REVIEW OF LITERATURE

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EFFECT OF COMPUTER EDUCATION ON COMPETENCY STUDENT TEACHERS OF TWO YEAR B.ED. COURSE OF GULBARGA DIVISION

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ABSTRACT :
In the modern age, information and communication technology has influenced all aspects of human life. Teacher education has also been influenced by the ICT. Now ICT has become an integral part of our lives. Over the past twenty five years, the use of ICT has fundamentally changed the practices and procedures in the field of banking, tourism, share market, engineering, business, and post office. ICT is one of the major contemporary factors shaping the global economy and producing rapid changes in society.

KEYWORDS : modern age, information and communication technology.

1. INTRODUCTION:

ICT is a powerful tool for problem solving, conceptual development and critical thinking that helps to make the learning process much easier for the teacher trainees. Owing to knowledge explosion and tremendously fast changing ICT, the teachers sometimes find it rather difficult to cope with the new intellectual challenges being thrown up by the changed global and local context. Therefore, updating the knowledge of ICT is the need of the hour. Even though teachers may have mastered the traditional pedagogies in teaching their students, the changing world dictates that these are no longer sufficient. The teacher educators must acquire new knowledge of ICT before they can prepare their teacher trainees to meet the demands and challenges of the 21st century.

2. COMPUTER COMPETENCY:

The construct of Competency has emerged as a central facet of social cognitive theory. Social cognitive theory posits that behaviour is best understood in terms of "triadic reciprocality" (Bandura, 1986) where behaviour, cognition and the environment exist in a reciprocal relationship and thereby influence are determined to a great extent by each other. Bandura (1986) defines Competency as: People's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is

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concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses (Bandura, 1986).

This definition highlights a key aspect of the Competency construct. Specifically, it indicates the importance of distinguishing between component skills and the ability to "organize and execute courses of action." For example, in discussing driving self-efficacy, Bandura (1986) distinguishes between the component skills (steering, braking, signaling) and the behaviours one can accomplish (driving in freeway traffic, navigating twisting mountain roads). Similarly, Collins (1985 in Compeau & Higgins, 1995) distinguishes between the component skills of mathematics (choice of operations and basic arithmetic skills) and mathematics behaviours (solving particular word problems). Thus, computer Competency represents an individual's perceptions of his or her ability to use computers in the accomplishment of a task (i. e., using a software package for data analysis, writing a mail merge letter using a word processor), rather than reflecting simple component skills (i.e., formatting diskettes, booting up a computer, using a specific software feature such as "bolding text" or "changing margins") (Compeau & Higgins, 1995).

Competency beliefs have repeatedly been reported as a major factor in understanding the frequency and success with which individuals use computers. Campeau and Higgins (1995) tested several hypotheses related to a hypothetical linear model of computer use based on social cognitive theory. In their study, individuals with high Competency used computers more, enjoyed using them more and experienced less computer related anxiety. Level of enjoyment and anxiety levels were also identified as significant factors in computer use. The importance of Competency in explaining computer use was also demonstrated by Hill, Smith and Mann (1987) who found that computer Competency beliefs affected whether individuals chose to use computers irrespective of their beliefs about the value of doing so. Many other studies also have shown that Computer Competency is a factor influencing an individual's computer competency.

3. RATIONALE OF THE STUDY:

With National council of Teacher Education (NCTE) making Computer Education component of teacher education, the Gulbarga University introduced Information Communication and Technology as a component of two year B.Ed. programme by introducing a compulsory paper 'Computer Education' in the academic year 2015-16. It is in this context, need of a study which explores the effectiveness of the computer education course of two year B.Ed. programme was felt.

4. OBJECTIVES OF THE STUDY:

Following were the objectives of the study:
a.   To study the effect of computer education course on computer Competency of student teachers
b.   To compare the computer Competency of the male and female student teachers.

5. METHODOLOGY:

This is a descriptive study in which survey method is employed to study the effect of computer education course of two year B.Ed. programme on computer Competency of student teachers.

6. SAMPLING:

Sample of this study were student teachers of the B.Ed. colleges affiliated to Gulbarga Division. It has 154 B.Ed. colleges under its jurisdiction. Among these B.Ed. colleges, 18 were selected randomly for the present study. From each of these selected colleges, 50 student teachers, 25 from Science background and 25 from

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Social science background, were randomly selected. Though the intended student teacher sample size was 400, since the number of student teachers with science background was less than 25 and due to few absentees during the post test administration, the actual sample size of the student teachers was 325.

7.   INSTRUMENTATION:

Student teachers' computer Competency scale was developed for the purpose of the study. The tool in Likert five point scale, with 23 items was found to have desirable content validity ratio (Lawshe, 1975) and discrimination index. Satisfactory level of test-retest reliability index (0.94) was found.

8.   DATA ANALYSIS, INTERPRETATION:

The computer efficacy scale administered to the student teachers at two stages had 25 items. It has a five point scale from 0 to 5, with the highest possible total score 125. To study the effect of the computer education course on computer Competency of student teachers, following null hypothesis was formulated.

1.   **Ho: There is no significant difference between mean pre-test and post-test scores in computer competency of the student teachers.**

The following table shows the results of the paired t-test conducted on pre and post test scores of computer Competency.

Table 1: Results of paired t-test between pre and post computer Competency scores:

Test	Mean	Std. Deviation	t
Post-test	80.02	17.68	8.75*
Pre-test	35.42	23.65	

* Significant at 0.05 level

The table reveals that the 't' value obtained is significant at 0.05 level. Hence the null hypothesis, that there is no significant difference between mean pre-test and post-test scores in computer Competency of the student teachers, was rejected. This means, Computer Education course of B.Ed. programme is effective in bringing about changes in the computer Competency of the student teachers.

2.   **Ho: There is no significant difference between adjusted mean scores in computer Competency of male and female student teachers when their pre-computer Competency is taken as a covariate**

To test this hypothesis, analysis of covariance technique was employed. Following table gives the results of ANCOVA.

Table- 3
ANCOVA results of computer Competency of male and female student teachers with computer Competency as a covariate

Source	Sum of squares	df	Mean Square	F
Gender	340.784	1	340.784	0.601173*
Error	184231.219	325	566.865	

* Not significant at 0.05 level.

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The table value reveals that the F value is not significant at 0.05 level. Hence null hypothesis, that there is no significant difference between adjusted mean scores in computer self efficacy of male and female student teachers when their pre-computer Competency is taken as a covariate, was not rejected. That means there is no significant difference between computer Competency of male and female student teachers when their pre-computer Competency was considered as a covariate. Hence gender is not a factor influencing computer Competency of student teachers.

DISCUSSION AND CONCLUSIONS:

The study shows that the computer education course of B.Ed. programme improvers the computer Competency of the student teachers. Hence the course was found to be effective in bringing about desired changes in the computer Competency of the student teachers. Computer Competency of male and female student teachers were found not to be different indicating that both male and female student teachers gained equally in terms of computer Competency on studying computer education course.

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