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EFFECTIVENESS OF COMPUTER BASED CLASSROOM INSTRUCTIONS ON INFORMATION COMMUNICATION TECHNOLOGY IN TERMS OF ATTENTION OF B.ED STUDENTS

Madhulika Varma   and Lata Pandey

Abstract:-Computer Assisted instruction or Computer Aided Instruction (CAI) includes the use of computers to instruct academic skills and to promote communication and language development. It includes computer modeling and computer tutorials.CAI uses a combination of text, graphics, sound and video in enhancing the learning process. CAI programs use tutorials, drill and practice, simulation, and problem solving approaches to present topics, and they test the student's understanding. Typical CAI provides text or multimedia content, multiple-choice questions/problems, immediate feedback, notes on incorrect responses, summary of students' performance, exercises for practice, worksheets and tests, etc.

Keywords: Information Communication Technology   , Computer Based Classroom   , language development ,

INTRODUCTION-

Computer Based Classroom Instruction (CBCRI) is defined as the use of the computer in the delivery of instruction. Some common categories of CBCRI include:

Drill and Learning- These are exercises designed to increase fluency in a new skill or body of knowledge or to refresh an existing skill or body of knowledge.

Tutorial – This is a form of CBCRI in which the computer assumes the role of a tutor - introducing content, providing practice, and assessing learning. Tutorials are used to introduce new content to learners in much the same manner that a human teacher might.

Simulation – Simulation is a form of CBCRI that provides a simplified representation of a real situation, phenomenon, or process, thereby providing the opportunity for students to apply knowledge in a realistic format but without the time, expense, or risk associated with the real thing.

Instructional Game - It is usually another type of CBCRI (e.g., drill and practice or simulation) modified to include gaming elements and generally features an end goal and rules of play, sensory appeal, and motivational elements .

Problem Solving – This is a CBCRI program that is designed to foster thinking or problem solving skills. It usually focuses on a specific type of problem solving and provides practice on a number or variety of problems.

RATIONALE FOR STUDY :

It is commonly thought that new technologies can make a big difference in education. The rapid advances in technology, the need for lifelong learning, and the growth of non-traditional students have encouraged the growth of computers as a means of instructional delivery. By 2006, 3.5 million students were participating in on-line learning at institutions of higher education in the United States. According to the Sloan Foundation reports, there has been an increase of around 12–14

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percent per year on average in enrollments for fully online learning over the five years 2004–2009 in the post-secondary system, compared with an average of approximately 2 per cent increase per year in enrollments.

"Most programs of computer-based instruction evaluated in the past have produced positive effects on student learning and attitudes. Further programs for developing and implementing computer-based instruction should therefore be encouraged."

The present work was a study towards discovering whether this relatively new phenomena of CBCRI can be effectively utilized to improve certain parameters that have a bearing on learner performance, i.e. attention.

OBJECTIVES

1.To study the effect of Gender, Treatment, and their interaction on Attention of B.Ed students.er, Treatment, and their interaction on Attention of B.Ed students.
2.To study the effect of Medium of Instruction, Treatment, and their interaction on Attention of B.Ed students.

HYPOTHESES

1.There is no significant effect of Gender, Treatment, and their interaction on Attention of B.Ed students.
2.There is no significant effect of Medium of Instruction, Treatment, and their interaction on Attention of B.Ed students.

SAMPLE:

The sample comprised of 107 students of B.Ed studying in two sections of 60 students each at School of Education, D.A.V.V., Indore during the 2011-12 academic session. Two different types of treatment were randomly assigned to two sections of B.Ed students at School of Education. One section of 55 students was made the experimental group and other section of 52 students was made the control group.

The number of male and female students for this research were 34 and 73 respectively. The number of English medium students in this research was 25 and the number of Hindi medium students was 82. Purposive sampling technique was used. The students were of the age group between 20 to 35 years. They belonged to different socio-economic backgrounds and were able to understand, read, and write Hindi and English properly.

TOOL: The attention capacity of students was assessed with the help of 20 power point slides. These slides contained pictures, figures, numbers, colours, and objects in order to determine the attention level of subjects with respect to different visual attention stimuli. Each slide was flashed before the subjects for one minute and was followed by another slide which contained two questions related to the previous slide. The subjects were given one minute to answer these questions.

