EFFECTIVENESS OF USING PROGRAMMED LEARNING MATERIALS IN THE TEACHING OF MAP MARKING IN HISTORY

By

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ABSTRACT

The National Council for Social studies defines Social sciences as the "integrated study of the social sciences and humanities to promote civic competence" .At the elementary school level, social studies generally focuses on the local community and family. By middle and high school level, the social studies curriculum becomes more discipline based and content specific. It includes various fields which involve past and current human behaviour and interactions such as sociology, history, political science, economics, religion, geography, anthropology, and civics. A student will learn about social customs, cultural heritage, and history of society. This education will train the learners to develop a genuine interest in and urge for, preservation of what is good in our culture and improvement of existing socio economic cultural set-up. In the present scenario teaching/learning of social studies as a subject is often considered as boring. Technology can be used to enhance the understanding of social studies. Map marking is one of the important activities in history from primary class itself. Gaining mastery in the map marking skill is a task included in the curriculum. Programmed instruction is one of the effective methods for imparting map marking skill. The proposed study has been undertaken to find the effectiveness of programmed learning material for teaching map marking skills for students at high school level.

Keywords: Programmed Learning, Map Marking, History.

INTRODUCTION

The social sciences comprise of diverse concerns of society and include a wide range of content drawn from the disciplines of history, geography, political science, economics and sociology. United they provide several dimensions for studying the human society overtime. This helps the learners to understand both the ancient and contemporary society better. As per the national curriculum framework, children should be engaged in activities to understand the environment through illustrations from the physical, biological, social and cultural spheres.

The main purpose of teaching history at school is to develop knowledge of the country's heritage, recognize its place in the world historical context as well as to learn about the important personalities of the past. It is also used to introduce and gradually build understanding of time and chronology. For the first ten years of schooling, history forms an integral part of the social science curriculum in general education. Studying history can be boring especially for high school students who might get lost in the facts. The textbook is the predominate source of instruction for daily lessons. Teaching should utilize greater resources like photos, charts, maps and replicas of archeological materials (Arul Jothi et at 2009). Programmed Instructional Material (PIM) is an instruction based on the theory of Skinner's operant conditioning (Skinner B.F. 1986). It consists of planned sequences of learning activity for achieving mastery. PIM is a source for Computer Assisted Instruction (CAI). Interactive multimedia requires the participant to interact with the computer by completing tasks. Visual and spatial intelligence enables learners to build pictures of what they have seen in their mind. They learn certain topics and visualize maps by seeing and observing. Secondary sources for history is in the form of textbooks and primary sources are encyclopedias, maps, letters, notes, official documents, diaries, newspapers, pictures, photos, paintings; archaeological and historical findings, monument sites etc.

Teachers are usually neither familiar with, nor trained to;

teach history using new technologies or the most updated methods and approaches (Ms Chara Makriyianni 2005). As a result, there is no confidence, and instead a rather justified resistance, feelings of insecurity and even prejudice against learning history. The classrooms, teachers, desk, textbooks, pencil /pen are all part of the traditional teaching learning environment. Today opportunities abound for learning through multiple media. Whatever cannot be produced in real life can be created through simulation or animations. An animated graphic of any concept will help the learner by adding visual cue to the textual information. Using technology teachers can plan history lessons using both print and electronic resources. Instruction about the past can be enhanced by using computer assisted instruction materials. Using such packages will result in creating active, student-centered learning communities. The investigator conducted a study to investigate information on the effectiveness of computer mediated learning for teaching map marking in history. The topics chosen were hills of Tamil Nadu, rivers of India and discovery of the sea routes. The topics selected were: Marking hills of Tamil Nadu, rivers, capitals in the map of India and discovery of sea routes in the World map.

Students with less imaginative skills may find it difficult to understand these aspects. So it was decided that a CAI package would be designed to teach these topics. There are many software available in the market like, Swish, Flash Director, Adobe After Effects etc. Flash is the 2D animation software which is user friendly. It allows us to create simple drawings and buttons. A package developed by using this software could be run on a low configured computer also. So the researcher has used Flash for the task proposed. Along with this animated images from the WWW have been adapted to fit into Power point presentations. The time taken to complete the task is 30 minutes.

Review of Previous Studies

Whiteside Kathy's (2007) "Building geography skills and community understanding with constructive teaching method" describes a program designed to enhance social studies skills and knowledge. The target population was a second grade class in a rural mid western settings.

