

PDF - EFFECTS OF TWO MODES OF ADVANCE ORGANIZERS AND COGNITIVE STYLE ON  
SECONDARY STUDENTS' ACHIEVEMENT IN EPISTLES IN EBONYI STATE, NIGERIA - researchcub.info  
Abstract

This study was carried out to investigate the effects of two modes of advance organizers and cognitive style on achievement of senior secondary school students in Christian Religious Knowledge (CRK). It also investigated the influence of gender and location on achievement of Senior Secondary II (SS II) CRK students. Seven research questions and seven null hypotheses were formulated to guide the study. The study adopted a pretest, posttest non-randomized control group design. Two hundred and sixty seven students from six secondary schools in Abakaliki Education Zone of Ebonyi State were assigned to experimental and control groups. The instruments used to collect data were Christian Religious Knowledge Achievement Test (CRKAT) and Group Embedded Figures Test (GEFT). An internal consistency reliability estimate of 0.72 was established for the objective items of CRKAT using Kuder-Richardson formula 20. An inter-rater reliability coefficient of 0.90 was obtained for the essay items of CRKAT. Data collected were analyzed using mean and standard deviations and Analysis of Covariance (ANCOVA). The major findings of the study among others include the following: students taught with audio-visual organizer had better achievement mean scores in CRK than students taught with written organizer who in turn had better mean scores than the students taught without organizer, although the differences were not significant. There is no significant difference in the mean achievement scores of field dependent and field independent students. There is no significant difference in the mean achievement scores of male and female students. There is no significant interaction effect of mode and location on students' achievement in CRK. The educational implications of these results include: that the achievement of senior secondary school students in CRK is not determined by the use of advance organizers in teaching the subject. As a result, either of the advance organizers can be used to enhance learning. Field dependent and field independent cognitive styles do not influence the learning of CRK as in science subjects and mathematics. It is recommended that the use of audio-visual, and written advance organizers especially in urban schools should be encouraged.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **Background of the Study**

Religion is a system of belief in and worship of one or more gods. Christian religion is the revelation of God in the person of Jesus Christ (Fawole, 1981). Christian religious knowledge (CRK) is the understanding of Christians about their belief. CRK has been in the curriculum of educational institutions in Nigeria since the introduction of formal education. Okafor (1988) states that education without religion, which Christian religion is part of, helps to create a vacuum in the life of citizens. It leaves the young frustrated and confused about

life when they are not provided with the ultimate and transcendental values to guide their lives. CRK is an agent of good morality which produces love, justice, truthfulness, fair play, and good government that leads to nation building (Njoku, 2008 & Agha, 1995). Christian religious laws are made to guide and strengthen human conduct. They lead people to the fear of God and constituted authorities in the society. CRK guides students in such a way that they can attain intellectual and moral perfection and discipline themselves both mentally and morally to face their daily and future challenges. According to Obilo (1995), CRK contains rich variety of concepts that enhance better and meaningful life. It cultivates the mind and provides moral consciousness and commitment to one's duty towards one's neighbours and society; which Nigeria and the world at large need most.

Notwithstanding the importance of this subject to human race, students perform below average in the subject in external examinations. The West African Senior School Certificate Examination (WASSCE) Chief Examiners' Reports show that the performance of students from 1998 – 2008 in CRK is below average. The reports note candidates' inadequate knowledge of the subject matter with particular reference to Section C of the question paper entitled: 'Themes from selected epistles. Epistles are letters written by some of the apostles of Jesus Christ to individuals or churches to address some of their religious problems as they arose. The poor achievement and inadequate knowledge of the subject matter can be attributed to many variables. These include teachers' method of teaching, media used and the abstract nature of the themes.

Most of the time, teachers of CRK use lecture and story telling methods (Eze, 1999), which are teacher-centered. These methods seem to make students passive participants in the teaching-learning situations. According to Mkpa (1987), the lecture method does not allow teachers to adapt learning to the level of students' understanding. Consequently, the use of these methods to teach abstract themes such as justification by faith, faith as a condition for justification, faith and work, resurrection, law and grace etc makes these aspects of CRK difficult to students. There is every need then to seek ways of making the teaching of these themes more effective, interesting and motivating in order to enhance students' achievement.

For effective teaching and learning to take place, learners have to be actively involved. This can be done by arousing and arresting the attention and interest of learners and creating in the learner a genuine interest and desire to learn. Hass and Packer (1965) cited in Eze (1999) noted that attention can be arrested by preparing the learner to be ready to learn, making learning pleasant and interesting and helping the learner to assimilate what has been learned.

One of the ways of preparing learners to learn is by the use of advance organizers. Advance organizer is a model of teaching (Joyce and Weil, 1972). According to Chauhan (1979), a model of teaching is an instructional design which creates a particular

environmental situation which causes the students to interact in such a way that a specific change occurs in their behaviours. It is developed to help a teacher to improve his capacity to reach more pupils, and create a richer and more diverse environment for them.