PROCEDURE OF DATA COLLECTION:

Out of two B.Ed sections, one section was assigned with the treatment of CBCRI, and was called the experimental group (E1) and section E2 was the control group assigned with the treatment of traditional teaching. Both groups were treated with attention tool. The experimental group E1 (B.Ed Section A) was treated with computer based classroom instructions and the control group E2 (B.Ed section B) was treated with traditional method of classroom instruction. the attention test was re-administered to both groups. The reaction test was administered only to the experimental group.

EFFECT OF GENDER, TREATMENT AND THEIR

INTERACTION ON ATTENTION OF B.Ed STUDENTS:

The data of first objective were analyzed with the help of two way ANOVA. The results are given in table1.

TABLE 1: Summary of 2*2 factorial ANOVA for effect of Gender, Treatment and their interaction on Attention of B.Ed students:

Source of variance	df	Sum of Squares	Mean Square	F
Gender	1	357.524	357.524	34.104**
Treatment	1	499.834	499.834	47.679**
Gender * method	1	3.099	3.099	.296

*** Significant at 0.01 level of significance

It is evident from table 1 that the value of 'F' is 34.104 with degree of freedom 1/100 which is significant at 0.01 level of significance. It reflects that there is significant difference between the mean Attention scores of male and female students. Hence, the null hypothesis "There is no significant effect of Gender on Attention of B.Ed students" is rejected.

TABLE 2: Mean Attention score of male and female students:

Gender	Mean	N
Male	9.6855	31
Female	13.4000	70

Further, it has been found from table 2 that mean Attention score of female students is significantly higher (13.4) than that of the male students (9.6855). It may, therefore, be concluded that there is significant difference in Attention of male and female B.Ed students. In other words, females have significantly higher Attention as compared to males.

DISCUSSION:

Females were found to have significantly higher Attention as compared to males. This may be because of several reasons like females having more span of attention than males, CBCRI material having content appealing more to females than males, etc.
It is evident from table 1 that the value of 'F' is 47.679 with degree of freedom 1/100 which is significant at 0.01 level of significance. It reflects that there is a significant difference between the mean Attention scores of the students treated with CBCRI and with traditional instruction. Hence, the null hypothesis "There is no significant effect of Treatment on Attention of B.Ed students" is rejected.

TABLE 3: Mean Attention score of CBCRI and traditional instruction:

Treatment	Mean	N
CBCRI	14.4950	50
Traditional Instructional	10.0686	51

Further, it has been found from table3 that mean Attention score of students taught through CBCRI is significantly higher (14.4950) than that of the students taught through traditional method (10.0686). It may, therefore, be concluded that CBCRI is significantly effective than traditional instruction in terms of Attention of B.Ed students.

DISCUSSION:

CBCRI had a novelty value for the students due to which they found it more interesting and were enthusiastic about learning through it. The CBCRI material presented to them was also designed in a manner to be easily comprehensible, i.e. it was arranged in a sequential nature progressing from simple to complex, contained attractive slides and provided effective use of audio-visual aids. Hence, it might be easier for students to focus their attention on the CBCRI material.
It is clear from table 1 that the value of 'F' is 0.296 with degree of freedom 1/100 which is not significant at 0.05 level of significance. It reflects that there is no significant difference between interaction of Gender and Treatment on mean Attention scores of students treated with CBCRI and with traditional instruction. Hence, the null hypothesis "There is no significant effect of Gender, Treatment, and their interaction on Attention of B.Ed students." is not rejected. It may, therefore, be concluded that there is no significant influence of interaction of Gender and Treatment on Attention of B.Ed students.

DISCUSSION:

This may have been because the CBCRI material was administered in an unbiased manner to students who were closely of same age and maturity level. The classroom environment was also such that there were no major distractions to the students that would lead them to focus their attention away from the CBCRI session.

EFFECT OF MEDIUM OF INSTRUCTION, TREATMENT AND THEIR INTERACTION ON ATTENTION OF B.Ed STUDENTS:

The data of second objective were analyzed with the help of two way ANOVA. The results are given in table 4.

TABLE 4: Summary of 2*2 factorial ANOVA for effect of Medium of Instruction, Treatment and their interaction on Attention of B.Ed students:

Source of variance	df	Sum of Squares	Mean Square	F
Medium of Instruction	1	118.802	118.802	9.179**
Treatment	1	389.338	389.338	30.083**
Medium of Instruction*Treatment	1	.133	.133	.010

** Significant at 0.01 level of significance

It is evident from table 4 that the value of 'F' is 9.179 with degree of freedom 1/106 which is significant at 0.01 level of significance. It reflects that there is significant difference between the mean Attention scores of Hindi medium and English medium students. Hence, the null hypothesis "There is no significant effect of Medium of Instruction on Attention of B.Ed students" is rejected.