ST.C Waugh, D R F Taylor (2006) conducted a study on topic 'computer cartography". This study found that computers are playing an increasing role in Canadian cartography.

Kent A. Rittschof and Raymond W. Kulhavy (2006) conducted a study on "Learning and remembering from thematic maps of familiar regions". Two experiments were conducted, to examine how four methods of symbolizing data, affect learning from thematic maps of familiar regions. These experiments revealed that recall of regions with their associated theme information was greater for those who studied a map than for those who studied a table, and map related text information was recalled more than map-unrelated text information.

Yuen-Kuang et al (2004) made a study on "Effects of computer assisted instruction on students achievement in Taiwan; a meta analysis ".In this study a meta analysis was performed to synthesize existing research comparing the effects of computer assisted instruction versus traditional instruction on students achievement in Taiwan. The result from this study suggests that the effect of CAI in instruction is Positive over traditional instruction.

Sangeetha Ramaswamy (2007) conducted a study on topic 'Development and validation of computer based multimedia packages for teaching history and its effect on learning among secondary school students of Coimbatore district". The finding of this study clearly indicates that multimedia method is more effective than the conventional teaching method for teaching history.

Methodology

A test, post-test method was adopted using 35 samples from City Corporation Higher Secondary School and 32 from a Matriculation School. Simple random sampling method was adopted. For this study three major variables were identified, namely:

Independent variable: The CAI package consisting lessons of the hills, rivers and routes.

Dependent variable: The knowledge gained by the learners through the CAI package.

Intervening variable: The learner's sex, socio economic background and computer awareness. It was ensured that they were not familiar with the topics meant to be taught. The CAI material was presented to the students of standard

VIII. The students were given maps after the teaching sessions were over and their accuracy for marking hills, rivers and sea routes was tested. Their scores were compared to determine the effectiveness of the CAI.

Hypotheses

The following hypotheses were formulated for the study.

- There will be a significant difference in mean scores of pre-test and post-test of VIII standard students with regard to knowledge of map marking skills gained through CAI.
- There will be a significant difference in mean scores of male and female VIII standard students with regard to knowledge of map marking skills gained through CAI.
- There is no significant difference in mean scores of rural and urban VIII standard students with regard to knowledge of map marking skills gained through CAI.
- There will be a significant difference in mean scores of computer awareness of VIII standard students with regard to knowledge of urban map marking skills gained through CAI.

The Package

The CAI package was prepared using Flash. The important instructions regarding the test and background information were provided using power point presentation. The package was used to instruct students for marking hills of Tamil Nadu and major rivers of India and discovery of sea routes.

Results

The data collected was coded and grouped for verifying the proposed hypotheses. The t-test and analysis of correlation were employed. With the help of statistical software SPSS, the mean, standard deviation, t-value and correlation have been calculated. The performance of the students is tabulated below.

There will be a significant difference in mean scores of pre-test and post-test of VIII standard students with regard to knowledge of map marking skills gained through CAI.

Table 1 reveals the mean score difference in knowledge of map marking gained through the CAI package. The 't' value is statistically significant at 0.05 level, hence the hypothesis is accepted.

Variable	N	Mean	Mean Difference	S.D	't' value	Level of Significance
Pre-test	67	7.9851	18.094	5.4397	28.656	significant
Post-test	67	26.0791		4.663		

Table 1. Test of significant difference in mean scores of pre-test and post-test of VIII standard students

There will be a significant difference in mean scores of male and female VIII standard students with regard to knowledge of map marking skills gained through CAI.

Table 2 presents that the mean score difference in knowledge of map marking gained through CAI between male and female VIII standard students is significant at 0.05 level. So the hypothesis is accepted.

There is no significant difference in mean scores of rural and urban VIII standard students with regard to knowledge of map marking skills gained through CAI.

Table 3 reveals that the mean score difference in knowledge of map marking gained through CAI between rural and urban VIII standard students is not statistically significant at 0.05 level and hence the hypothesis is rejected. The urban group possess higher mean on gain score than the rural group.

There will be a significant difference in mean scores of computer awareness of VIII standard students with regard to knowledge of urban map marking skills gained through CAI.