Advance organizer was first developed by David Ausubel in 1960. His aim was to enhance learning and retention of verbal materials. They give the learner a general overview of the more detailed material to be learned. They consist of introductory materials that are more abstracted, general, and inclusive than the learning task itself. They activate a general organization from the learner's existing knowledge that would not have normally been used to assimilate the new material. They are tools or techniques that provide identification and classification along with possible relationships or connections among ideas, concepts, and issues. They are useful to the learner when given in advance of instruction and often serve as clues to ideas that the instructor plans to introduce, (Callison. retrieved, 2000). They have positive influence on the learner's ability to focus on new information.

Advance organizer can be regarded as instructional media presented to the target audience before the main learning and material to enhance the understanding of the material to be learned.

The following types of advance organizers, among others, exist according to Clawson and Barns (1973), Marzano, Debra, Pickering, Pollock and MCREL (2001), and Mayer (2003) graphic, narrative, expository, skimming, audio-visual and written organizers.

Graphic organizers take the form of pictographs, descriptive patterns, and concept patterns. It combines the linguistic and non-linguistic modes of information storage. Narrative advance organizers present new information in a story format to students. Skimming advance organizers look over the new material and gain a basic overview. Comparative advance organizers discriminate a concept from other closely related ones. Comparative advance organizers allow you to easily see the similarities and differences in a set of related ideas. It provides more specific model closer to that, which is already familiar and very similar to concepts just mastered. While expository advance organizers describe in detail what the new content will look like, expository advance organizers provide general model for introduction of new facts or ideas, but broad enough to move the learner up a notch or so on the complexities of the material to be learned.

Audio-visual advance organizers synchronize pictures with words in presenting new content. Audio-visual organizers appeal to the senses of hearing and seeing. This type of organizers creates room for the students to see and hear the learning content. Written advance organizers present new content in written form. This type of organizers appeals only to the sense of seeing. Students read the learning content. To the knowledge of the researcher, much has not been done on audio-visual and written organizers, hence the need for this study. It is necessary then to determine the effects of advance organizers (audio-visual and written) on the achievement of students in Epistle.

Generally, learning demands certain qualities, which have to do with the ability to process abstract materials for learners who are to benefit from them. One of those qualities is cognitive style. Cognitive style is a term used in cognitive psychology to describe the way individuals think, process, perceive and remember information, or their preferred approach to using such information to solving problem, (Wikipedia .org, 2008). Cognitive style according to Gagne (1985), is the skill by which the learner regulates his internal processes of attaining, learning, remembering and thinking. Since the themes from selected epistles concern problem solving, in the affective domain, it may be necessary to find out what type of cognitive styles help students to understand these themes better.

There are different types of cognitive styles. The following types of cognitive styles exist: cognitive complexity/simplicity (Kelly, 1955); field independent/field dependent (Witkin 1962); impulsive/reflective (Kagan, 1965); Divergent/convergent (Hudson, 1966); Global/analytical (Kirby, 1988). Hammon (1989) indicates that the most reported cognitive styles are; field dependence/independence, reflective/impulsive, leveling/sharpening and rigidity/flexibility. However, there is no scientific proof that one type of cognitive style is academically superior to others (Dunn, and Dunn, 1992). Of all the dimensions of cognitive styles, field dependence/independence has generated considerable number of research (Saracho, 1997), but nothing appears to have been done in Epistle.

Field dependence-independence cognitive style was proposed by Witkin (1962). Field dependency represents the tendency to perceive and adhere to an existing externally imposed framework, while field independency represents the tendency to restructure perceived information into a different framework (McGee, 1979).

There are research reports that increased learning gains can be achieved when instructional exercise is designed with students' cognitive styles in mind (Dunn, Bruno, Sklar, and Beaudry, 1990; Gordon, 1993; William, 1994). Field dependent– independent cognitive style is useful in this study because it has important implications for an individual's cognitive behaviour and his or her interpersonal behaviour, two domains of learning emphasized by CRK. Therefore, there is the need to find out how field dependence-independence cognitive style affects students' achievements in the themes from selected epistles, which by their nature may require cognitive restructuring.

Findings of research studies which demonstrated differences due to gender in various academic achievements have become popularly and generally accepted by scholars. According to Itsuoko (1989), girls and women tend to score higher on verbal tests and always do better than boys and men on coding tests, which call for short memory, speed and draftiness. The males on the other hand, invariably achieve higher scores on arithmetic, blocks design, and the visual spatial tests. To Hutt (1972), although there is little evidence that males and females differ in average intelligence, the constitutions of intelligence in the two sexes are far from similar. Bacchus (2004) in his analysis of man and woman believed that

woman's tendencies are towards the emotional and psychic, while man's are towards intellectualism and materialism. One's gender may determine choice of course of study. It will also determine performance in any given subject (Nwobodo, cited in Madueme 2002). How gender will influence achievement in CRK, with particular reference to Epistles which is more emotional and psychic than intellectual, has been determined hence this study.

It is believed that environment influences the individual. This is applicable to teaching and learning environment. Location of a school may contribute to the achievement of the students. It is believed that those schools in urban areas are likely to have more resources, human and material, than those schools in rural areas. These may make students in schools in urban areas to achieve better than those in rural areas. This study determined whether the achievement of students in Epistles depend on location of school. It is against this background that this study was set to find out how two modes of advance organizers, cognitive style, gender and location will affect students' achievement in CRK.