TABLE 5: Mean attention score of Hindi and English medium students:

Medium of Instruction	Mean	N
Hindi	11.7630	77
English	13.8542	24

Further, it has been found from table 5 that mean Attention score of English medium students is higher (13.8542) than that of Hindi medium students (11.7630). It may, therefore, be concluded that there is significant difference in Attention of Hindi medium and English medium students.

DISCUSSION:

English medium students had significantly higher Attention score as compared to Hindi medium students because the former identified themselves better with the Medium of Instruction (English) than the latter. Also, the day to day exposure to computer has English as the medium of operation due to which persons who are good at English are able to adapt themselves faster with computers.
It is evident from table 4 that the value of 'F' is 30.083 with degree of freedom 1/106 which is significant at 0.01 level of significance. It reflects that there is a significant difference between the mean Attention scores of the students treated with CBCRI and with traditional instruction. Hence, the null hypothesis "There is no significant effect of Treatment on Attention of B.Ed students" is rejected.
(The discussion as in the previous caption)
It is clear from table 4 that the value of 'F' is 0.010 with degree of freedom 1/106 which is not significant at 0.05 level of significance. It reflects that there is no significant difference between interaction of Medium of Instruction and Treatment on mean Attention scores of students treated with CBCRI and with traditional instruction. Hence, the null hypothesis "There is no significant effect of Medium of Instruction, Treatment and their interaction on Attention of B.Ed students." is not rejected. It may, therefore, be concluded that there is no significant effect of interaction of Medium of Instruction and Treatment on Attention of B.Ed students.

DISCUSSION:

This finding may be because test/tool instructions were displayed to the participants in both languages (English and Hindi) and the CBCRI material delivered to was do them in both languages. The students were able to focus more Attention on CBCRI material because they found the material interesting because of the way it was designed (colorful slides, audio-visual aids, etc) and hence this improved their Attention score.

IMPLICATIONS

CBCRI can be used by teachers to make the teaching-learning process more effective and efficient. As CBCRI gains more prominence in the field of educational technology, teachers have to upgrade their skills in order to adapt themselves to this mode of instruction. These skills may include information technology skills so that teachers may be able to develop their own customized CBCRI program.
Learning through CBCRI is interesting and fun and therefore students can look forward to an exhilarating learning experience which shall mean that they could learn with more personal involvement from their side.

Education Administrators have to provide adequate infrastructure for implementation of CBCRI program at the institutional level. This includes provision of computer labs, IT enabled classrooms, WiFi, etc.

Computer Education and CBCRI methods should be included in the syllabus of teacher training institutes so that the Teacher Educators may develop the requisite skills to train teachers on these aspects.

The textbook writers could endeavour to provide textbooks that are lucid and updated with the latest developments in the field of computers. They have to foresee into the near future and provide for adequate material in their textbooks so that the textbooks do not get obsolete soon.

Software developers must endeavour to gather some knowledge of the subject on which they shall design their computer programs. This shall help them in understanding the expectations out of the end product which in turn would lead to development of superior software.
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REFERENCES

1.Bangert-Drowns, R. L., (et al.) (1985), Effectiveness of Computer-Based Education in Secondary Schools. Journal of Computer-Based Instruction 12/3: Pp59-68, vide URL http://educationnorthwest.org/webfm_send/532

2.Capper, J., and Copple, C. (1985), Computer Use in Education: Research Review and Instructional Implications. Washington, DC: Center for Research into

3.Practice, vide URL http://educationnorthwest.org/webfm_send/532 Ehman, L. H., and Glen, A. D. (1987), Computer-Based Education in the Social Studies. Bloomington, IN: Indiana University.

4.Grimes, D. M. (1977), Computers for Learning: The Uses of Computer Assisted Instruction (CAI) in California Public Schools. Sacramento, CA: California State Department of Education.

5.Liao, Yuen-kuang Cliff, 2007, Effects of Computer-Assisted Instruction on   Students' Achievement in Taiwan: A Meta-Analysis,

6.http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp

7.Rupe, V. S. (1986), A Study of Computer-Assisted Instruction: Its Uses, Effects,

8.Advantages, and Limitations. South Bend, IN: Indiana University, (ED 282 513).

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