From Table 4 it is evident that the gain score and the computer awareness of the students are statistically significant at 0.05 levels. The computer knowledge of students has influenced the learning of map marking skills in

Variable	N	Mean	Mean Difference	S.D	't' value	Level of Significance
Male	53	17.924	4.218	4.945	2.496	significant
Female	14	22.142		5.789		

Table 2. Test of significant difference in mean scores of male and female students

Variable	N	Mean	Mean Difference	S.D	't' value	Level of Significance
Rural	17	17.058	1.982	4.351	1.775	significant
Urban	50	19.04		5.591		

Table 3. Test of significant difference in mean scores of rural and urban students

Variable	N	Mean	Mean Difference	S.D	Correlation
Computer awareness	67	4.1940	14.6120	1.948	significant
Gain	67	18.8060		5.372	

Table 4. Test of significant difference in the mean scores of computer awareness

history through CAI package.

The results reveal that the CAI method seems to be more effective method for teaching maps and information about discovery of sea routes of the World. When students were made to view the resource from (www.world of map .com) they were able to visualize the location of the hills, rivers, routes etc. The pictures taken from (world atlas.com) and customized PPTs prepared using content from the site provided motivation to the students. So it is evident that CAI can be used effectively for teaching certain concepts in history.

Limitations, Suggestions for Further Research

For the present study, the investigator used a small sample on account of difficulty in availability of computers in schools. Similarly the content taken for the PIM is very brief due to time constraints.

- The same study may be conducted with other levels of school students to find out the effectiveness of PIM on teaching-learning process of maps.
- Studies may be conducted on the basic topics like rivers of Tamil Nadu, tourist spots of Tamil Nadu, different districts of Tamil Nadu, different states of India, oceans and volcanoes in the world, continents of the world etc.
- PIM can be developed and standardized for other school subjects like English, Science, Mathematics etc.

Conclusion

History teachers can adopt such techniques using readily available electronic resources. Those who are successful with this approach can take steps to accommodate the varied reading abilities of their students by enhanced use of multimedia. Thus we can say that there is a need to shift from the mere imparting of information to involvement in debate, discussion with the help of audio visual aids also in the history classroom.

References & Electronic Resources

[1]. **Chara MAKRIYIANNI,** - Educator, President of The Association for Historical Dialogue and Research(*"Teaching methods in history school education in Cyprus: present-day situation and future developments"* (Presentations from seminar and workshop materials) Copyright © 2005 The Council of Europe).

[2]. **Skinner B.F. (1986).** *Programmed Instruction Revisited*- Phi Delta Kappan, Rand McNally & Co. Chicago:

[3]. **Agarwal J.C (1999).** *Essentials of educational technology: Teaching, Learning innovations in education*; Vikas Publishing Home Pvt . Ltd.

[4]. **Shajitha Rafi, A. R. Bhavana (2009-10).** *Effectiveness of PI for teaching history* - (Un published M.Ed. Project).

[5]. **Arul Jothi, D.L. Balaji, Sunil Kapoor (2009).** *Teaching of History*, KK agencies, H12, Bali Nagar, New Delhi, India.

[6]. **Dunn & Dunn (1997).** *Educators self teaching guide to individualizing instructional programme*, Parker Publishing company, New York.

[7]. **Whiteside Kathy's (2007).** *"Building geography skills and community understanding with constructivist teaching method"*-117p,Masters 0f Action Research Project, St.Xaviers (Un published Masters Thesis).

[8]. **ST.C Waugh, D R F Taylor (2006).** *'Computer cartography in October 2006, GIMMS- an example for an operating System for Computer Cartography "*- University of Edinburgh and Carleton.

[9]. **Kent A. Rittschof and Raymond W. Kulhavy (2006).** *"Learning and remembering from thematic maps of familiar regions"* – www.eric.ed.gov/ Details - EJ564163Record Details - Ej564163).

[10]. **Yuen-Kuang et al (2004).** - "Effects of computer assisted instruction on students achievement in Taiwan; a meta analysis". *Computers & Education,* Volume 48, Issue 2.

[11]. **Sangeetha Ramaswamy (2007).** *'Development and validation of computer based multimedia packages for teaching history and its effect on learning among*

secondary school students of Coimbatore districts.(Unpublished PhD thesis Submitted to Bharathiar University).

E-Resources

Wikipedia (for overview of PI, Definitions - http://en.wikipedia.org/wiki/Social_sciences)

www.map of world .com (map image)

www.world atlas.com (map image)

ABOUT THE AUTHOR

Dr. A.R. Bhavana is experienced in honing the communication skills of students using a language laboratory and preparing them to face on and off campus interviews. She has published more than fifteen papers in conferences / Journals and two hand books for Technical and Business English. Her field of interest includes, Stylistics, English Language Teaching, and English Literature.