### **Statement of the Problem**

The West African Senior School Certificate Examination (WASSCE) Chief Examiners' Reports show that the achievement of students from 1998-2008 in section C – Themes from selected epistles is below average. The poor achievement might be attributed to teachers' method of teaching the subject. It is believed that advance organizers can improve students' achievement in Christian Religious Knowledge (CRK) generally and themes from selected epistles in particular.

Teaching methods in use by CRK teachers no doubt contribute to the poor achievement of students. It is believed that if teachers prepare students and arouse their consciousness before actually presenting their lesson, students' achievement in CRK, especially in section C that contains abstract materials may improve. To the best of knowledge of the researcher, no study appears to have been done on the effect of advance organizers on achievement in Epistles. Although studies such as that of Iorhugh (2004) have shown the superiority of field independent cognitive style over the field dependent cognitive styles in science subjects, no study appears to have been done to determine the influence of cognitive style on achievement in Epistles.

The problem of the study put in question form is: what are the effects of two modes of advanced organizers (audio-visual and written) and cognitive style on students' achievement in Epistles?

### **Purpose of the Study**

The aim of this study is to determine the effects of two modes of advance organizers (audio-visual, written) and cognitive style on students' achievement in Epistles.

Specifically, the study sought to:

1. find out the effect of two modes of advance organizers on the mean achievement scores of the students.

2. determine the influence of cognitive styles on the mean achievement scores of the students.
3. ascertain the influence of gender on the mean achievement scores of the students.
4. determine the influence of location on the mean achievement scores of the students.
5. determine the interaction effect of mode of advance organizer presentation and cognitive style on the mean achievement scores of the students.
6. find out the interaction effect of mode of advance organizer presentation and gender on mean achievement scores of the students.
7. determine the interaction effect of mode of advance organizer presentation and location on the mean achievement scores of the students.

### Significance of the Study

Christian religious knowledge develops man morally, spiritually, socially and academically. It is therefore necessary to find means of making its instruction more effective, interesting and motivating for the benefit of humankind and formation building. The findings of the study therefore may help teachers to know the type of organizers that will be effective in Epistles instruction. The teacher will then be better informed on the selection of appropriate techniques for the facilitation of Epistles instruction.

The findings of the study may be of great importance to textbook authors and publishers of audio-visual instructional materials. The results may provide guidelines for presenting advance organizers in text and audio-visual materials.

Curriculum development centres may benefit greatly from the findings of this study. The findings may help them to plan suitable curriculum and instruction that will enhance students' understanding of Epistles. Furthermore, the findings will help them create and recommend different modes of teaching and learning of Epistles with respect to the individual differences of the learners.

This study has touched such variables as gender and location and their influence on achievement in Epistles. The findings of this study may likely generate researches, conferences and seminars in these areas for the improvement of Epistles instruction.

Finally, the results of this study may provide the basis for further study on the use of advance organizers and cognitive style in learning of Epistles in secondary schools.

### Scope of the Study

This study is centred on the effect of two modes of advance organizers and cognitive styles on students' achievement in Epistles. Senior Secondary II (SS II) students in Abakaliki Education Zone of Ebonyi State constituted the sample.

The study determined students' achievement in "themes from selected epistles", based on the West African Senior School Certificate Examination (WASSCE) curriculum. The topics covered are: Justification by faith: meaning and fruits of justification (Romans 3:21-24, 10:1-13) Law and Grace: The purpose of law and the

significance of law and grace (Romans 4:13-25, 5: 10 – 14, 18-21, Galatians 3:10-14).

## **Research Questions**

The following research questions guided the study:

1. What are the effects of audio-visual and written organizers on students' mean achievement scores in Epistles?
2. What is the influence of cognitive style on students' mean achievement scores in Epistles?
3. What is the influence of gender on students' mean achievement scores in Epistles?
4. To what extent does location influence students' mean achievement scores in Epistles?
5. How does mode of advance organizer presentation and cognitive style interact to influence students' mean achievement scores in Epistles?
6. What is the interaction effect of mode of advance organizer presentation and gender on students' mean achievement scores in Epistles?
7. What is the interaction effect of mode of advance organizer presentation and location on students' mean achievement scores in Epistles?

## **Hypotheses**

These null hypotheses were tested at probability level of 0.05.

: There is no significant difference between the mean achievement scores of students when audio-visual and written organizers and no organizers are used in Epistles instruction.

: There is no significant difference between the mean achievement scores of students who have field dependent and field independent cognitive styles.

: There is no significant difference between the mean achievement scores of male and female students in Epistles.

: There is no significant difference between the mean achievement scores of students in urban and rural schools in Epistles.

: Mode of advance organizer presentation and cognitive style do not interact significantly to affect students' mean achievement scores in Epistles

: The interaction of mode of advance organizer presentation and gender do not significantly affect students' mean achievement scores in Epistles.

: The interaction of mode of advance organizer presentation and location do not significantly affect students' mean achievement scores in Epistles.

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