	Critical Understanding of ICT
Mizoram	Mizoram University	Critical Understanding of ICT
Sikkim	Sikkim University	Not Available
Tripura	Tripura University	Critical Understanding of ICT

Need of the Study

In order to successfully integrate ICT into teacher education, the study on ICT Responsive Pedagogy for the Professional Development of Teachers, which focuses on B.Ed. pre-service trainees in Guwahati, attempts to pinpoint the essential requirements. Pre-service teachers must learn how to use ICT tools to improve teaching and learning processes as technology becomes more and more integrated into contemporary classrooms. The study aims to evaluate trainees' present ICT skills and pinpoint any deficiencies in their technology-integration educational approaches. In order to promote competence and confidence in using ICT-responsive strategies, it also seeks to investigate the training requirements. Designing focused professional development programs that equip aspiring educators to use technology to create inclusive and engaging learning environments requires an understanding of these needs. Pre-service teachers will be better prepared to handle the challenges of 21st-century education in Guwahati and beyond thanks to the findings, which will also help to improve teacher education curricula and training modules. The goal of the study was to determine the needs of the pre-service teachers in the Teacher Education Program based on their ICT knowledge and skills, as well as their expectations of an ICT course that would help them to integrate ICT into their classroom teaching .These teachers trainees are belonged to varied cultural backgrounds of NEI and they are supposed to integrate ICT into their teaching and learning profession depending on the availability of opportunities.

Statement of the Problem

For the above reasons, the investigator has stated the problem as "ICT Responsive Pedagogy for Professional Development of Teachers--With reference to B. Ed Pre-service trainees of Guwahati".

Objective of the Study

1. To know the attitude of Pre-service trainees towards ICT paper with regards to gender.
2. To know the attitude of Pre-service trainees towards ICT paper with regards to their qualifications.
3. To study the attitude of the Pre-service trainees towards ICT paper as a subject of study.
4. To study the attitude of the Pre-service trainees towards ICT paper as a responsive pedagogy

Population of Study

The investigator has taken 500 nos. pre-service B.Ed Teacher-trainees (2024-25) as the population from various B.Ed colleges under Guwahati City of Kamrup District, Assam.

Sample of the Study

From the population of the study, the investigator has taken 70 nos. Teacher-trainees (10 nos. Boys and 60 nos. Girls) as sample from different private B.Ed colleges under Gauhati University for the study on the basis of the purposive sampling technique.

METHODOLOGY OF THE STUDY

ICT Responsive Pedagogy for the Professional Development of Teachers is based on a descriptive study to systematically observe and analyze the current teaching practices and ICT integration among B.Ed pre-service trainees in Guwahati. It aims to identify existing strengths and gaps without manipulating variables, providing a comprehensive understanding of their pedagogical readiness. This approach helps in generating detailed insights essential for designing effective training programs.

Construction of Scale as the Tools of the Study

The tools are comprised of Attitude Scale (24 nos. statements) on ICT paper prescribed by the Gauhati University. The try out scale consisted of 38 items. For pilot study, the scale was administered on 18 number of B.Ed trainees. Obtained data are processed for item analysis purpose. The collected data was scored according to the responses given by the trainees. The individual scores for the entire items were found out and they were arranged in the matter of highest to the lowest score. The individual scores for the entire items were found out and they were arranged in the matter of the highest to the lowest score. After arranging in the descending 25% of the sample constituting the high scores and the bottom 25% constituting the low scores are pooled. Each group consisted of 12 samples. 't' value for each item being calculated. The final draft consisted of 24 numbers of items were formed. The scale was further validated and reliability was obtained. Appling split half method on the scores obtained from 12 numbers of trainees, the reliability coefficient happened to be 0.85 using Spearman Brown Formula.

Data Analysis

Objective no.1. To know the attitude of Pre-service trainees towards ICT paper with regards to gender

Table No.2: Gender wise attitude of pre-service teachers towards ICT paper

Sex	No. of respondents	M	SD	t-value
Male	10	71.8	7.269418	0.583*
Female	60	73.25	7.398179	

*Significant at 0.05 level

Objective no.2: To know the attitude of Pre-service trainees towards ICT paper with regards to their qualifications

Table No.3: Qualification wise attitude of pre-service teachers towards ICT paper

Qualifications	No. of respondents	M	SD	t-value
B.A./B.Sc	21	71.04762	6.453497	2.808*
M.A/MSc	49	73.89796	7.597272	

*Significant at 0.05 level

Objective No.3: To study the attitude of the Pre-service trainees towards ICT paper as a subject of study.

Table no.4: Attitude of the Pre-service trainees towards ICT paper as a subject of study.

Sl. No	Focus Area	No. of Statements	Mean	SD
1	ICT syllabus	4	8.757143	2.845977
2	ICT Theory	2	6.4	1.055009
3	ICT Practicum	3	10	1.329705
4	ICT Classes	3	15.77778	1.499206
5	Level of Confidence	7	23.07143	2.840297
6	Skill Development	4	13.31429	1.715596
7	Teacher Educator	1	3.385714	0.490278
		24	73.04286	7.345383

Objective no.4: To study the attitude of the Pre-service trainees towards ICT paper as a responsive pedagogy

Broadly, the focus areas taken by the investigator for the study are put under three dimensions such as – Institutional dimensions (ICT syllabus and Teacher Educator), Instructional dimension (ICT theory & Practicum, Classes), Personal Dimension (Level of Confidence, Skill Development). Table no.5 shows that the attitude of pre-service teachers' towards institutional, instructional or personal dimensions is quite favourable.

Table No.5: Attitude of the Pre-service trainees towards ICT paper as a responsive pedagogy

SL No.	Dimension	Mean	Attitude of Respondents	
			SD	't' value
1	Institutional	6.6	0.96908	53.087*
	Instructional	24.5142	2.65255	
2	Institutional	24.5142	2.65255	20.451*
	Personal	36.3857	4.06930	
3	Personal	36.3857	4.06930	59.585*
	Institutional	6.6	0.96908	

*Significant at 0.01 level

FINDINGS

From the above study, certain results are obtained as (1) pre-service teachers possess favourable attitude

toward ICT. (2) Both the sexes have the urge for acquisition of ICT knowledge (3) Be it graduate or postgraduate pre-service teachers, there is no difference in attitude towards ICT. (4) The attitude of pre-service teachers towards institutional, instructional, or personal dimensions with respect to ICT is quite favourable.

DISCUSSION

Studies on ICTs suggest that ICT responsive pedagogy has been well accepted and now it needs to be seen the extent of impact on quality of teaching. ICTs can enable activity –based and collaborative learning process (suggested by NCF,2005) which can help us move away from the traditional 'rote-based learning'. The NCF 2005 has highlighted the importance of ICT in school education. The entire teaching-learning process gets a boost with the appropriate use of ICT. Although ICT offers the opportunity to construct powerful learning experience, it needs to be seen that to what extent this would be culturally responsive coupled with integration of ICT into curriculum and pedagogy. ICT enhanced education requires clearly stated objectives, mobilization of resources and political commitment of the concerned bodies. For successful integration of ICT in the education system, the need to develop competencies of teachers is of utmost essential.

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